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

July 24, 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 June 26, 2018 Meeting Minutes View

   b. Monthly Staff Report
   Agenda Item View

   c. Legal/Legislation Update

   d. StanCERA Complaint Log of April 1 – June 30, 2018
   Agenda Item View

   e. Executive Director Goals Update Quarter 2 2018
   Agenda Item View Attachment 1 View

5. Consent Items (Cont.)

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

1. Abernathy-Bongiorno, Stefani – Stan Reg 911 – Effective 07-06-18
2. Becker, Carrie – BHRS – Effective 07-07-18
3. Bohnet, Nanette – CSA – Effective 07-07-18
4. Brinton, Michael – City Of Ceres – Effective 06-30-18
5. Cisneros, Mario – Sheriff – Effective 07-15-18 *
6. Davis, Kathryn – Library – Effective 07-21-18
7. De Anda, Maria – CSA – Effective 06-30-18
8. De La O, Paulina – Stan Reg 911 – Effective 07-15-18
9. Della, Stacey – BHRS – Effective 07-01-18
10. Finney, Daryl – Assessor – Effective 07-07-18
11. Goddard, Dana – Assessor – Effective 07-21-18
12. Hapin, Henry – BHRS – Effective 07-10-18
13. Miller, Byron – BHRS – Effective 07-07-18
14. Overstreet, Mary – Stan Reg 911 – Effective 07-06-18
15. Peacock, Rhonda – HSA – Effective 07-01-18
16. Prasad, Padma – BHRS – Effective 07-07-18
17. Scott, Cynthia – Library – Effective 07-07-18
18. Serros, Wanda – DER – Effective 07-20-18
19. White, Timothy – BHRS – Effective 06-13-18
20. Williams, Homer – Probation – Effective 07-04-18 *

** Indicates Safety Personnel*

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

1. Acosta, Mario - PW- Effective 6-14-18
2. Flores, Romona - CSA- Effective 5-31-18
3. Humphreys, Delicia - DA- Effective 6-22-18
4. Lockett, Dusty - BHRS- Effective 4-27-18

** Indicates Safety Personnel*

6. Investment

a. Due Diligence Report
Agenda Item View

7. Verus – Investment Consultant

a. June Flash Report View

b. Annual Asset Allocation Review

I. Private Equity View

II. Emerging Market Debt View

III. Asset Allocation View

8. Administrative

a. Information Technology Solutions (ITS) Project Update View

b. Board Room Committee Update

9. Closed Session

a. Interview Investment Consultant for Private Markets Consulting Services
Government Code Section 54957(b)(1)

b. 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)

c. 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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BOARD OF RETIREMENT MINUTES
June 26, 2018

1. Call Meeting to Order

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

2. Roll Call

Trustees Present: Mike Lynch, Jeff Grover, Michael O'Neal Donna Riley, Darin Gharat, and Lauren Klein

Trustees Absent: Jim DeMartini, Sam Sharpe and Mandip Dhillon

Alternate Trustee : Rhonda Biesemeier, Alternate Retiree Representative

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

Others Present: Fred Silva, General Legal Counsel
Ed Hoffman, Verus Investment Consultant
Brian Kwan, Verus investment Consultant

3. Announcements

4. Public Comment

Jeffrey Givens spoke regarding his closed session item 9.a

5. Consent Items

a. Approval of the June 26, 2018 Meeting Minutes

b. Monthly Staff Report

c. Legal/Legislation Update

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

1. Afanasieva, Anastasia - Superior Court - Effective 05-25-18
2. Almanza, Lisa - DCSS - Effective 06-30-18
3. Birkley, Norma - BHRS - Effective 06-19-18
4. Bower, Melba - CSA - Effective 06-23-18
5. Chacon, Migue - Public Defender - Effective 06-09-18
6. Contreras, Angelina - Sheriff - Effective 06-09-18
7. Cuellar II, Benjamin - CSA - Effective 06-05-18
8. Drumm, Jane - CSA - Effective 06-30-18

5. Consent Items (Cont.)

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

9. Gaudio, Trish - Assessor - Effective 06-09-18
10. Gilton, Michael - Salida Sanitary District - Effective 06-29-18
11. Hansen, Michael - CSA - Effective 06-16-18
12. Le, Vong - CSA - Effective 05-26-18
13. Mittelstead-Johnson, Elyse - Sheriff - Effective 03-31-16 *
14. Williams, Cynthia - Parks & Rec - Effective 06-07-18

** Indicates Safety Personnel*

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

1. Angela Delgado -CSA- Effective 4-16-18
2. Elizabeth Martinez -CSA- Effective 10-31-17

** Indicates Safety Personnel*

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

Motion carried unanimously

6. Investment

a. AB 2833 (California Fee and Expense Disclosure) Update

b. 2018 Quarter 1 Investment Auxiliary Report

7. Verus – Investment Consultant

a. May Flash Report

b. Annual Asset Allocation Review

Motion was made by Trustee O'Neal and seconded by Trustee Gharat to not accept staff recommendation at this time and request staff to bring item back to the July board meeting.

Motion carried unanimously

8. Administrative

a. Information Technology Solutions (ITS) Project Update

b. Board Room Committee Update

8. Administrative (Cont.)

c Education and Travel Ad Hoc Committee

Motion was made by Trustee Gharat and seconded by Trustee O'Neal to accept the volunteer request of Trustee Biesemeier and Trustee Lynch to sit on the Education and Travel Ad Hoc Committee as needed

Motion carried unanimously

9. Closed Session

Motion was made by Trustee Gharat and seconded by Trustee O'Neal to go into closed session at 2:04 p.m.

Motion carried unanimously

a. Approval of Disability Retirement – **Jeffrey Given**
Government Code Section 31532

b. Interview Investment Consultant for Private Markets Consulting Services
Government Code Section 54957(b)(1)

c. 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)

d. 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)

2:35 p.m. Trustee Biesemeier and Trustee O'Neal Recused themselves from item 9.b after Item 9.a was completed

Motion was made by Trustee Gharat and seconded by Trustee O'Neal to go into open session at 2:42 p.m.

Motion carried unanimously

Read out from closed session by Kellie Gomes is as follows:

Item 9.a Regarding Approval of Disability Retirement – Jeffrey Given Government Code Section 31532. Motion was made by Trustee O'Neal and Seconded by Trustee Riley to accept the recommendation as follows:

1. To acknowledge and approve that applicant, Jeffrey Given is permanently incapacitated for a substantial portion of the essential duties of Fire Engineer with the City of Ceres' Fire Department; and
2. That the application of Jeffrey Given for service connected disability retirement be granted with the effective date of November 30, 2011.

Roll Call Vote recorded as:

Trustee Lynch – Abstain
Trustee Riley – Yes
Trustee Gharat – Yes
Trustee Klein – Yes
Trustee Grover – Yes
Trustee O'Neal – Yes
Roll Call Vote passed 5/1 as noted above

Item 9.b is Tabled for the July board meeting

Nothing further to Read out from closed session

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

Several trustees' expressed that the recent NCPRS training in NYC was a good training that they recommend as well as the expressed concern for the per diem rate when traveling to places as NYC. These concerns will be handled by the new education and travel Ad Hoc Committee formed today.

Trustee Klein expressed congratulations to Trustee Riley on her recent election results for Treasure Tax Collector.

Trustee Riley thanked Trustee Klein

11. Adjournment

Meeting adjourned at 2:44 p.m.

Respectfully submitted,

Rick Santos, Executive Director

APPROVED AS TO FORM:
Fred Silva, GENERAL LEGAL COUNSEL

By: Fred Silva
Fred Silva, General Legal Counsel

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July 24, 2018
Retirement Board Agenda Item

AGENDA

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 June, Member and Employer Services Staff processed 29 new hires (05 Safety and 24 General) 35 terminations, 32 member requests resulting in 13 estimates and 14 member requests resuling in 29 buy back contracts. There were 40 individual counseling sessions.

Staff continues work on the training program for MESS staff. Additionally, the Pre-Retirement Seminar held just last week required considerable time on staff's part. From an ITS project perspective, staff decided against the concept of split accounts for Domestic Relations Orders. While administratively, the concept would provide ease down the road, the resources within the Organization simply do not exist at this time. This does not preclude StanCERA from implementing this idea later after the system is fully implemented

b) *Investment Governance and Compliance* – Staff continued to educate itself in the areas of private equity and emerging markets debt. Staff attended the ILPA Conference, which was an opportunity to network with other LPs and learn more about the resources available to StanCERA through ILPA. The due diligence committee traveled to San Francisco to hold meetings with current StanCERA managers Dodge & Cox, White Oak, and Blackrock. The committee was also able to visit the new San Francisco Verus office. Finally, the portfolio underwent some minor rebalancing as part of the annual process to fund the liquidity sleeve of the FFP.

c) *Fiscal Services* – Employer and employee contributions totaling $8,056,608 were received through 12 different payroll batches in June. 42 contribution refunds and death benefit payouts totaling $419,787 were processed which includes refund of contributions for two retired members. The retiree payroll for June totaled $10,461,824 and was processed as scheduled.

Staff continues to partner with Member Services in defining the business rules for the new pension software. Employer Reporting has been tested and the business system rules are finalized. The employers are working on developing the new import file for upload. Work has started on the Buy Back calculations and the Interest Posting calculations. We continue to be on time and within budget for this project.

Staff met with the Board Room TI committee and design decisions were made for the new Board Room. The architect has completed the construction plans which were forwarded to Purchasing for preparation of the bid process for a contractor.

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, Fiscal Services Manager

Chris Wisdom, Retirement Investment Officer

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AGENDA

July 24, 2018
Retirement Board Agenda Item

TO: Retirement Board

FROM: Natalie Elliott, Fiscal Services Manager

I. SUBJECT: StanCERA Complaint Log

II. ITEM NUMBER: 5.d

III. ITEM TYPE: Information Only

IV. STAFF RECOMMENDATION: None

V. ANALYSIS:

There were no complaints between April 1 and June 30, 2018.

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

Natalie Elliott

Natalie Elliott, Fiscal Services Manager

Rick Santos, Executive Director

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AGENDA

July 24, 2018
Retirement Board Agenda Item

TO: Retirement Board

FROM: Rick Santos, Executive Director

I. SUBJECT: Executive Director Goals Update - Quarter 2

II. ITEM NUMBER: 5.e

III. ITEM TYPE: Consent

IV. STAFF RECOMMENDATION: None

V. ANALYSIS: This is the Quarter 2 Executive Director goals update for 2018 (Attachment 1). Quarter 2 progress for all items is denoted in green and labeled Q2 (Quarter 2). This quarter, as it relates to the Strategic Plan, progress was driven largely by work surrounding the information technology solutions, funding of the Functionally Focused Portfolio, investment governance, the asset allocation process and maintaining normal business processes. Staff has also begun taking a look at the long-term Organizational Structure with an eye toward succession planning.

Progress on the pension software project remains on track at this point and several meetings have been held with the plan sponsors regarding their ability to get StanCERA the data it needs to do its business.

Overall, StanCERA has progressed very well in implementing those tasks required by the Strategic Plan in 2018. Staff feels we have completed roughly 75% of those required tasks. There are a few investment related items left pertaining to processes related to monitoring manager investment thesis and investment policy compliance. Additionally, there is work left regarding a more formal peer review process. Staff is contemplating pushing the peer review process work off until 2019 when our work flow functionality should provide us with the tools to make this task more efficient.

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

Strategic Goals 2018 Progress Quarter 2

(Attachment 1)

General and/or Ongoing Items

1. Continued communication, outreach and transparency with major stakeholders such as County, County BOS, Local Governments, Special Districts and Employee Groups
   - Several meetings with Ceres and County staff regarding pension software implementation
   - Presentation of the 2017 actuarial valuation to the Board of Supervisors
2. Facilitate transition of StanCERA's asset allocation
   - Insight (FFP portfolio) funded late June
   - Funding begun for Greenfield VIII
3. Continued progress on the System data clean-up project
   - All member files requiring estimate or buyback work audited and up to date
   - Backlog on buyback estimates eliminated
4. Continued monitoring of StanCERA lawsuits
   - Attendance of and availability for O'Neal matter
5. Director Professional Development
6. Facilitate RFP for General Legal Counsel
7. Oversee Information Technology Solutions Project
   - Attend several meetings per week
   - Consult with consultants from Linea and Tegrit regularly
   - Consult with subject matter experts on all phases of the project
8. Oversee and completion of day to day administrative functions
   - All normal administrative functions completed on time
   - Outstanding disabilities (as of 7/17/2018): 12
9. Training of Investment Officer
   - Investment Officer being brought into all StanCERA governance processes at this time
   - Begun training of intermediate and long-term goals for the position
10. Biennial By-Law Review
    - StanCERA bylaws complete (BOS approval pending)
    - Begun review of internal processes (those processes removed from bylaws)

Items Tied to the Strategic Plan

Strategic Objective #1

Invest StanCERA assets in such a way that efficiently maximizes the ability to meet current and future benefit obligations while balancing the need for contribution stability and sustainability

Strategic Plan Objective #1: Action Plan with Deliverables

1. Implementation of Functionally Focused Portfolio Concept
   - ✓ Fund the Liquidity sub-portfolio by June 30th
     - Benefit projection matrix complete (Q1)
     - Contribution projection matrix complete (Q1)
     - Expense projection matrix complete (Q1)
     - Liquidity sub portfolio funding complete (Q 2)
   - ✓ Training of new investment staff on FFP process and maintenance of reporting projection and process tools

2. Consult regularly with plan sponsors regarding salary and retirement projections
   - Meet with Stanislaus County officials each year
     - Met with County officials on payroll projections (Q1)
     - Discuss salary projections with Courts (Q1)
   - Meet with City of Ceres officials each year
     - Discuss salary projections with City of Ceres (Q1)

3. Consult regularly with plan sponsors regarding pension contribution projections
   - ✓ Meet each year with all plan sponsors

4. Monitor and assess capital market expectations on a continual basis
   - ✓ Monitor trends in the general level of interest rates and market value of StanCERA liabilities
     - Complete Q2
   - ✓ Report at least annually (April/May) to the Board of Retirement on the general level of interest rates and market value of StanCERA liabilities and trends
     - Complete Q2
   - ✓ Report annually (April/May) to the Board of Retirement the consideration of any changes in the FFP process
     - Complete Q2
   - ✓ Provide the Board, at least annually, a review of capital market conditions and assumptions on a forward-looking basis for all major asset classes
     - Complete Q2
   - ✓ At least annually, recommend asset allocation changes (if applicable) to the Board of Retirement for consideration
     - Complete Q2

5. Maintain awareness of the cash flow process
   - ✓ Work with alternative investment managers on contribution and distribution projections
   - ✓ Project and reconcile (semi-annually) budget expenditures

- Mid-year budget review complete February 27, 2018 (Q1)
- Expense matrix for FFP process complete (Q1)
- Monitor and report cash flow process each quarter (Q1, Q2)

✓ Annual reconciliation (July/August) of the FFP shortfall projections and source of cash flows

- Complete Q2

Strategic Objective # 2

Develop efficient and effective processes for the evaluation, monitoring, and disposition of StanCERA's active managers

Strategic Plan Objective #2: Action Plan with Deliverables

1. Maintain and improve the comprehensive internal investment governance process
   - ✓ Train internal investment staff on general processes and procedures and the data collection process
     - Training begun on general processes and database maintenance (Q1)
   - ✓ Monitor IPS compliance
   - ✓ Monitor investment manager thesis

2. Maintain a comprehensive internal investment data repository
   - Database up to date as of 12/31/2017
   - Database up to date as of 3/31/2018

3. Develop and maintain auxiliary performance reporting
   - ✓ Continue to develop and enhance auxiliary reporting with an eye towards simplicity
     - Reworked Value-Added analysis to account for long-term cumulative experience (Q1)
     - Reworked Investment Fee Summary to account for manager ins and outs (Q2)
   - ✓ Enhance reporting format and aesthetics
   - ✓ Work to develop a valid benchmark for alternative investments

4. Provide StanCERA staff opportunities to enhance their knowledge regarding the investment governance process
   - ✓ Provide opportunities for internal staff to attend seminars and conferences dedicated to alternative investments
     - Staff attendance of the ILPA Conference (Q2)
   - ✓ Provide opportunities for internal staff to attend seminars and conferences related to understanding investment contracts, ADV and SOC reports

Strategic Objective # 3

Continue to foster an organizational culture that values and promotes team work, education, awareness, accountability, and achievement.

Strategic Plan Objective #3: Action Plan with Deliverables

1. Train for succession planning to prepare for StanCERA's future and continue to cross-train staff to optimize efficacies for staffing level fluctuations.
    - ✓ Develop training plan and philosophy for staff succession into manager roles
        - Recently completed StanCERA Education Policy is one component of succession planning (Q1)
    - ✓ Implement new StanCERA Org Structure
        - In development phase of StanCERA Org Structure (Q2)

2. Standardize communication and establish a formal peer-review process for internal and external documents and external communications.
    - ✓ Annual staff training on communication standards and implementation
    - ✓ Formalize StanCERA's peer review philosophy

3. Develop and implement an educational policy and plan for staff.
    - ✓ Formalize expected training requirements
        - Processes laid out in new StanCERA Education Policy (Q1)
    - ✓ Identify individual staff educational needs annually through the annual employee evaluation process
        - Processes laid out in new StanCERA Education Policy (Q1)
    - ✓ Formalize the individual employee education expected outcome
        - Processes laid out in new StanCERA Education Policy (Q1)
        - Note that these directives were laid out in the completed StanCERA Education Policy. The execution of these directives will be accomplished at the staff-supervisor level, generally during the annual evaluation (Q1)

4. Develop and implement a team-building action plan.
    - ✓ Hold a minimum one team building event annually

Strategic Objective # 4

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.

Strategic Plan Objective #4: Action Plan with Deliverables

1. Implementation of Electronic Member Filing Content Management System
   - ✓ Complete the internal verification of back file conversion
     - Task complete (Q1)
   - ✓ Ongoing EDMS plan developed
     - Long-term plan developed (not yet documented) to use part-time help on imaging and scanning documents (Q2)
   - ✓ Paper member files archived
     - Task complete (Q1)
     - Archived member files moved offsite (Q2)

2. Enhance stakeholder education and communication opportunities
   - ✓ Formally meet with all plan sponsors, no less than annually

3. Substantial completion of Pension Software System implementation
   - Implementation on track and current as of 6/30/2018

4. Design and rollout of improved StanCERA website (2019)

5. Create an organizational structure that maximizes recruitment potential and encourages staff development for future leadership positions

   - ✓ Formal implementation of new StanCERA Org Structure
     - In development stage (Q2)

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AGENDA

July 24, 2018
Retirement Board Agenda Item

TO: Retirement Board

FROM: Due Diligence Committee

I. SUBJECT: Due Diligence Trip

II. ITEM NUMBER: 6.a

III. ITEM TYPE: Information Only

IV. STAFF RECOMMENDATION: None

V. ANALYSIS: During the last week of June, the Due Diligence Committee (Trustee Grover, Chris Wisdom, Rick Santos, Kellie Gomes) traveled to San Francisco to meet with 3 of StanCERA's Investment Managers. The team visited Dodge & Cox, White Oak and BlackRock. This trip was done in a similar style as previous years focusing on operations, risk and compliance. Prior to our visit, each firm completed a thorough questionnaire and provided any additional information that we requested. Due to the proprietary and confidential nature of this information, a brief summary of the trip is provided below.

Dodge and Cox

The Committee met with Jane Larrow, Vice President, Client Service Associate, who facilitated our visit as well as other members of the firm. We started the meeting with an overview of Dodge & Cox as a firm and an Investment team update. We had a robust discussion on several topics such as passive vs active investing, trading procedures and platforms used, compliance review and disaster recovery/cyber security. A tour of the Trade Floor was provided.

Dodge & Cox is an independent organization and is 100% employee-owned. Ownership is limited to active employees of the firm. They believe their independence as a firm allows them to make decisions that are in the long-term best interest of their clients. As of March 31, 2018, there were 75 shareholders and 265 employees. Dodge & Cox manages investments from one office located in San Francisco, California.

Dodge & Cox offer a small number of investment products, specifically equity (domestic, international, and global), balanced, and fixed income (domestic and global). They focus on these strategies because they feel their experience and research indicate that there is ongoing investment need for this expertise and because they believe they have the knowledge, skill and ability to consistently meet this need.

White Oak

The Committee met with Barbara McKee, Managing Partner and Co-Founder, who facilitated our visit with presenters from various areas of the firm as well as an in-depth presentation by Chief Compliance Officer and Associate General Counsel, Troy Beatty.

White Oak is owned 100% by 18 Partners, all of whom are full-time or former employees of the Firm. In addition, the Firm has a three-tiered membership structure. All Members have a participation interest in the firm's profits; for the second level of Membership such participation interest continues in a five-year tail following the Member's employment; the third level of Membership has the majority of the governance responsibility for the firm. The four Principal Members of the third tier (Andre

Hakkak, Barbara McKee, David Hackett and Darius Mozaffarian) hold in aggregate more than 75% of the Membership interests in the firm. No significant ownership changes have occurred at White Oak, and none are anticipated.

As of March 31, 2018, White Oak and its affiliates employed 106 investment professionals, with a firm-wide total 198 professionals. White Oak has over $4.77 billion in AUM as of March 31, 2018.

Troy Beatty, Chief Compliance Officer and Associate General Counsel, met with the team and discussed his role in creating and maintaining the Firm's compliance policies and procedures, coordinating regulatory exams, preparing regulatory filings, conducting compliance training for the Firm's staff, and conducting a variety of surveillance and testing.

BlackRock

We ended our trip with a visit to BlackRock and participated in a discussion with Samantha Taylor and Katie Caruso who facilitated our visit.

We were provided an overview of our Value and Growth Fund portfolios as well as the US Real Estate Securities Index Fund. BlackRock discussed the philosophies and processes used in successful index fund management. The team interacted with various questions and was pleased with the exchange of knowledge and information discussed.

BlackRock presented information regarding the availability of portfolio analysis provided by the ETF team in regards to passive vs active investing and how they look at Beta vs Alpha. We discussed the presentation provided regarding the trading platform that is used by BlackRock as well as risk management.

Conclusion

The Committee is satisfied with the results of this due diligence trip and believes that there are no reasons to re-consider StanCERA's investments with these firms as they stand today.

VI. RISK: None

VII. STRATEGIC PLAN: Strategic Objective I: Invest StanCERA assets in such a way that efficiently maximizes the ability to meet current and future benefit obligations while balancing the need for contribution stability and sustainability

VIII. BUDGET IMPACT: None

Kellie Gomes

Kellie Gomes, Executive Board Assistant

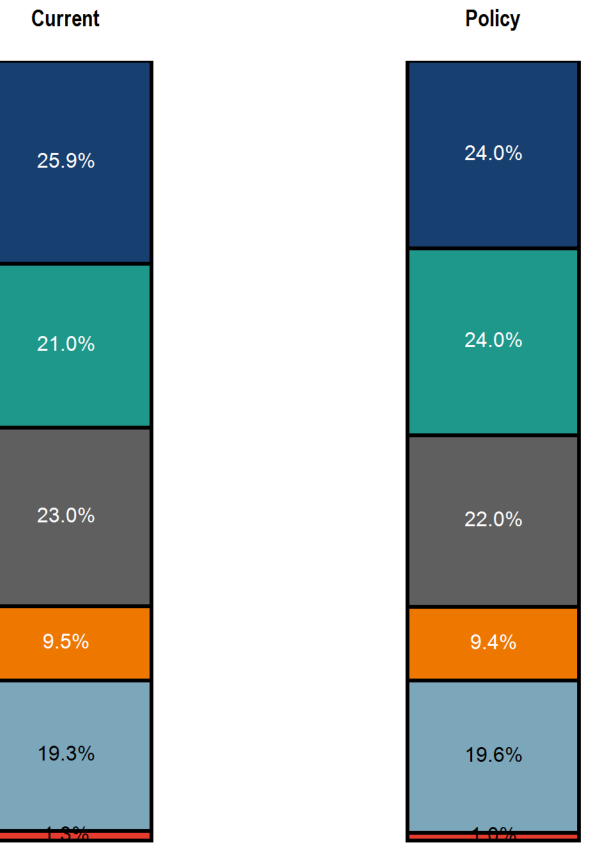
Chris Wisdom, Retirement Investment Officer

Total Fund
Flash Report (Net of Fees) - Preliminary

Period Ending: June 30, 2018

	Market Value	% of Portfolio	1 Mo	YTD	Fiscal YTD
Total Fund	**2,107,323,350**	**100.0**	**-0.3**	**0.8**	**8.0**
Policy Index			*-0.3*	*0.3*	*7.3*
US Equity	**546,502,935**	**25.9**	**0.8**	**3.8**	**14.1**
US Equity Blended			*0.7*	*3.8*	*15.2*
Russell 3000			*0.7*	*3.2*	*14.8*
Northern Trust Russell 1000	154,923,982	7.4	0.6	2.8	--
Russell 1000			*0.6*	*2.9*	*--*
BlackRock Russell 1000 Growth	125,738,010	6.0	1.0	7.2	22.5
Russell 1000 Growth			*1.0*	*7.3*	*22.5*
BlackRock Russell 1000 Value	74,727,887	3.5	0.3	-1.7	6.9
Russell 1000 Value			*0.2*	*-1.7*	*6.8*
Dodge & Cox-Equity	80,791,310	3.8	1.5	1.2	11.0
Russell 1000 Value			*0.2*	*-1.7*	*6.8*
Capital Prospects	110,321,718	5.2	0.4	3.5	14.6
Russell 2000 Value			*0.6*	*5.4*	*13.1*
International Equity	**443,275,485**	**21.0**	**-2.7**	**-4.2**	**6.2**
MSCI ACWI ex USA Gross			*-1.8*	*-3.4*	*7.8*
LSV Asset Mgt	221,820,511	10.5	-3.9	-5.5	5.3
MSCI ACWI ex USA Gross			*-1.8*	*-3.4*	*7.8*
Fidelity	221,454,975	10.5	-1.6	-2.8	7.2
MSCI ACWI ex USA Gross			*-1.8*	*-3.4*	*7.8*
US Fixed Income	**483,745,535**	**23.0**	**-0.1**	**-0.6**	**0.2**
BBgBarc US Aggregate TR			*-0.1*	*-1.6*	*-0.4*
Insight	219,045,755	10.4	-0.1	-0.8	-0.1
BBgBarc US Govt/Credit 1-5 Yr. TR			*0.0*	*-0.3*	*-0.2*
DFA	206,680,953	9.8	-0.1	-0.5	--
ICE BofAML 1-5 Yrs US Corp & Govt TR			*0.0*	*-0.3*	*--*
Northern Trust Intermediate Gov't Bond	43,294,431	2.1	0.0	-0.7	--
BBgBarc US Govt Int TR			*0.0*	*-0.7*	*--*
Northern Trust Long Term Gov't Bond	14,724,396	0.7	0.2	-2.9	--
BBgBarc US Govt Long TR			*0.2*	*-3.0*	*--*

	Current	%	Policy	%
Domestic Equity	$546,502,935	25.9%	$505,757,604	24.0%
International Equity	$443,275,485	21.0%	$505,757,604	24.0%
Domestic Fixed Income	$483,745,535	23.0%	$463,611,137	22.0%
Real Estate	$199,817,598	9.5%	$198,088,395	9.4%
Alternatives	$407,252,972	19.3%	$413,035,377	19.6%
Cash and Equivalents	$26,728,826	1.3%	$21,073,234	1.0%
Total	**$2,107,323,350**	**100.0%**	**$2,107,323,350**	**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: June 30, 2018

	Market Value	% of Portfolio	1 Mo	YTD	Fiscal YTD
Real Estate	**199,817,598**	**9.5**	**2.9**	**2.7**	**6.4**
DJ US Select RESI			*4.2*	*1.8*	*4.2*
Prime Property Fund	19,075,735	0.9	1.8	3.9	8.4
NCREIF-ODCE			*0.0*	*2.2*	*6.3*
American Strategic Value Realty	30,353,083	1.4	0.0	2.5	7.1
NCREIF Property Index			*1.7*	*3.4*	*7.1*
BlackRock US Real Estate	128,978,153	6.1	4.2	1.8	4.2
DJ US Select RESI TR USD			*4.2*	*1.8*	*4.2*
Greenfield Gap	21,410,628	1.0			
Direct Lending	**94,653,384**	**4.5**			
Medley Capital	18,033,766	0.9			
Raven Capital	16,757,253	0.8			
Raven Opportunity III	29,782,392	1.4			
White Oak Pinnacle	30,079,973	1.4			
Risk Parity	**283,242,442**	**13.4**	**-1.1**	**-0.8**	**--**
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			*-0.5*	*-0.8*	--
AQR Global Risk Premium - EL	143,809,104	6.8	-1.0	--	--
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			*-0.5*	--	--
PanAgora Risk Parity Multi Asset	139,433,338	6.6	-1.2	-1.6	--
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			*-0.5*	*-0.8*	--
Infrastructure	**29,357,146**	**1.4**			
MS Infrastructure Partners II	29,357,146	1.4			
Cash Account					

	Current	%	Policy	%
Domestic Equity	$546,502,935	25.9%	$505,757,604	24.0%
International Equity	$443,275,485	21.0%	$505,757,604	24.0%
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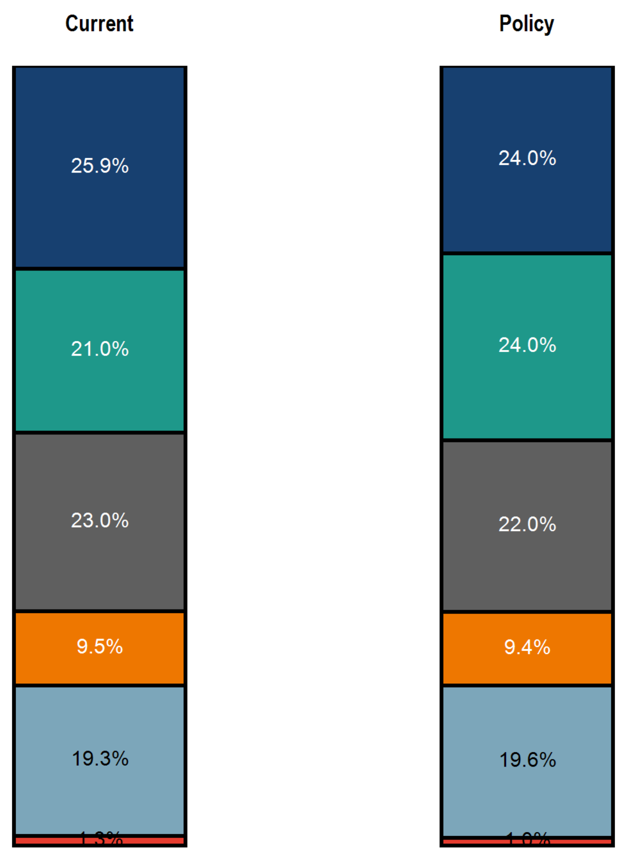

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AGENDA

July 24, 2018
Retirement Board Agenda Item

TO: Retirement Board

FROM: Rick Santos, Executive Director

I. SUBJECT: Private Equity Asset Class

II. ITEM NUMBER: 7.b.I

III. ITEM TYPE: Information/Discussion

IV. STAFF RECOMMENDATION: None

V. EXECUTIVE SUMMARY: Today the Board will be asked to decide whether to maintain the private equity asset class in StanCERA's long-term strategic asset allocation. Over the past few months, staff has studied the asset class in depth by way of information gleaned from the receipt of RFI's (requests for information) from many private equity consultants, from StanCERA's general investment consultant (Verus) and from other 1937 Act Systems. Additionally, through several past agenda items, staff was better able to understand some of the Board's concerns with this asset class.

Based on current capital market conditions, the private equity asset class is expected to add diversification and efficiency as it relates to the risk reward profile of the overall portfolio. More specifically, private equity offers advantages in the following areas:

- ✓ Produces the portfolio with the greatest expected return per unit of risk assumed
- ✓ Diversifies the portfolio such that it is also the lowest risk portfolio being discussed
- ✓ Offers the best chance to reach the current discount rate target of 7.25%

Even though the private equity asset class offers superior expected risk adjusted returns, there are additional concerns and risks involved when investing. This agenda item attempts to paint a clear picture of the implementation and maintenance issues that the Board and staff will face should it decide to include private equity in our portfolio.

VI. ANALYSIS: Even though private equity inclusion offers superior expected risk adjusted returns, there are implementation and maintenance issues that raise concern. This analysis assumes the use of direct funds which is essentially the same way StanCERA chose to invest in the direct lending space.

- ✓ *Lack of Veto Control on Individual Investments* – Once the Board hires a manager to make investments in a particular sub asset class of private equity (i.e. distressed debt), it has no discretion in the particular investments that the manager makes. This does not mean that staff or the Board can never see the actual investments (this information is given to investors each quarter), however, it will not be able to veto investments after the fact.

- ✓ *Possibility of not Interviewing Potential Managers* – In the past, StanCERA has become accustomed to personally interviewing prospective managers before they were selected to manage system assets. Given the nature of the private equity asset class, it may be the case that some managers will not be willing or able to visit StanCERA for an interview. It is expected, however, that StanCERA would only invest with managers that have been thoroughly vetted by the consultant.

- ✓ *Non-Traditional Investment Characteristics* – Certain investments within the private equity space have considerably different characteristics than what StanCERA has become accustomed to. For example, venture capital funds provide capital to, and take an equity stake in, small young firms that usually have an innovative product witih prospects for high growth. It is the case that many of these firms in an investor's portfolio may not be successful and losses will be had. However, the successful ventures in the fund tend to overwhelm the unsuccessful ones producing the returns generally associated with this investment style.

  Other funds focused on buyouts may purchase a controlling stake in a firm and try to create efficiencies or synergies within the company, thus adding value. It is possible that the fund may need to reorganize, restructure and/or lay off employees to achieve those efficiencies in order to add value to the company and subsequently, the investor.

- ✓ *Dilution of The Private Equity Opportunity Set* – At the beginning of the implementation process, the consultant will meet with the Board to discuss the parameters of the entire private markets program. The Board will be able to decide such things as which sub-asset classes are acceptable investments and to put in place any desired risk controls. However, as the potential universe of asset classes begins to dwindle, this could potentially have a negative effect on the returns and risk profile the portfolio experiences. In the future, this has the potential to lead to an under-appreciation of the asset class as Trustees and staff analyze risk and returns and peer comparisons versus expectations.

- ✓ *Terms and Fees* – In the past, StanCERA had considerable latitude in negotiating side letter terms and fees. In fact, two potential investments that the Board was considering were nixed due to a lack of agreement on terms. The landscape here seems to be changing. Smaller institutional investors don't seem to have the leverage they once had. With the existence of a specialty consultant helping to implement the strategy, terms for some funds may already be pre-negotiated and set. Finally, there could be some funds that won't even want to consider California pension funds due to the requirements of AB 2833.

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

AGENDA

Verus

PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS

JUNE 26, 2018 Resubmitted to the board on July 24, 2018

Annual Asset Allocation Analysis

Stanislaus County Employees' Retirement Association

Table of Contents

Verus

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Emerging Market Debt

Emerging markets

- Emerging markets are economies of developing countries that are investing in more productive capacity. They are moving away from traditional economies that have historically relied on agriculture and exports of raw materials.
- Emerging markets tend to be rapidly industrializing and adopting a free market or mixed economy. They are important because they drive global growth.
- MSCI lists 24 emerging market economies:
  - Brazil
  - Chile
  - China
  - Colombia
  - Czech Republic
  - Egypt
  - Greece
  - Hungary
  - India
  - Indonesia
  - Malaysia
  - Mexico
  - Pakistan
  - Peru
  - Philippines
  - Poland
  - Qatar
  - Russia
  - South Africa
  - South Korea
  - Taiwan
  - Thailand
  - Turkey
  - United Arab Emirates

It is important to note emerging markets differ from frontier markets (developing economies that do not meet certain political, liquidity, regulatory, or transparency standards).

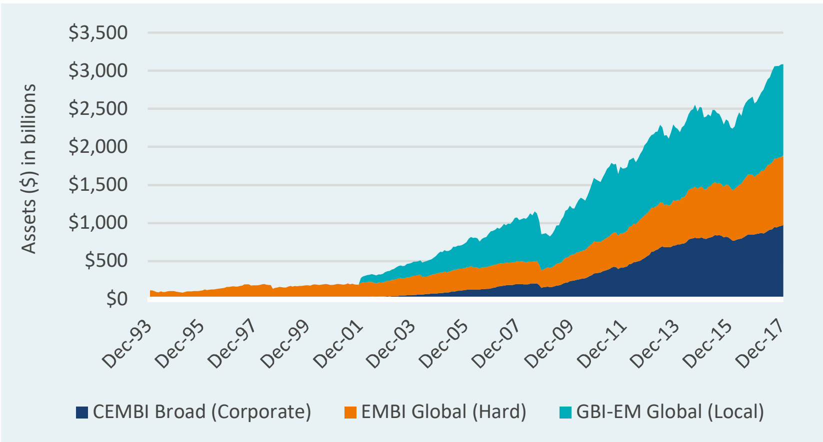
Source: MSCI

Emerging market debt

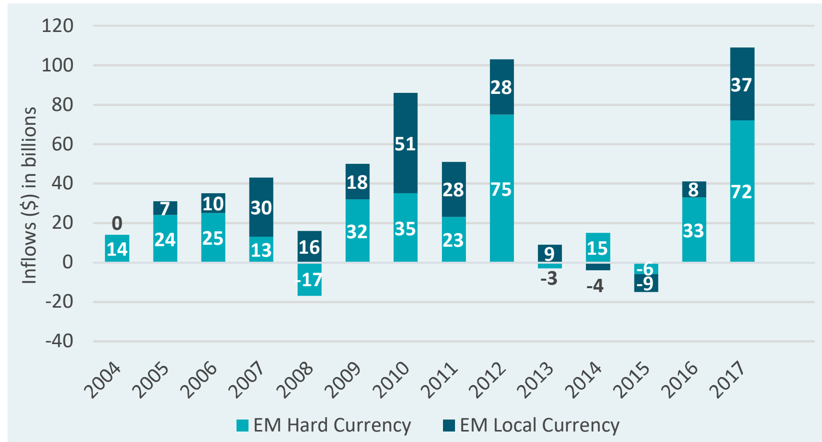
- The evolving opportunity set within Emerging Markets Debt (EMD) is broad and consists of four main asset groups:
  - Local rates
  - Emerging market currencies
  - External (hard currency) bonds
  - Corporate debt
- When constructing a portfolio, investment managers can allocate to these asset groups to structure standalone local currency, hard currency, or corporate mandates or use a combination to form blended, total return, or opportunistic approaches.

Market environment

SIZE OF THE EMD MARKET



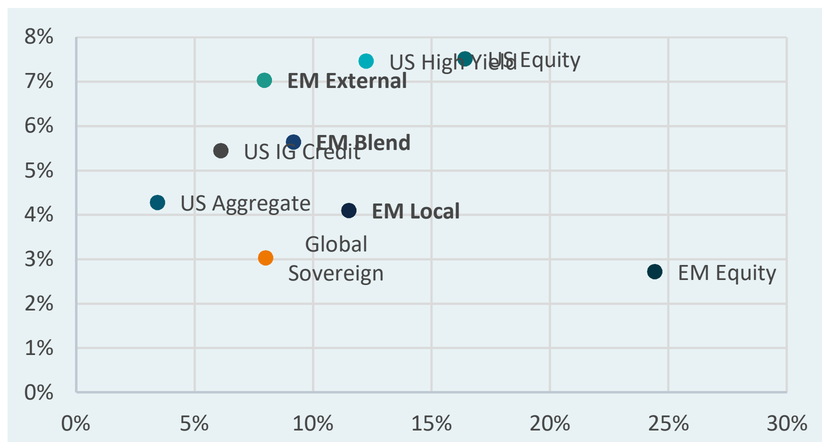
INSTITUTIONAL FLOWS



EMD RETURNS

2012	2013	2014	2015	2016	2017
External 17.44	Corporate -0.60	External 7.43	Corporate 1.30	Blend 10.16	Local 15.21
Blend 17.21	External -5.25	Corporate 4.96	External 1.18	External 10.15	Blend 12.74
Local 16.76	Blend -7.10	Blend 0.71	Blend -7.14	Local 9.94	External 10.26
Corporate 15.01	Local -8.98	Local -5.72	Local -14.92	Corporate 9.65	Corporate 7.96

RISK/RETURN



The size of the EMD market has vastly changed over the last 25 years. Local currency debt and EM corporates have outpaced external issuance.

Local currency debt has seen a resurgence in investor inflows and in returns in 2017.

Source: JPMorgan, PIMCO

Index characteristics

Currency is only one of the differences between the local and hard currency indices.

—Although the yield on the two indices is relatively similar, the risk profile and underlying securities are different

—The hard currency (US Dollar) index has a longer duration and lower credit quality.

—The local currency index has more concentration of countries and currency risk.

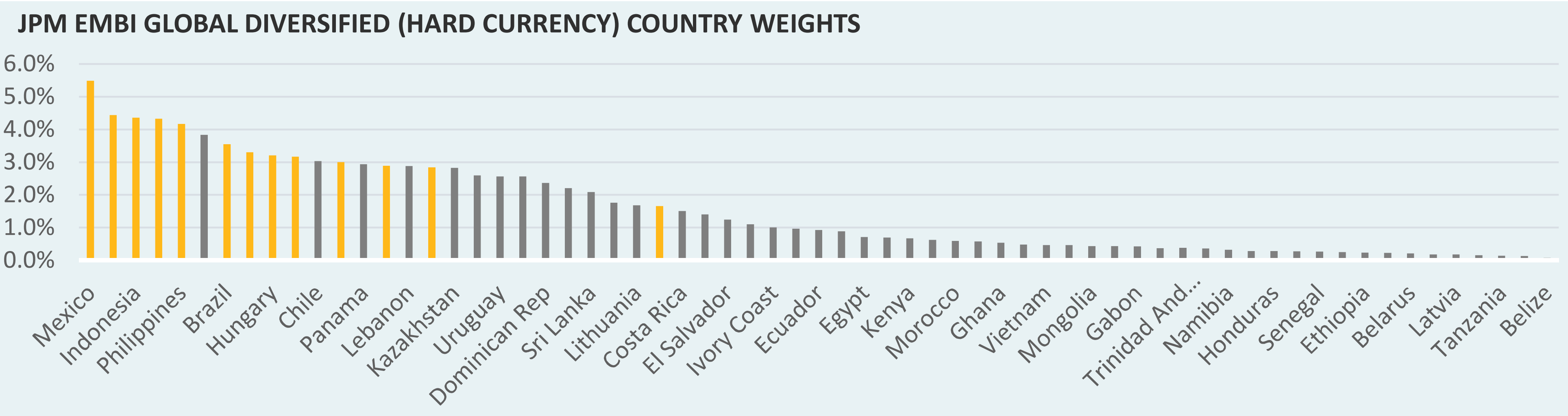
	JPM EMBI Global Diversified (Hard Currency)	JPM GBI-EM Global Diversified (Local Currency)
Duration	6.79	4.89
Yield to Maturity	5.86%	6.51%
Investment Grade	54%	100%
High Yield	46%	0%

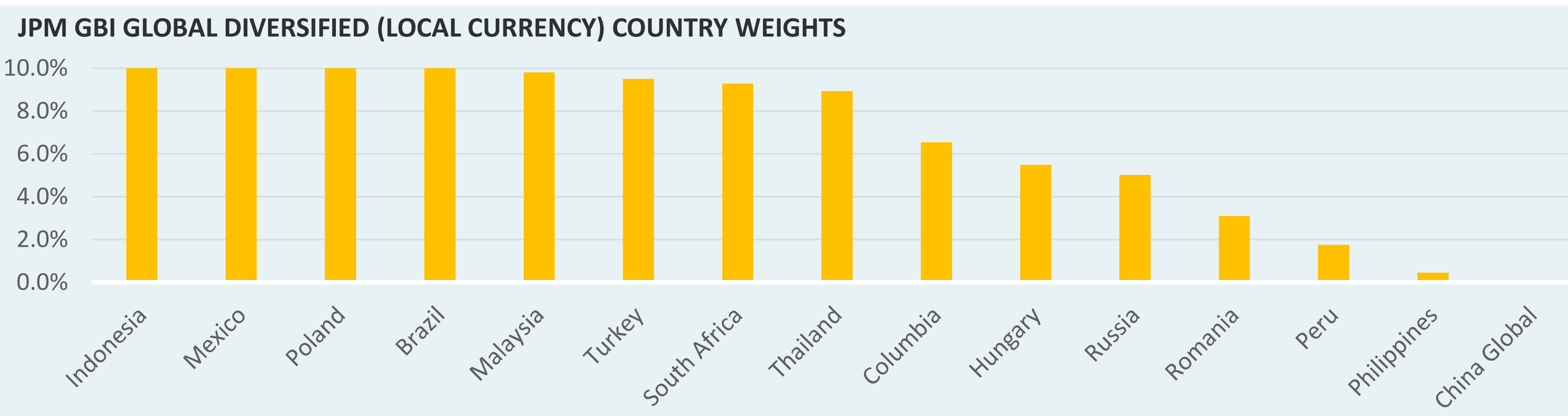
	JPM EMBI Global Diversified (Hard Currency)	JPM GBI-EM Global Diversified (Local Currency)
Market Cap (Billions)	$692.30	$908.50
Number of Issuers	131	15
Number of Instruments	503	191
# of Countries	65	15

Source: J.P. Morgan; data as of 3/31/2016

Index country weights

Overlap in country exposure is denoted by yellow

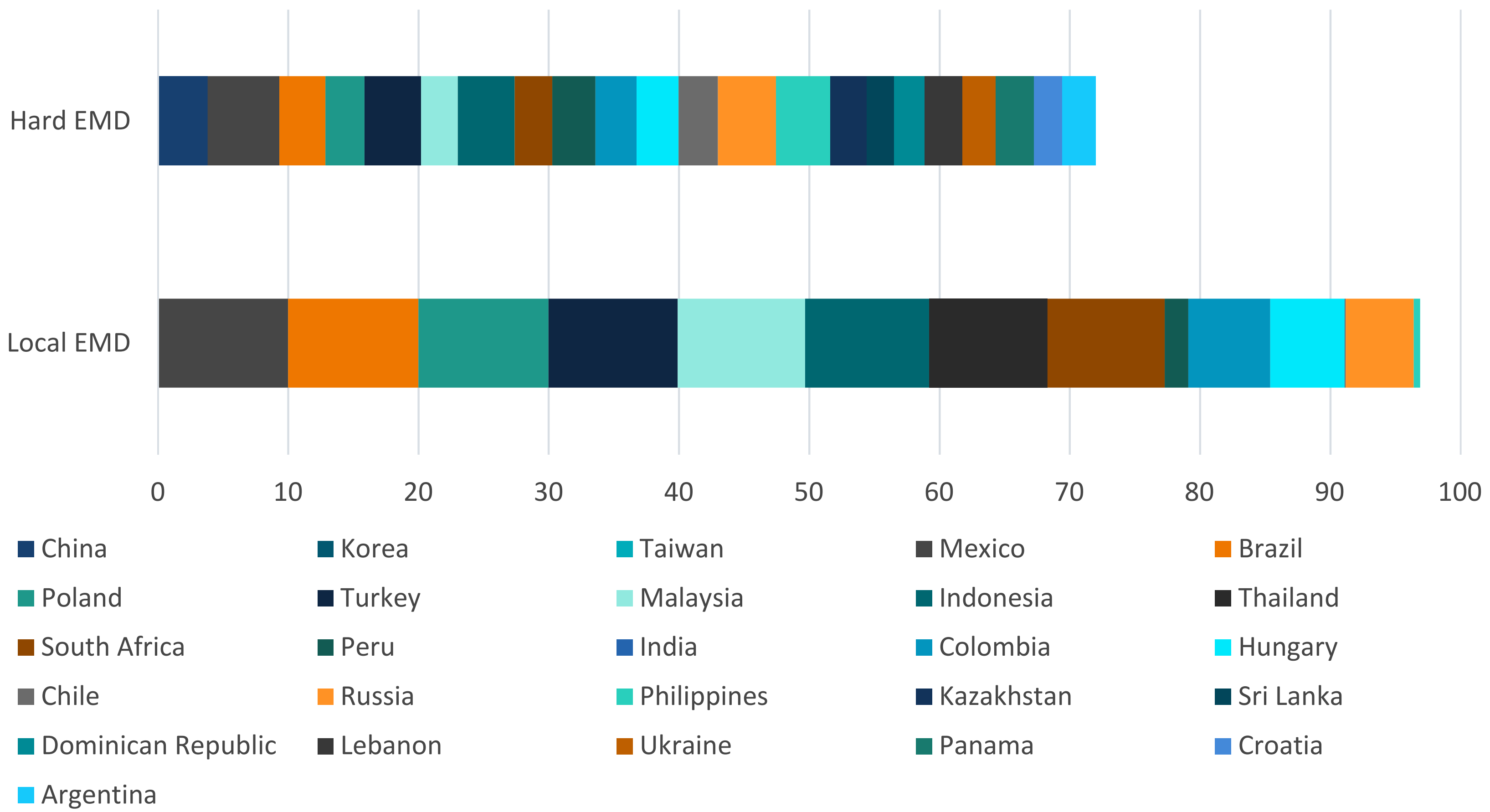




Source: J.P. Morgan; data as of 3/31/2016

Country concentration of indices

Comparing hard and local debt country exposures



The equity index is more concentrated in Southeast Asia (China, Korea and Taiwan) compared to the debt indices.

Local EMD = JPM GBI-EM, Hard EMD = JPM EMBI Global

Implementation

— Verus believes that EMD has a place in a total portfolio context, with various benefits and risks. In general, the asset class currently enjoys positive fundamental and technical tailwinds.

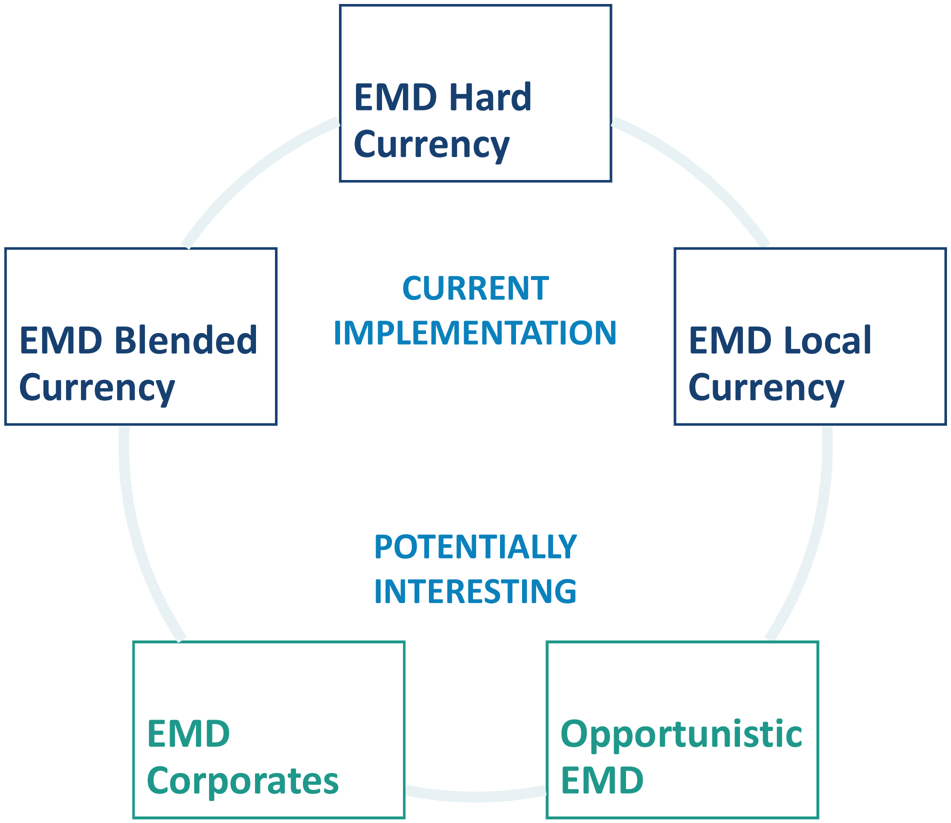
— We also believe that EMD provides diversification in terms of opportunity set, risk and sources of return compared to other fixed income asset classes.

— Verus views active management as the preferred method of implementation given the significant probability of negative idiosyncratic risks and/or unforeseen geopolitical or credit-related events.

Verus EMD product spectrum

How clients implement EMD

- Historically, Verus preferred hard currency exposures for diversification and yield enhancement. More recently, local currency exposures were introduced in an effort to further increase return potential. Given the weakness in EM currencies and changing landscape of the sector, Verus incepted a blended currency focus list in 2016.
- Our main focus is on the hard currency, local currency and blended currency products; however, we continue to study and monitor more opportunistic approaches.
- In the 2017-2018 asset class review, we began evaluating more total-return style approaches for consideration. Many of these products sit in the blended universe.



The case for a blended approach

Hard currency		Local currency		Blended currency	
Advantages	Disadvantages	Advantages	Disadvantages	Advantages	Disadvantages
— Offers a yield premium relative to similar rated developed markets — Potentially improves the risk/return profile of the portfolio	— Lower yields compared to local currency debt — Liquidity risk compared to developed markets sovereign bonds — Interest rate risk — Issuer takes on currency risk	— Offers a yield premium relative to hard currency debt — Potentially improves the risk/return profile of the portfolio — Real yields in local currency terms; emerging markets inflation is historically higher than developed markets	— Higher volatility compared to hard currency due mainly to FX volatility — Higher liquidity risk relative to hard currency — Interest rate risk — Default risk	— Offers broad diversification across countries, issuers and currencies — Flexibility to shift portfolio allocations based on relative value — Less volatility compared to local currency — Offers yield premium relative to hard currency	— Higher volatility compared to hard currency due mainly to FX volatility

Sources: JP Morgan, Goldman Sachs

Asset Allocation Analysis

Executive summary

— Per StanCERA's IPS approved in January 2017, "the Board will review capital market expectations annually. The result of this review will be used to update the Investment Resolutions as needed."

- The Board's last review took place in April 2017 resulting in the adoption of the "FFP 6-Yr Alternative Mix".

— The objective of the annual review process is not to make large changes to the asset allocation, but rather to:

1. Adjust the size of the Liquidity sub-portfolio; and
2. Make adjustment to the Growth & Risk Diversifying sub-portfolios based on updated Capital Market Assumptions and/or changes to the Liquidity sub-portfolio.

— Based on this year's review, the following allocation are presented:

1. Mix A: reduces domestic equity and increases international equity, private markets, and the Liquidity sub-portfolio
2. Mix B: reduces domestic equity, increases the Liquidity sub-portfolio, and introduces emerging market debt.
3. Mix C: eliminates private markets and increases both domestic equity and the Liquidity sub-portfolio
4. Mix D: eliminates private markets, reduces the Liquidity sub-portfolio, and increases domestic and international equity
5. Mix E: eliminates private markets and increases domestic equity, international equity and the Liquidity sub-portfolio

— The recommendation is to select Alternative Mix B as it offers the lowest volatility and downside risk while offering an expected return equal to the actuarial assumed rate, adjusted for inflation.

Asset allocation

	Current (3/31/18)	Phase 1 Targets	Long-Term Targets	Presented May 22: Alt. Mix A	Alt. Mix B	Alt. Mix C	Alt. Mix D	Alt. Mix E	CMA's (10 Yr): Return	Standard Deviation	Sharpe Ratio
US Large	23.6	18.5	16.0	10.0	10.0	20.0	25.0	19.0	4.5	15.7	0.15
US Small	5.4	5.5	3.0	3.0	3.0	5.0	5.0	4.0	4.4	21.5	0.10
Private Equity	-	-	5.0	6.0	5.0	-	-	-	6.4	25.8	0.16
Total Domestic Equity	29.0	24.0	24.0	19.0	18.0	25.0	30.0	23.0			
International Developed	17.4	18.0	19.0	21.0	20.0	20.0	25.0	22.0	8.6	18.1	0.35
Emerging Markets	4.5	6.0	5.0	6.0	5.0	5.0	5.0	6.0	7.3	26.6	0.19
Total International Equity	21.9	24.0	24.0	27.0	25.0	25.0	30.0	28.0			
Emerging Market Debt (Hard)	-	-	-	-	2.0	-	-	-	5.1	12.8	0.23
Emerging Market Debt (Local)	-	-	-	-	2.0	-	-	-	5.8	12.1	0.30
Private Credit	4.4	5.0	6.0	6.0	5.0	-	-	-	6.9	10.5	0.45
Core Real Estate	7.3	7.7	5.0	5.0	5.0	5.0	5.0	5.0	6.0	12.7	0.30
Value Add Real Estate	1.9	1.7	5.0	5.0	5.0	5.0	5.0	5.0	8.0	19.5	0.30
Infrastructure	1.1	0.6	-	1.0	1.0	1.0	1.0	1.0	7.1	18.9	0.26
Total Growth Portfolio	**65.6**	**63.0**	**64.0**	**63.0**	**63.0**	**61.0**	**71.0**	**62.0**			
Short-Term Gov't/Credit	17.1	19.0	18.0	20.0	20.0	20.0	10.0	20.0	2.5	3.7	0.08
Cash	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.2	1.2	-
Total Liquidity Portfolio	**18.2**	**20.0**	**19.0**	**21.0**	**21.0**	**21.0**	**11.0**	**21.0**			
US Treasury	2.8	3.0	3.0	3.0	3.0	4.0	4.0	3.0	2.4	6.8	0.03
Risk Parity	13.4	14.0	14.0	13.0	13.0	14.0	14.0	14.0	7.2	10.0	0.50
Total Risk Diversifying	**16.2**	**17.0**	**17.0**	**16.0**	**16.0**	**18.0**	**18.0**	**17.0**			
Total Allocation	***100***	***100***	***100***	***100***	***100***	***100***	***100***	***100***			

As of March 31, 2018

Based on Verus' 2018 Capital Market Assumptions

Asset allocation analysis

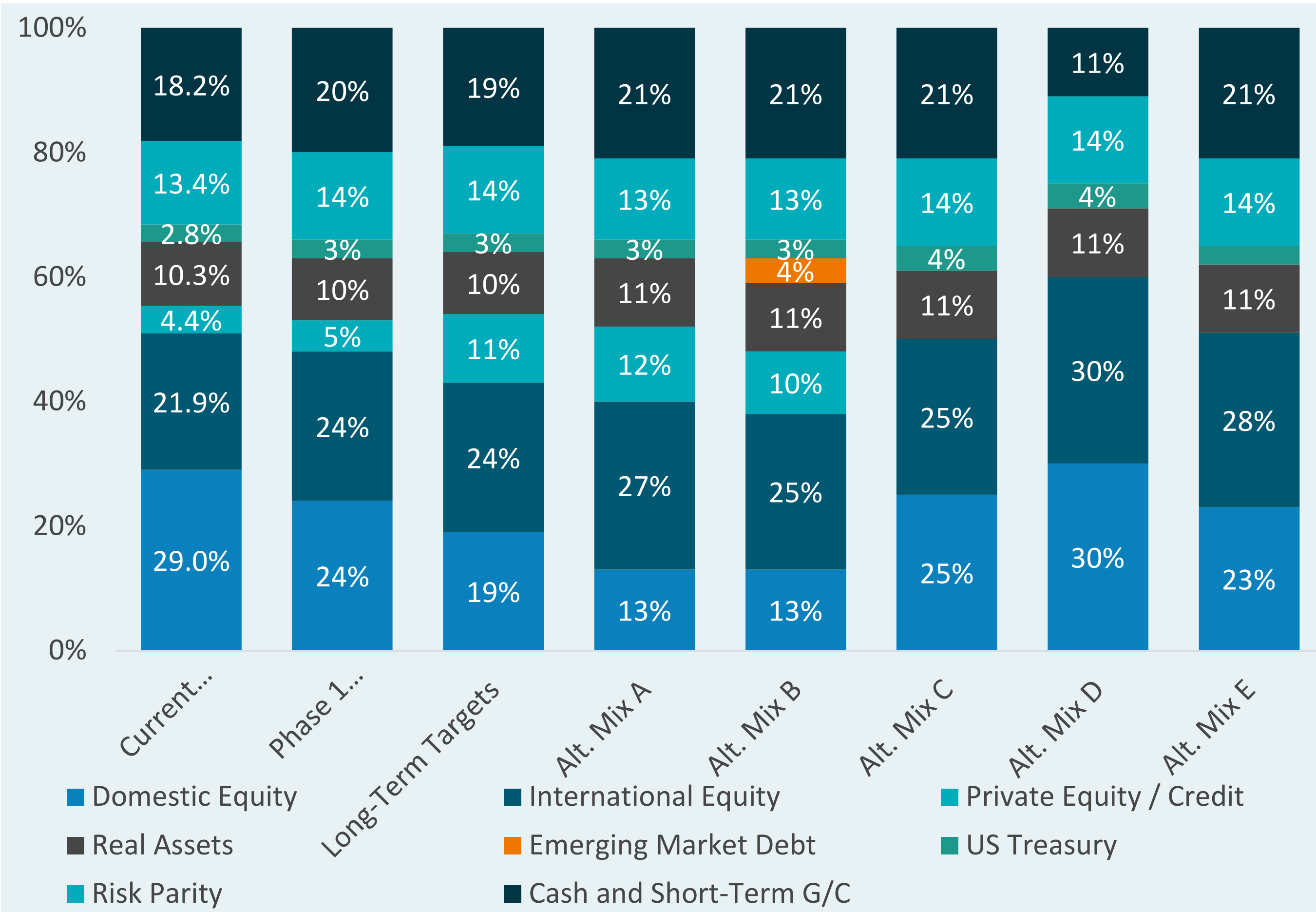
	Current (3/31/18)	Phase 1 Targets	Long-Term Targets	Presented May 22 Alt. Mix A	Presented May 22 Alt. Mix B	Alt. Mix C	Alt. Mix D	Alt. Mix E
Mean Variance Analysis								
Forecast 10 Year Return	**6.0**	**6.1**	**6.4**	**6.6**	**6.5**	**6.1**	**6.5**	**6.2**
Forecast 10 Year Real Return	**3.9**	**4.0**	**4.3**	**4.5**	**4.4**	**4.0**	**4.4**	**4.1**
Standard Deviation	10.8	10.5	10.5	10.5	10.2	10.7	12.2	10.9
Return/Std. Deviation	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6
5th percentile ret. 1 year	-9.6	-9.2	-9.2	-9.1	-8.8	-9.5	-11.6	-10.0
Sharpe Ratio	0.40	0.41	0.44	0.45	0.45	0.41	0.40	0.41
Verus Scenario Analysis								
10 Year Return Forecast								
Stagflation	5.5	5.6	5.5	5.3	5.3	5.6	5.6	5.6
Weak	2.8	2.9	3.0	3.6	3.6	2.9	2.6	2.9
Base CMA	**6.4**	**6.5**	**6.8**	**5.6**	**5.6**	**6.4**	**6.8**	**6.6**
Strong	10.5	10.4	10.9	7.4	7.4	10.4	11.5	10.7
Range of Scenario Forecast	7.8	7.5	7.9	3.8	3.8	7.5	8.9	7.8
Shock (1 year)	-17.9	-17.2	-17.9	-8.1	-8.1	-17.6	-21.8	-18.3
10 Year Real Return Forecast								
Stagflation	-0.6	-0.5	-0.6	-0.8	-0.8	-0.5	-0.5	-0.5
Weak	1.7	1.8	1.9	2.5	2.5	1.8	1.5	1.8
Base CMA	4.3	4.4	4.7	3.5	3.5	4.3	4.7	4.5
Strong	7.9	7.8	8.3	4.8	4.8	7.8	8.9	8.1
Range of Scenario Forecast	8.5	8.3	9.0	5.6	5.6	8.3	9.4	8.5

As of March 31, 2018

Based on Verus' 2018 Capital Market Assumptions

Asset allocation

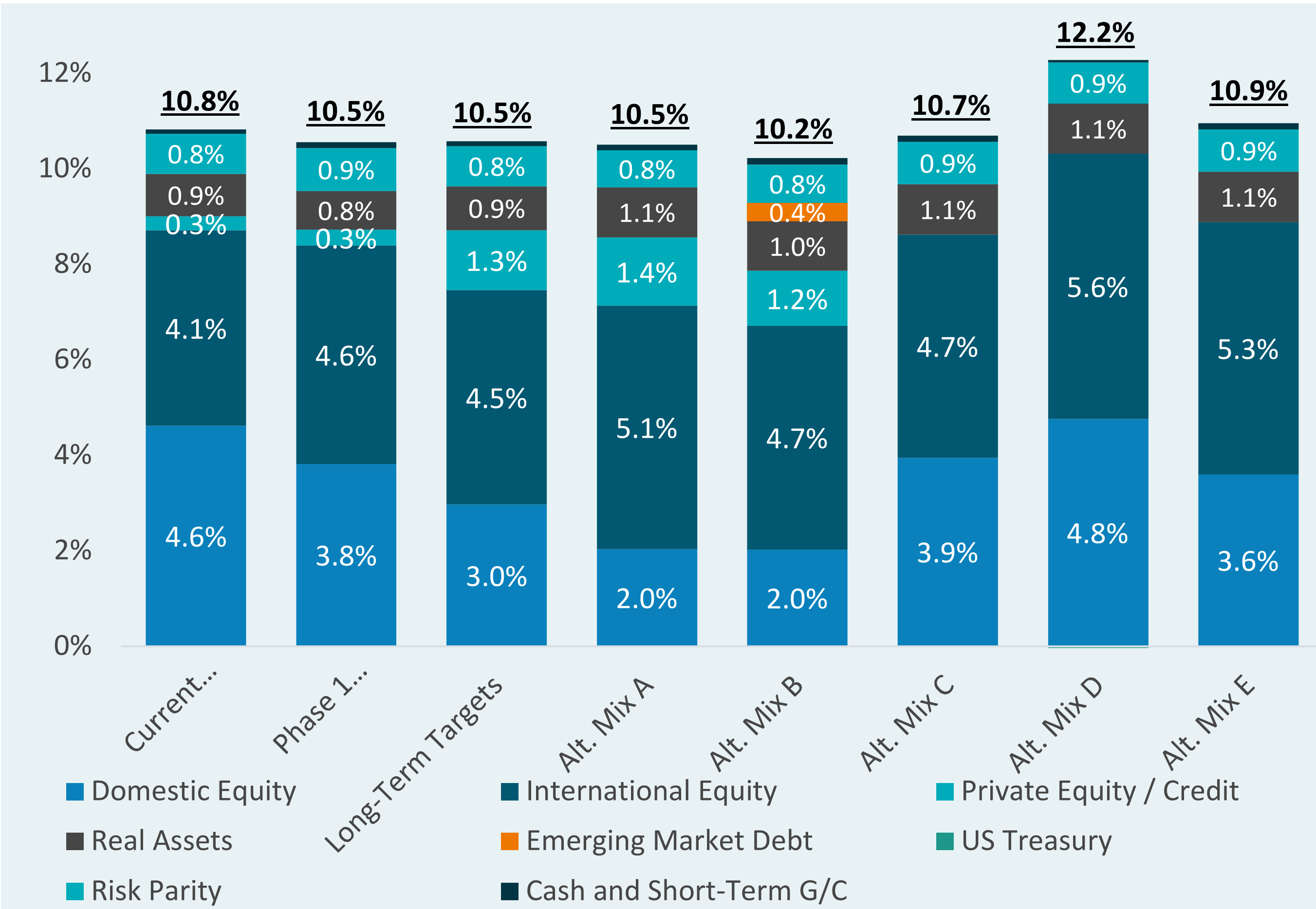
ASSET ALLOCATION BY ASSET CLASS



As of March 31, 2018

Risk contribution

RISK CONTRIBUTION BY ASSET CLASS



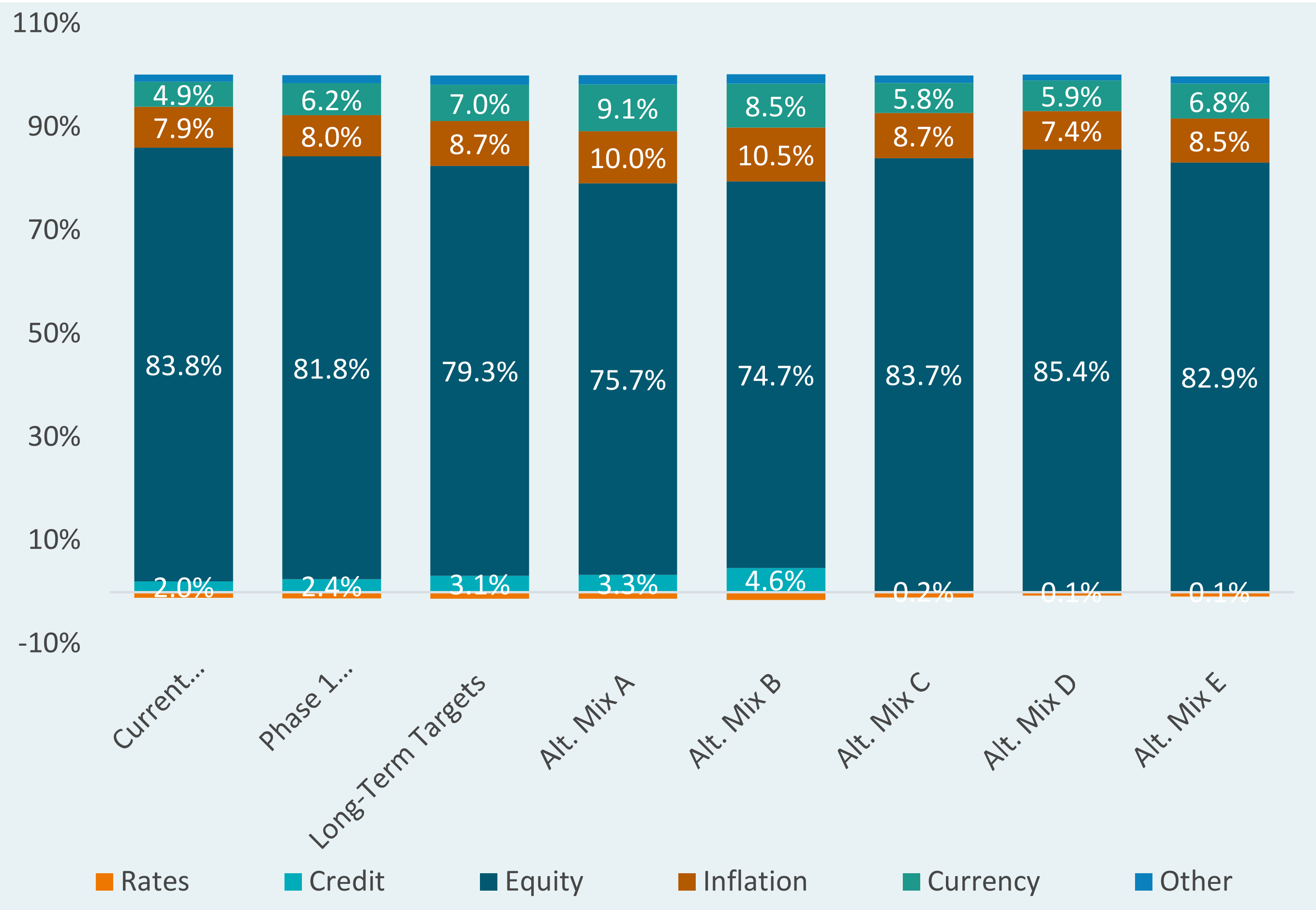
As of March 31, 2018

Based on Verus' 2018 Capital Market Assumptions

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

Risk contribution

RISK CONTRIBUTION BY RISK FACTOR



As of March 31, 2018

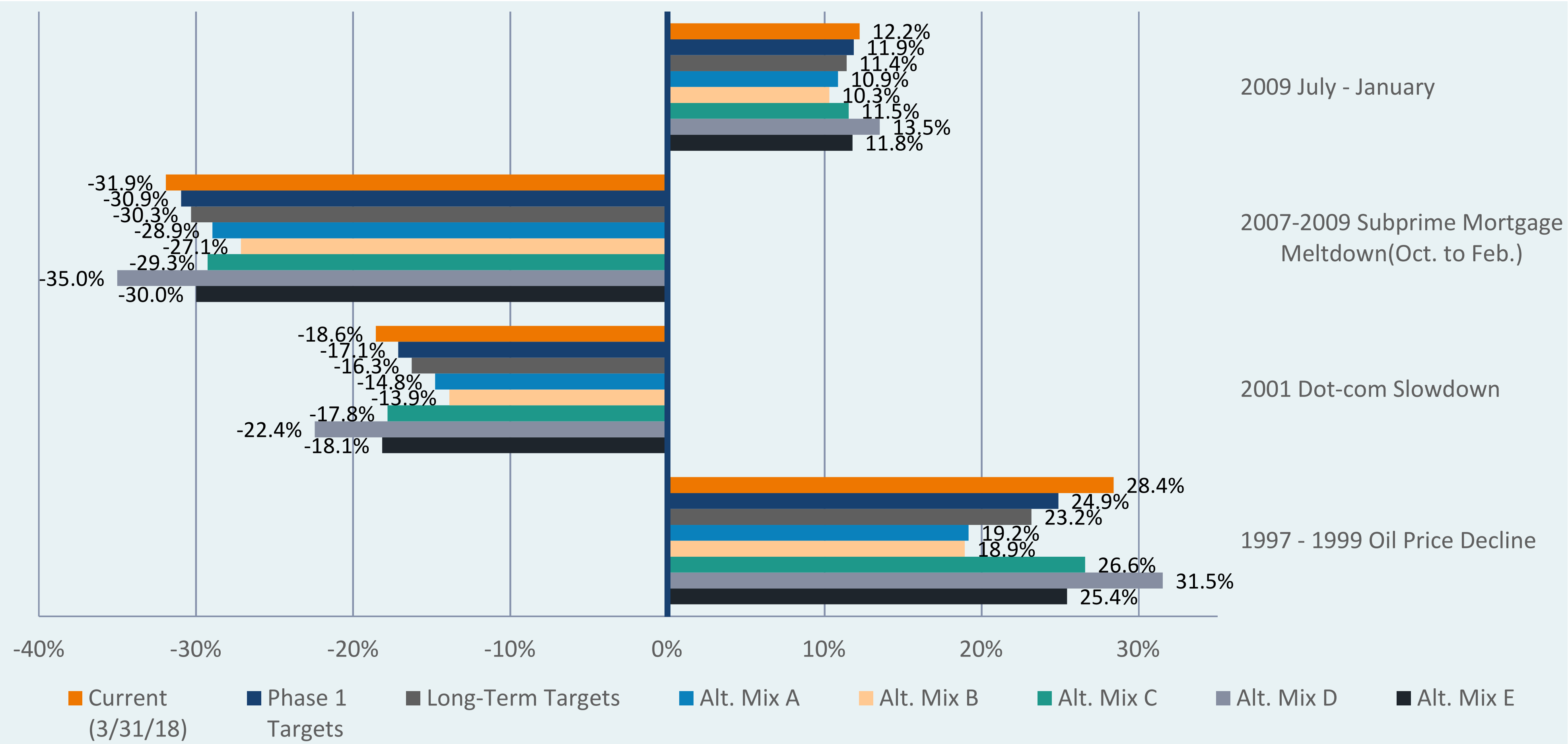
Based on MSCI BarraOne's 2018 Capital Market Assumptions

The main drivers behind the notable risk factors are:

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

Historical scenario analysis

TAIL RISK – SCENARIO ANALYSIS

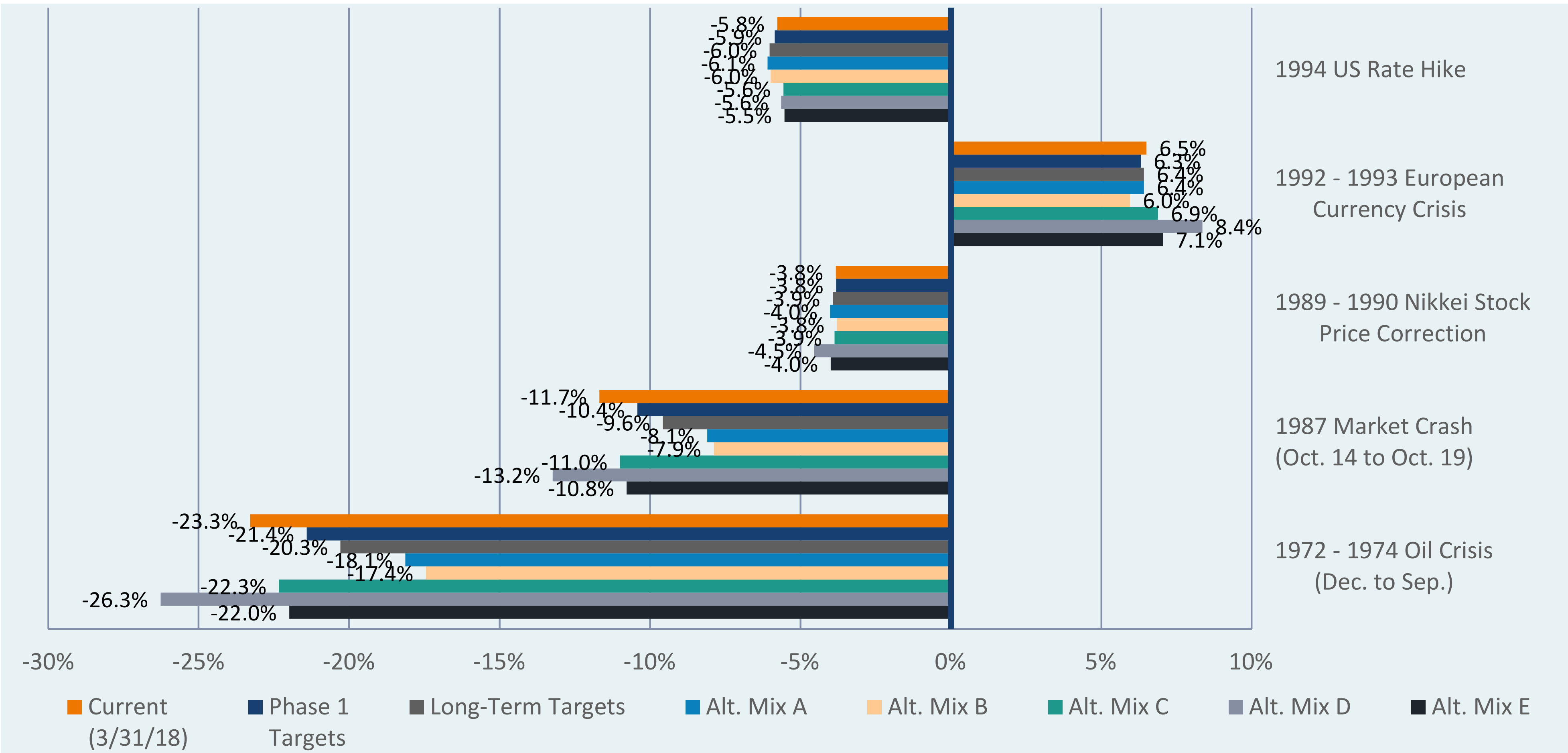


As of March 31, 2018

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

Historical scenario analysis

TAIL RISK – SCENARIO ANALYSIS

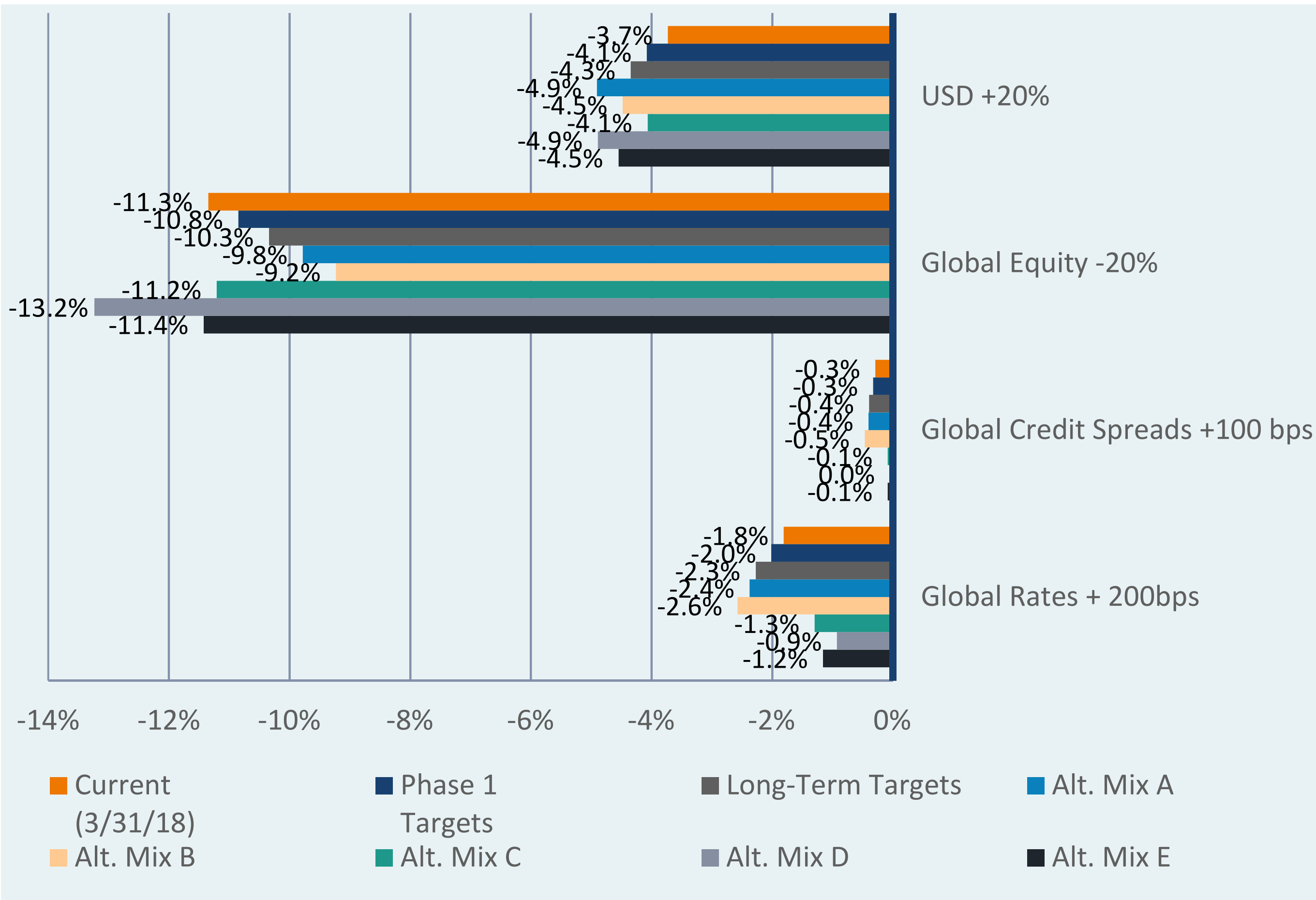


As of March 31, 2018

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

Stress test

TAIL RISK – STRESS TEST



As of March 31, 2018

Based on MSCI BarraOne's 2018 Capital Market Assumptions

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

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

Next steps

— Recommendation is to approve the “Alternative Mix B”.

— If needed, authorize Verus to conduct an emerging markets debt search.

— Update the Asset Allocation in the Investment Policy Statement.

- The “Phase 1 targets & ranges” will be revised via an updated investment directive
- Implementation will take place in phases following the selection of any necessary mandates and approval of a rebalancing analysis at that time.

Appendix

Overview of private equity

— Investments in privately held companies:

- Generally illiquid / limited liquidity
- Few established industry benchmarks
- Sub-classes differ in cash-flow and performance attributes

— Long term investment horizon: 3-12+ years

— Primary reason to invest: **Return Enhancement**

	1 Year	3 Years	5 Years	10 Years	20 Years
Venture Capital	3.84	11.34	14.05	10.09	22.85
Buyouts	12.21	12.25	15.18	10.34	12.19
Debt-Related	11.76	7.39	11.41	9.49	10.31
All Private Equity	**9.48**	**9.51**	**12.64**	**9.66**	**13.06**
S&P 500	**11.96**	**8.87**	**14.66**	**6.95**	**7.68**
Russell 3000	**12.73**	**8.43**	**14.67**	**7.07**	**7.86**
Barclays Aggregate	2.65	3.03	2.23	4.34	5.29
Cash	0.30	0.12	0.10	0.65	2.12

Source: Thomson Reuters Cambridge Universe: U.S. Private Equity Funds sub asset classes as of December 31, 2016.

Alternative approaches to implementation

	Fund of Funds	Direct Funds	Funds & Co-Invests	Direct Deals
Level of Customization	Best for the Fund	Best for a smaller number of clients	Closely aligned with client needs	Most aligned with client needs
Skills Required	Minimal	Manager selection	Manager selection and underwriting	Various direct private market
Additional Resources Required	None	Minimal	1-3 dedicated	Generally 10+ dedicated
Fiduciary Liability	Selecting single manager	Selecting potentially multiple managers	Selection potentially multiple managers and Co-Invest deals	Selecting all deals
Degree of Control	Low - Funds selected by Fund of Funds Manager	Medium - Funds selected by Client	Higher - Funds & Co-Invests selected by Client	Highest - all investments selected by Client
Investment Costs	Generally highest due to Fund of Fund fees	Generally lower than Fund of Funds due to elimination of Fund of Fund fees	Lower than Direct Funds due to favorable pricing from Co-Invests	Lowest due to elimination of General Partner fees

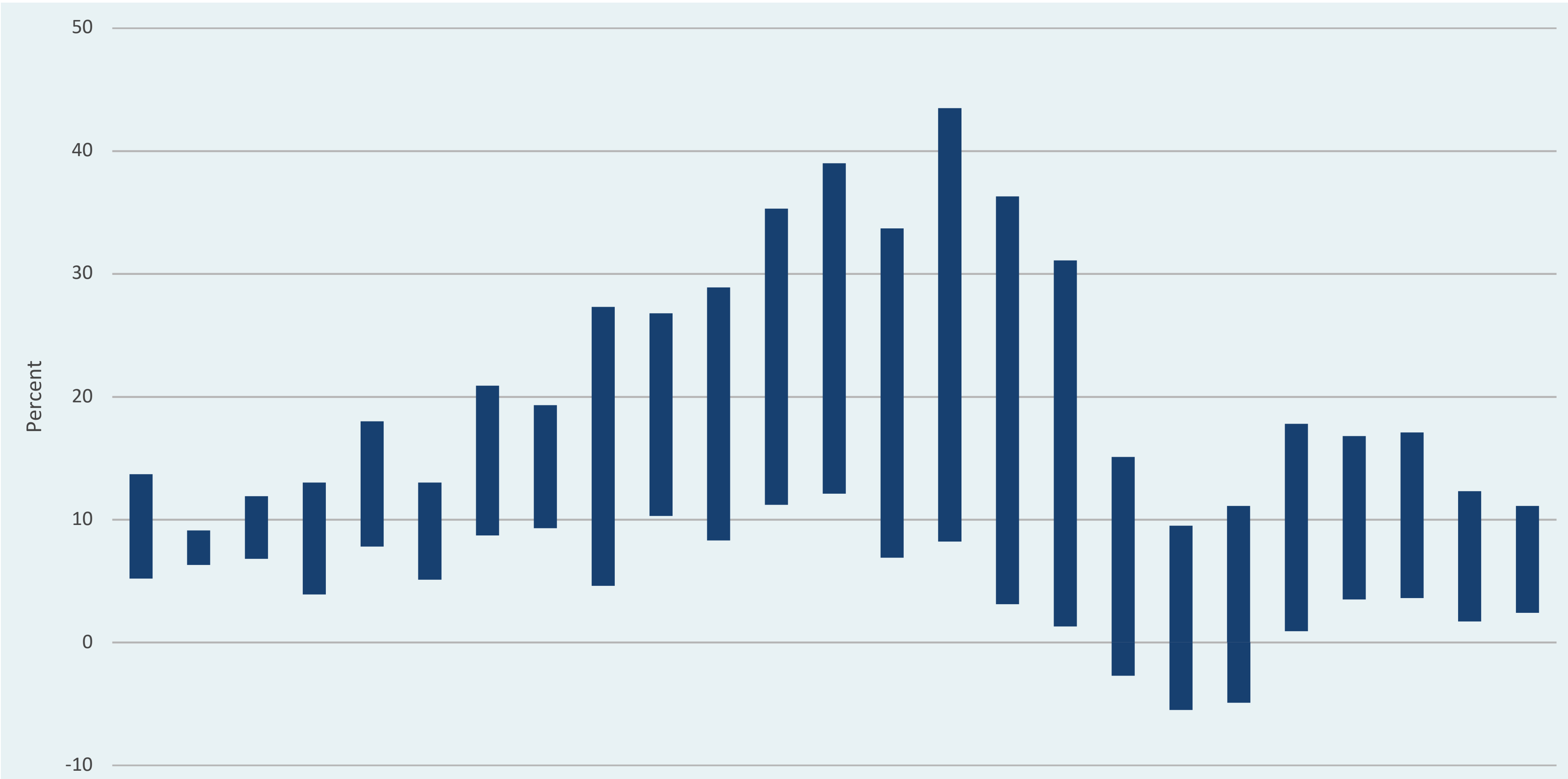
Passive Investors ⟷ Active Investors

Summary comparison of approaches

		Fund-of-Funds	Secondary Funds	Direct via Staff	Direct via Advisor
Typical Portfolio	GPs (#)	1-3+	1-3+	4-15+	4-15+
	Funds (#)	15-30+	20-30+	10-30+	10-30+
	Portfolio Cos. (#)	225-450+	250-450+	150-450+	150-450+
Exposure	Years to reach target	5-7	3-4	4-6	4-6
Diversification	Vintage year	Med–Low	Med–Low	High–Low	High
	Sub-asset class	High–Med	High–Med	High–Med	High
	Geography	High–Med	High–Med	High–Med	High–Med
	Sector/industry	High	High	High	High
Required Staff	Portfolio construction/oversight	Med	Med	High	Med
	Manager selection	Low	Med	High	Med
	Legal diligence	Med	Med	High	High
	Ongoing administration (capital flows, stock distributions, ammendments)	Low	Low	High	High
	Monitoring	Low	Low	High	Med
	Performance tracking / reporting	Low	Low	Med	Med
Pooled Returns	Last 10-years (U.S.)	9.7%	10.5%	11.3%	11.3%
	Last 20-years (U.S.)	9.4%	9.4%	14.8%	14.8%
Implementation Costs (estimate, per $100M commitment)		$930k/year	$800k/year	Varies	Varies

High	Med	Low
●	◐	●

Manager selection is critical to results



	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2001	2001	2002	2003	2004	2005
IRR Upper	13.7	9.1	11.9	13.0	18.0	13.0	20.9	19.3	27.3	26.8	28.9	35.3	39.0	33.7	43.5	36.3	31.1	15.1	9.5	11.1	17.8	16.8	17.1	12.3	11.1
IRR Median	9.3	7.9	8.5	6.3	13.0	9.4	14.8	12.3	13.0	16.9	19.8	18.6	17.7	19.8	23.5	10.0	11.9	6.0	1.2	3.5	8.4	10.5	9.8	7.4	7.3
IIRR Lower	5.2	6.3	6.8	3.9	7.8	5.1	8.7	9.3	4.6	10.3	8.3	11.2	12.1	6.9	8.2	3.1	1.3	-2.7	-5.5	-4.9	0.9	3.5	3.6	1.7	2.4

16.5% Average Dispersion

Source: Thomson Reuters C|A U.S. All Private Equity returns, as of June 30, 2016. For illustrative purposes only as dispersion of returns varies by sub-asset class.

Plan profile

Assumptions:

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

As of June 30, 2017:

— Average monthly Plan cash flows based on the previous 24 months:
  - Total Contributions $7.11mm
    - Employer $5.05mm
    - Employee $2.06mm
  - Total Benefit Payments & Expenses .... $(9.42)mm
    - Benefit Payments .... $(9.22)mm
    - Operating Expenses .... $(0.21)mm
  - Net Operating Cash Inflow (Outflow) .... $(2.31)mm
  - Total Interest & Dividends $3.85mm
  - Net Cash Inflow $1.54mm

— Total participants = 9,126 (4,309 or 47.2% active, 1,071 or 11.7% inactive, 3,746 or 41.1% retired)
— Actuarial liability = $2,648.2 mm

— Market value of assets as of March 31, 2018 = $2,092.09 mm
— Funded ratio = 79.0% (based on March 31, 2018 market value of assets)

10-year return & risk assumptions

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

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

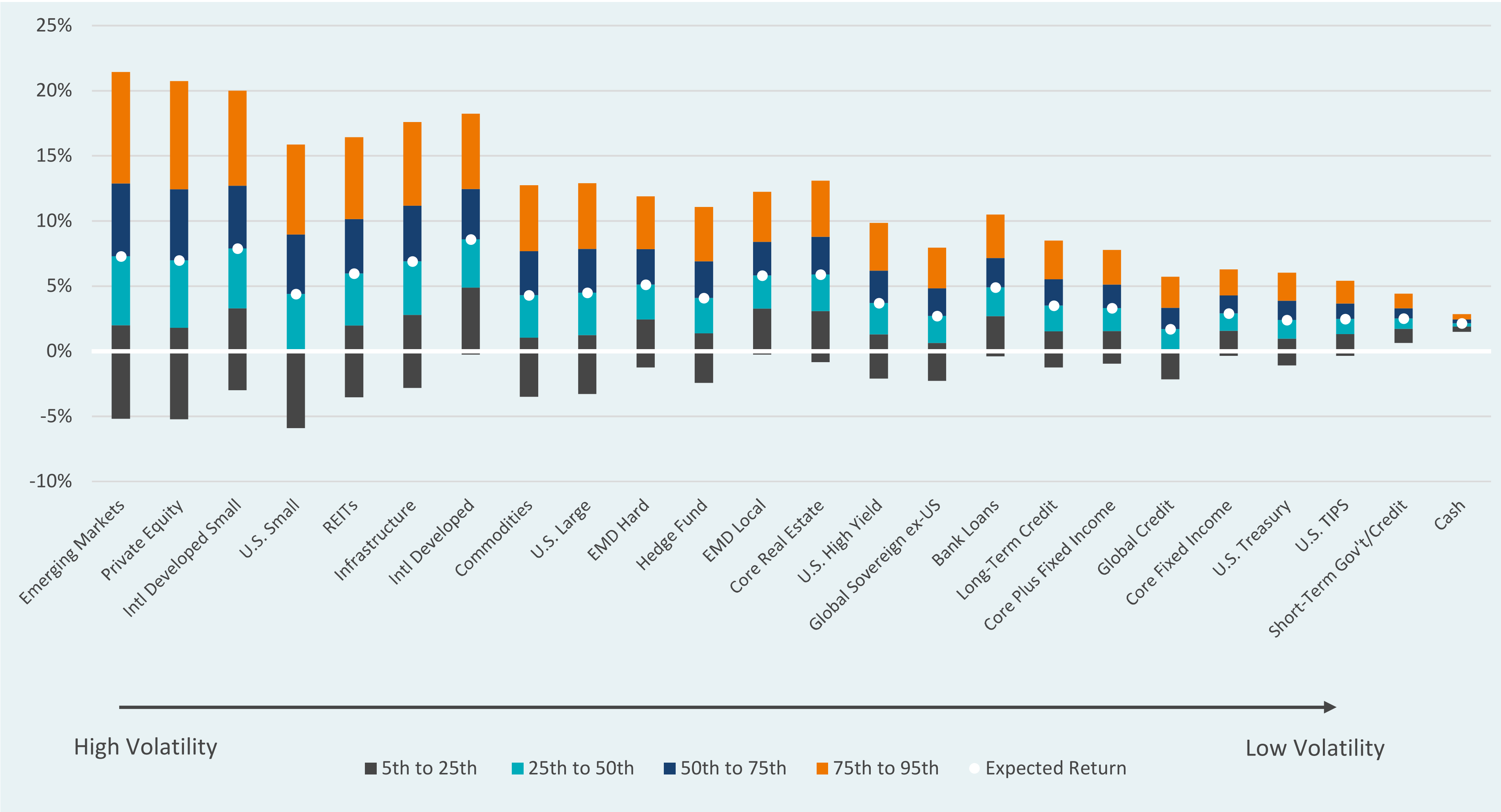
Correlation assumptions

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

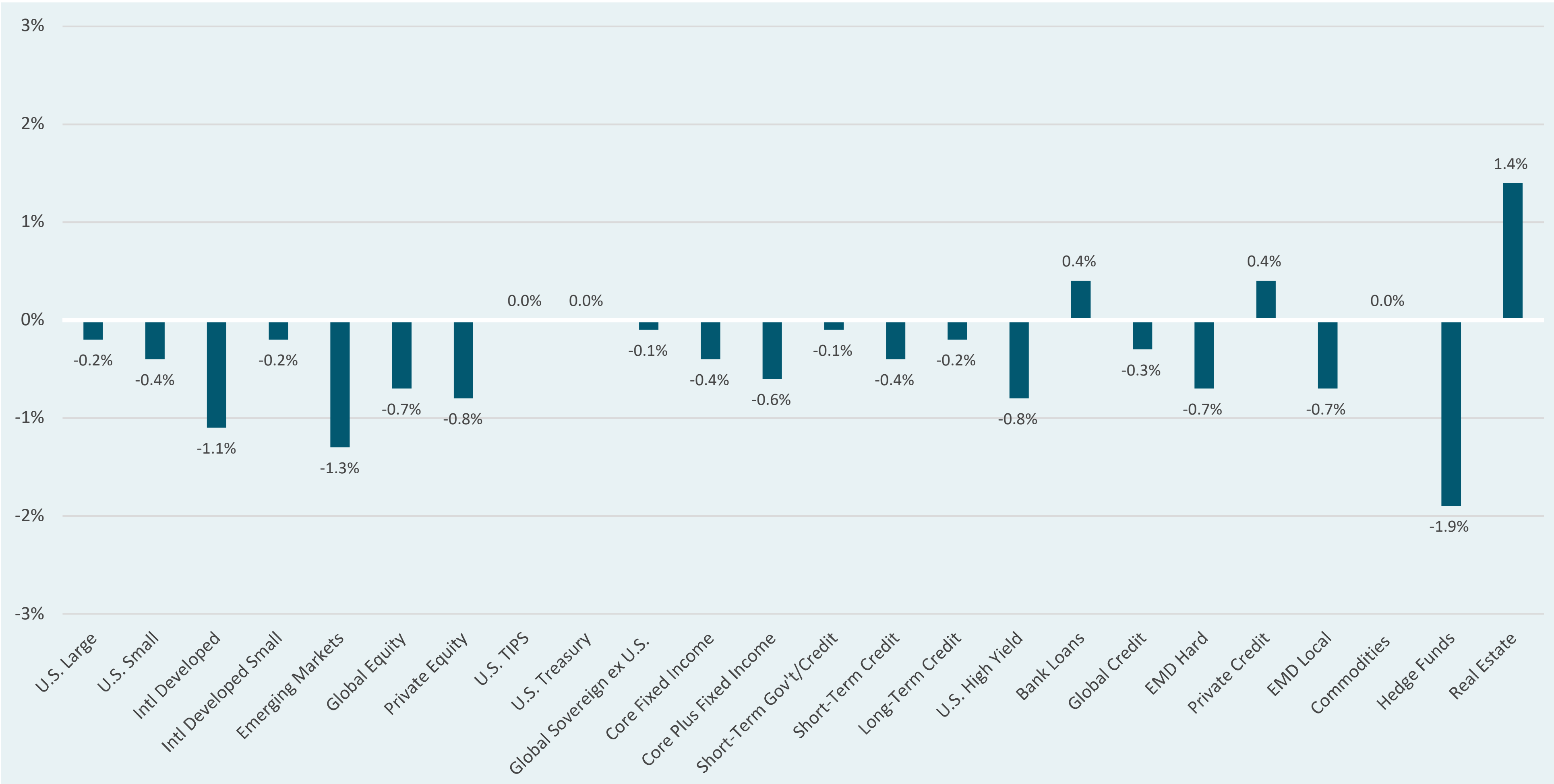
Note: Correlation assumptions are based on the last ten years. Private Equity and Real Estate correlations are especially difficult to model – we have therefore used BarraOne correlation data to strengthen these correlation estimates.

Range of likely 10 year outcomes

10 YEAR RETURN 90% CONFIDENCE INTERVAL



2018 vs. 2017 return forecast



Relevant forecast changes

— Risk premia contracted during 2017, especially in international equities and domestic credit, which resulted in lower return forecasts. High valuations across risk assets and low interest rates have resulted in lower expected returns for almost all asset classes.

— Price appreciation in international developed large cap equities helped normalize valuations, particularly the Shiller P/E ratio. Over the past year, the Shiller P/E ratio rose from 14.5 to 18.6, which placed it in the 36th percentile relative to history. Due to higher P/E ratios, the valuation adjustment to expected return fell from +0.5% to 0.0%.

— Higher valuations in emerging market equities caused expected returns to fall by -0.5%. The Shiller P/E ratio rose from 8.7 to 11.9 and the 12-month trailing P/E ratio rose from 15.4 to 15.9.

— U.S. interest rates were unchanged over the period, but spreads tightened further in both investment grade and high yield credit. Core fixed income spreads fell from 92 bps to 61 bps, and high yield spreads dropped from 437 bps to 356 bps. Tighter spreads in U.S. credit resulted in lower expected returns for almost all fixed income asset classes.

— Bank loans were an exception as a rise in LIBOR offset tighter spreads. The three-month LIBOR reference rate increased from 1.0% to 1.7%, while spreads contracted from 387 bps to 357 bps.

— Expected returns also declined for hard and local currency emerging market debt. In hard currency-denominated debt, spreads to U.S. Treasury yields dropped from 360 bps to 290 bps, while yields of local-denominated debt fell from 6.8% to 6.1%.

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

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July 24, 2018
Retirement Board Agenda Item

AGENDA

TO: Retirement Board

FROM: Chris Wisdom, Retirement Investment Officer

I. SUBJECT: Annual Asset Allocation Review

II. ITEM NUMBER: 7.b.III

III. ITEM TYPE: Discussion and Action

IV. STAFF RECOMMENDATION:

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

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

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

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

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

At the May board meeting, our Investment Consultant also offered an Alternative Mix A which excludes an allocation to emerging market debt. However, staff did not recommend Mix A, since the drawdown risk is inferior. Based on the discussion and suggestions received during the last board meeting, Verus has returned with three alternative mixes for consideration: Alternative Mixes C, D, and E.

Staff continues to recommend adoption of Alternative Mix B.

Should the Board choose to go with staff's recommendation for Mix B, it is further recommended that Verus initiate a manager search for the emerging debt allocation. Attachment 1 contains the consultant's presentation today.

VI. RISK: None

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

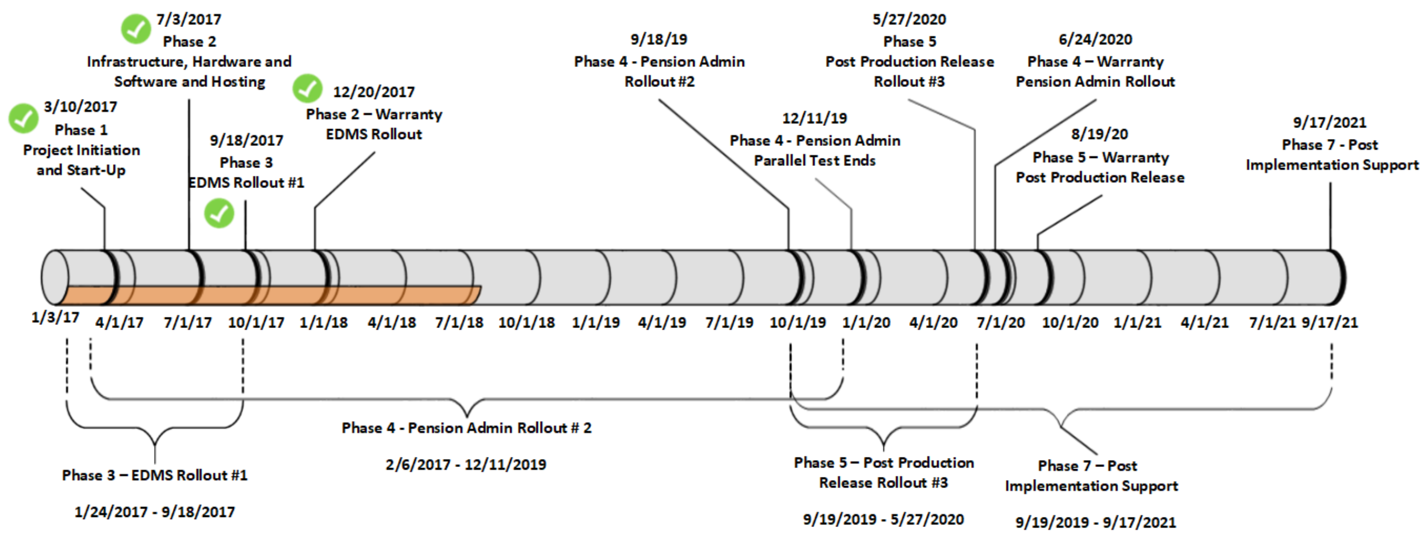
VIII. ADMINISTRATIVE BUDGET IMPACT: None

Chris Wisdom, Retirement Investment Officer

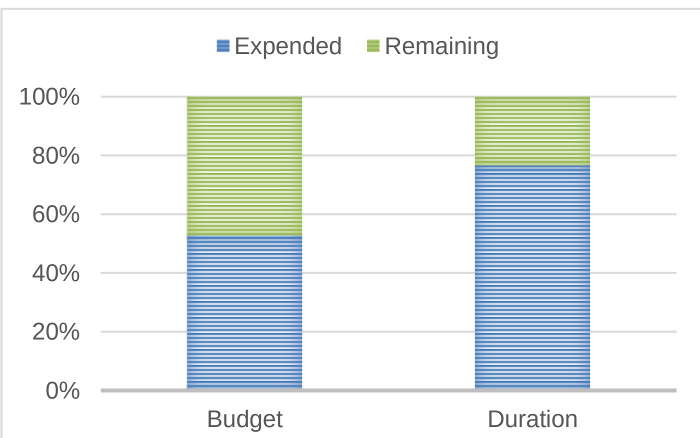
Rick Santos, Executive Director

PAS Implementation
Linea Bi-weekly Status Update

Sponsor:	Rick Santos	Report Date:	07-13-2018



Baseline 12/01/2016 STATUS



Linea Budget as of 04/30/18

Risks & Issues:

The project has been placed in a mutually agreed-upon slow-down period until 08/02/18 pending StanCERA's decision about whether or not to pursue implementation of New Order DROs. The project go-live date may be impacted by this slow-down.

Additional delay is likely to be incurred if StanCERA opts to pursue New Order DROs and will be evaluated at that time.

Accomplishments:

- Coordinated resolution of outstanding issues and questions on Iteration 4B (Employer Reporting) BSRDs and UAT results to achieve StanCERA deliverable acceptance.
- Developed test cases to retest resolved bugs and changes from Employer Reporting UAT.

Upcoming:

- Continue to develop test cases and coordinate retesting of resolved bugs and changes from Employer Reporting UAT.
- Lead StanCERA QA testing for an Imaging production release scheduled for mid-August.
- Begin receiving and testing file upload employer test files for testing in Arrivos.

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 (Calculators).
- 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.