



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

June 26, 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 May 22, 2018 Meeting Minutes [View](#)
 - b. Monthly Staff Report
Agenda Item [View](#)
 - 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*

6. Investment

- a. AB 2833 (California Fee and Expense Disclosure) Update
Agenda Item [View](#)
- b. 2018 Quarter 1 Investment Auxiliary Report
Agenda Item [View](#) Attachment 1 [View](#)

7. Verus – Investment Consultant

- a. May Flash Report [View](#)
- b. Annual Asset Allocation Review
Agenda Item [View](#) Attachment 1 [View](#)

8. Administrative

- a. Information Technology Solutions (ITS) Project Update
- b. Board Room Committee Update
- c. Education and Travel Ad Hoc Committee
Agenda Item [View](#)

9. Closed Session

- 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)

9. Closed Session (Cont.)
 - 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)
10. Members' Forum (Information and Future Agenda Requests Only)
11. Adjournment



**BOARD OF RETIREMENT MINUTES
May 22, 2018**

1. Call Meeting to Order

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

2. Roll Call

Trustees Present: Mike Lynch, Jim DeMartini, Donna Riley, Sam Sharpe, Darin Gharat, Lauren Klein and Mandip Dhillon

Trustees Absent: Jeff Grover, Michael O'Neal

Alternate Trustee Absent: Rhonda Biesemeier, Alternate Retiree Representative

Staff Present: Rick Santos, Executive Director
Dawn Lea, Member and Employer Services Manager
Natalie Elliott, Interim Fiscal Services Manager
Jamie Borba (in for 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

5. Consent Items

a. Approval of the April 24, 2018 Meeting Minutes

b. Monthly Staff Report

c. Legal/Legislation Update

d. VERUS Workplan

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

1. Cardoza, Karen – BHRS – Effective 5-26-18
2. Gomez, Hazel – DCSS – Effective 5-25-18
3. Green Craig – Planning – Effective 3-31-18
4. Marsh, Janna – BHRS – Effective 4-25-18
5. Taylor, Debra – BHRS – Effective 3-17-18
6. Tolman, Holly – DCSS – Effective 3-29-18
7. Vieira, Debbie – BHRS – Effective 5-28-18
8. West, John – D.A. – Effective 5-01-18

5. Consent Items (Cont.)

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

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

** Indicates Safety Personnel*

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

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

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

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

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

Motion carried unanimously

6. Investment

a. Functionally Focused Portfolio (FFP) Annual Reconciliation

Motion was made by Trustee Gharat and seconded by Trustee Sharpe to accept Staff recommendation as presented

Motion carried unanimously

b. Raven Capital Annual Meeting

2:35 p.m. Trustee Gharat left

c. Private Markets RFI Process Update

No action was taken on this item. Request made by Board for more education before bringing this item back to the next board meeting

7. Verus – Investment Consultant

- a. April Flash Report
- b. Investment Performance 2018 Quarter 1 Review
- c. Annual Asset Allocation Review

Motion was made by Trustee Riley and seconded by Trustee Dhillon to not accept staff recommendation at this time. Request staff to bring item back at the June Board meeting

Motion carried unanimously

4:18 p.m. Trustee DeMartini left

4:20 p.m. Rick Santos and Chris Wisdom left

8. Administrative

- a. Information Technology Solutions (ITS) Project Update

Dawn Lea presented the update

4:22 p.m. Trustee DeMartini returned

- b. Board Room Committee Update

Natalie Elliott provided update

4:25 p.m. Rick Santos , Chris Wisdom returned

- c. Fiscal Year 2018-2019 Proposed Administrative Budget

Motion was made by Trustee Riley and seconded by Trustee Dhillon to accept staff recommendation as presented

Motion carried unanimously

9. Closed Session -

None

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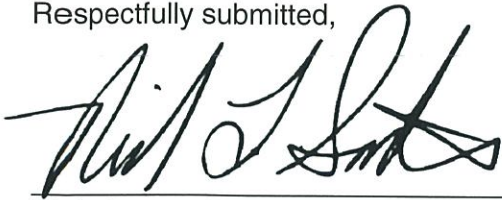
10. Members' Forum (Information and Future Agenda Requests Only)

Trustee Sharpe gave an update regarding the NCPRS conference attended
Trustee Dhillon gave an update regarding the NCPRS conference attended
Trustee Lynch gave an update regarding the NCPRS conference attended
Trustee Dhillon gave an update regarding the NCPRS conference attended

11. Adjournment

Meeting adjourned at 4:37 p.m.

Respectfully submitted,

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

Rick Santos, Executive Director

APPROVED AS TO FORM:
Fred Silva, GENERAL LEGAL COUNSEL

By: Fred A. Silva, Jr.
Fred Silva, General Legal Counsel



June 26, 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 May, Member and Employer Services Staff processed 46 new hires (06 Safety and 40 General), 30 terminations, 32 member requests resulting in 89 estimates and 13 member requests resulting in 32 buy back contracts. There were 40 individual counseling sessions..

Currently, staff are budgeting their time between the ITS project and normal workload. Management is putting together a training plan that is to be implemented in July. The training plan is meant to accomplish two things: To create a work environment where staff become self-sufficient in most StanCERA administrative processes. This is necessary due to the size of the Organization and the vulnerabilities that exist when one or more key people are off due to extended leave. Also, to extract the greatest value from the work flow system that will go into effect towards the end of 2019, management must have confidence that all staff are properly trained in nearly all aspects of StanCERA's work. When this is achieved, management can allocate the work across the Organization in the most efficient manner, knowing that all staff can be counted on to fulfill our mission.

- b) *Investment Governance and Compliance* – Staff attended the Raven Capital Annual General Meeting in early May. This was an opportunity to learn about the performance of StanCERA's current investments in current Raven funds, as well as learn about future fundraising plans at Raven. Staff received 26 responses to our RFI for Private Markets Design and Implementation Services which proved to be very helpful in learning about the marketplace. Staff attended the SACRS Spring Conference. In addition to the typical educational sessions, this was an opportunity meet some of the RFI respondents in person to discuss their offerings. As usual, staff continued to manage incoming capital calls in order to fund StanCERA's illiquid investments.
- c) *Fiscal Services* – Employer and employee contributions totaling \$8,240,033 were received through 15 different payroll batches in May. 23 contribution refunds and death benefit payouts totaling \$450,350 were processed which includes refunds of contributions and salary death benefits for two members. The retiree payroll for May totaled \$10,509,370 and was processed as scheduled.

Staff continues to partner with Member Services and Employer Services in defining the business rules for the new pension software. Employer Reporting has been tested and the employers are working on developing the new import file for upload.

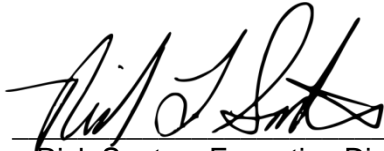
Work has started on the Buy Back calculations and the Interest Posting calculations. We continue to be on time and within budget for this project.

Staff met with the Board Room TI committee and design decisions were made for the new Board Room. The architect is in the process of completing the construction plans. Once the plans are done, staff will facilitate the bid process with the County 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, Interim Fiscal Services Manager



Chris Wisdom, Retirement Investment Officer



June 26, 2018

Retirement Board Agenda Item

TO: Retirement Board

FROM: Chris Wisdom, Retirement Investment Officer

- I. SUBJECT: Update on AB 2833 (California Fee and Expense Disclosure)
- II. ITEM NUMBER: 6.a
- III. ITEM TYPE: Information Only
- IV. STAFF RECOMMENDATION: None.

V. EXECUTIVE SUMMARY:

Assembly Bill 2833 was introduced with the stated intent of “increasing the transparency of fees paid by public investment funds to alternative investment vehicles; public investment fund trustees need to be able to see and understand all of the fees they are charged in connection with these investments. This information is necessary to ensure public confidence in the integrity of investments made by retirement boards pursuant to alternative investment vehicles.”

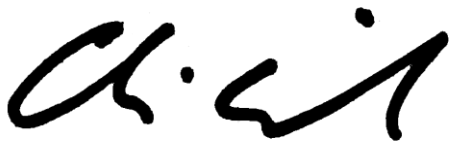
The law requires a public investment fund to require each alternative investment vehicle in which it invests to disclose the following at least annually:

1. The fees and expenses that the public pension fund pays directly to the alternative investment vehicle, the fund manager, or related parties.
2. The public pension fund's pro rata share of the fees and expenses, including carried interest, that are not included in paragraph (1) and that are paid from the alternative investment vehicle to the fund manager or related parties.
3. The public pension fund's pro rata share of aggregate fees and expenses paid by all of the portfolio companies held within the alternative investment vehicle to the fund manager or related parties.
4. The since inception gross and net rate of return of each alternative investment vehicle in which the public pension fund participates.
5. Any additional information described in subdivision (b) of Government Code §6254.26 (basic information on alternative investments in which public pension funds invest).

The public pension fund must disclose the above information at least annually in a report presented at a meeting open to the public. These required disclosures apply to all new alternative investment vehicle contracts the public pension fund enters into, or to which it makes a new capital commitment to, on or after January 1, 2017. Public pension funds are also required to undertake reasonable efforts to obtain the fee and expense data for alternative investments made prior to January 1, 2017, and comply with the reporting requirement for any information obtained after January 1, 2017.

Staff believes that StanCERA is currently in full compliance with AB 2833 and is disclosing the relevant information on a quarterly basis in the auxiliary investment reports. For all future investments in “alternative investment vehicles”, staff will insist on appropriate language (in a side letter) which assures that we will receive all appropriate fee disclosure information in order to comply with AB 2833.

- 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



June 26, 2018

Retirement Board Agenda Item

TO: Retirement Board

FROM: Rick Santos, Executive Director

- I. SUBJECT: Quarter 1 2018 Auxiliary Investment Report
- II. ITEM NUMBER: 6.b
- III. ITEM TYPE: Information/Discussion
- IV. STAFF RECOMMENDATION: None
- V. ANALYSIS: Attachment 1 contains the Quarter 1 2018 Auxiliary Investment Report.

Value Added (page 1)

In quarter 1, StanCERA's non-alternative investment portfolio added \$2.8 million in value above the passive investment. This was fueled by the domestic and international equity space as fixed income and risk parity suffered. Within domestic equity, Dodge and Cox and Jackson Square added nearly \$2 million each. On the fixed income side, Dimensional lagged the most, losing approximately \$1.4 million.

Additionally, staff has augmented the value added analysis to allow for longer investment periods. While we have the capability of showing this today, staff intends on bringing this type of analysis to the Board later this year when we discuss the idea of active versus passive investing.

This quarter staff has added a new statistic, "Dollar at Risk". This measure is nothing new as its meaning converts the typical "alpha" or excess return into a relative dollar amount. The measure can be read simply as "for every dollar StanCERA puts at risk by investing with this manager, the manager returns X dollars in value added". As an example this quarter, for every dollar StanCERA gave to Dodge & Cox equity to invest (putting this money at risk), they returned 2 cents after fees above a passive investment. The dollar at risk idea should become more relevant when we extend this type of analysis to account for longer periods.

Investment Fee Summary (pages 2 – 4)

In quarter 1, StanCERA paid approximately \$2.2 million in fees (42.1 basis points, annualized) to manage its entire portfolio.

Alternative Auxiliary Reports (pages 5 – 12)

The alternative auxiliary reports display information on the direct lending, infrastructure, core real estate and value added real estate asset classes.

Real estate continues to fare very well as American, Greenfield and Morgan Stanley Prime posted IRRs (since inception) as of March 31, 2018 of 10.7%, 17.0% and 8.4%, respectively. The North Haven infrastructure fund posted an IRR of 17.9%.

The direct lending portfolio continues to show below expected results. Additionally, these results are actually starting to stabilize and display little movement between reporting periods. The White Oak fund posted the best results at 7.8% while Raven I and Medley posted IRRs of 1.0% and 5.1%, respectively.

In total, the aggregate internal rate of return for the entire alternative portfolio is 8.0% (net) since inception.

Cash Flow Report (page 13)

This report is self-explanatory.

Functionally Focused Portfolio (FFP) Shortfall Report (page 14)

Over the first 9 months of the program, StanCERA's actual benefit shortfalls (benefits plus expenses less contributions) turned out to be \$16.1 million. StanCERA had budgeted and invested capital to supply us with exactly \$16.3 million to fund those shortfalls at just the point they were needed. Thus our projection over this period turned out to be slightly higher by approximately \$217,000. As a percentage of the expected shortfall, this amounts to an error of approximately 1.3%.

These results so far are extremely positive as "just enough" money has been allocated to the payment of our benefits with very little idle cash being left on the table. Staff feels that this may be an anomaly of sorts as these results are somewhat far from what we expected. A margin of error between 10% and 15% would be much more in line of what was anticipated.

- 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



Value Added Analysis

1

1/1/2018

thru

3/31/2018

Active Domestic Equity

Mngr ID	Manager	Benchmark Index	Average AUM	Dollar Returns					
				Manager	Benchmark	Excess Return	Fees	Value Added	Dollar at Risk
1	Dodge Cox Equity	Russell 1000 Value	\$115,159,045	-\$1,601,304	-\$3,374,162	\$1,772,858	\$61,848	\$1,770,813	\$0.02
7	Jackson Square	Russell 1000 Growth	\$125,689,124	\$8,702,048	\$6,820,867	\$1,881,181	\$112,523	\$1,816,135	\$0.01
4	Bernzott	Russell 2000 Value	\$16,291,226	\$206,359	-\$438,176	\$644,534	\$21,794	\$641,641	\$0.04
25	Channing	Russell 2000 Value	\$24,659,635	-\$306,732	-\$651,761	\$345,029	\$33,572	\$320,002	\$0.01
26	Inview	Russell 2000 Value	\$25,432,587	-\$936,796	-\$683,917	-\$252,879	\$33,000	-\$289,226	-\$0.01
27	Keeley	Russell 2000 Value	\$13,124,748	-\$202,857	-\$356,234	\$153,377	\$17,761	\$140,170	\$0.01
28	Pacific Ridge	Russell Micro Cap Value	\$20,498,670	-\$447,488	\$86,352	-\$533,840	\$32,330	-\$581,966	-\$0.03
29	Walhausen	Russell 2000 Value	<u>\$15,235,135</u>	<u>-\$242,758</u>	<u>-\$404,877</u>	<u>\$162,119</u>	<u>\$20,665</u>	<u>\$144,208</u>	\$0.01
Total Active Domestic Equity			\$356,090,171	\$5,170,470	\$998,091	\$4,172,379	\$333,493	\$3,961,777	\$0.01

Passive Domestic Equity

Mngr ID	Manager	Benchmark Index	Average AUM	Dollar Returns					
				Manager	Benchmark	Excess Return	Fees	Value Added	Dollar at Risk
11	Blackrock Value	Russell 1000 Value	\$96,317,313	-\$2,711,465	-\$2,730,433	\$18,967	\$5,347	\$14,138	\$0.00
12	Blackrock Growth	Russell 1000 Growth	\$120,997,114	\$1,631,113	\$1,660,502	-\$29,389	\$6,643	-\$36,829	\$0.00
41	Northern Trust Russell 1000 Fund	Russell 1000	<u>\$172,966,124</u>	<u>-\$1,187,586</u>	<u>-\$1,174,797</u>	<u>-\$12,789</u>	<u>\$6,384</u>	<u>-\$19,484</u>	\$0.00
Total Passive Domestic Equity			\$390,280,550	-\$2,267,939	-\$2,244,728	-\$23,211	\$18,374	-\$42,174	\$0.00

Active International Equity

Mngr ID	Manager	Benchmark Index	Average AUM	Dollar Returns					
				Manager	Benchmark	Excess Return	Fees	Value Added	Dollar at Risk
8	LSV	MSCI ACWI ex USA GD	\$238,998,769	-\$334,301	-\$2,552,788	\$2,218,487	\$180,548	\$2,082,623	\$0.01
10	Fidelity	MSCI ACWI ex USA GD	\$229,755,350	<u>-\$3,163,569</u>	<u>-\$2,365,926</u>	<u>-\$797,643</u>	<u>\$161,399</u>	<u>-\$993,979</u>	\$0.00
Total Active International Equity			\$468,754,120	<u>-\$3,497,869</u>	<u>-\$4,918,714</u>	<u>\$1,420,845</u>	<u>\$341,946</u>	<u>\$1,088,644</u>	\$0.00

Active Domestic Fixed Income

Mngr ID	Manager	Benchmark Index	Average AUM	Dollar Returns					
				Manager	Benchmark	Excess Return	Fees	Value Added	Dollar at Risk
34	Insight Investment	US Govt. Credit Blend	\$86,169,323	-\$675,472	-\$692,989	\$17,517	\$30,000	-\$10,305	\$0.00
35	Dimensional Fund Advisors	BB Barclays US Credit 1-3 Years	<u>\$275,110,262</u>	<u>-\$2,092,245</u>	<u>-\$860,878</u>	<u>-\$1,231,366</u>	<u>\$77,204</u>	<u>-\$1,343,983</u>	\$0.00
Total Active Domestic Fixed Income			\$361,279,585	<u>-\$2,767,716</u>	<u>-\$1,553,867</u>	<u>-\$1,213,849</u>	<u>\$107,204</u>	<u>-\$1,354,289</u>	\$0.00

Passive Domestic Fixed Income

Mngr ID	Manager	Benchmark Index	Average AUM	Dollar Returns					
				Manager	Benchmark	Excess Return	Fees	Value Added	Dollar at Risk
39	Northern Trust Long Term Bond Fund	BB Barc US Agg Govt/Cred Long	\$14,697,207	-\$490,018	-\$539,884	\$49,865	\$1,678	\$47,182	\$0.00
40	Northern Trust Intermediate Term Bond Fund	BB Barc US Ag Gvt/Cr Intrmd	<u>\$43,273,950</u>	<u>-\$319,791</u>	<u>-\$427,326</u>	<u>\$107,535</u>	<u>\$4,823</u>	<u>\$104,518</u>	\$0.00
Total Passive Fixed Income			\$57,971,157	-\$809,809	-\$967,209	\$157,400	\$6,501	\$151,700	\$0.00

Risk Parity

Mngr ID	Manager	Benchmark Index	Average AUM	Dollar Returns					
				Manager	Benchmark	Excess Return	Fees	Value Added	Dollar at Risk
42	PanAgora Diversified Risk Multi-Asset Fund, Ltd.	60% MSCI ACWI / 40% BC Glb Agg	<u>\$140,083,309</u>	<u>-\$569,132</u>	<u>\$217,181</u>	<u>-\$786,313</u>	<u>\$143,646</u>	<u>-\$988,997</u>	-\$0.01
Total Risk Parity			\$140,083,309	<u>-\$569,132</u>	<u>\$217,181</u>	<u>-\$786,313</u>	<u>\$143,646</u>	<u>-\$988,997</u>	-\$0.01

Total StanCERA Non-Alternative Portfolio			\$1,774,458,891	-\$4,741,995	-\$8,469,246	\$3,727,251	\$951,165	\$2,816,660	\$0.002
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StanCERA Investment Fee Summary - Total Portfolio Level

Fiscal Year to Date

1/1/2018 thru 3/31/2018

	Fees In Dollars						Annualized Fees in Basis Points				
	Average AUM	Managerial	Performance*	Other	Custodial	Total	Managerial	Performance	Other	Custodial	Total
Total StanCERA Portfolio	\$2,105,987,483	\$1,682,035	\$79,133	\$327,933	\$71,103	\$2,160,204	32.8	1.5	6.4	1.4	42.1
Fees By Asset Class											
	Average AUM	Managerial	Performance	Other	Custodial	Total	Managerial	Performance	Other	Custodial	Total
Domestic Equity	\$788,226,816	\$336,180	\$0	\$0	\$13,809	\$349,989	17.5	0.0	0.0	0.7	18.2
Domestic Fixed Income	\$419,250,742	\$110,453	\$0	\$0	\$3,252	\$113,705	10.8	0.0	0.0	0.3	11.1
International Equity	\$468,754,120	\$291,498	\$1,744	\$0	\$48,705	\$341,946	25.5	0.2	0.0	4.3	29.9
Alternatives	\$96,712,362	\$453,963	\$86,304	\$243,108	\$2,134	\$785,508	192.6	36.6	103.2	0.9	333.3
Real Assets	\$192,960,135	\$367,791	-\$8,915	\$63,860	\$2,673	\$425,409	78.2	-1.9	13.6	0.6	90.5
Risk Parity	\$140,083,309	\$122,150	\$0	\$20,965	\$531	\$143,646	35.8	0.0	6.1	0.2	42.1
Fees By Investment Discretion											
	Average AUM	Managerial	Performance	Other	Custodial	Total	Managerial	Performance	Other	Custodial	Total
Active	\$1,545,386,595	\$1,633,494	\$79,133	\$327,933	\$69,501	\$2,110,061	43.4	2.1	8.7	1.8	56.0
Passive	\$560,600,888	\$48,541	\$0	\$0	\$1,602	\$50,143	3.6	0.0	0.0	0.1	3.7
Fees By Investment Style											
	Average AUM	Managerial	Performance	Other	Custodial	Total	Managerial	Performance	Other	Custodial	Total
Large Cap Value	\$211,476,358	\$64,200	\$0	\$0	\$2,995	\$67,195	12.5	0.0	0.0	0.6	13.0
Small Cap Value	\$115,242,002	\$148,840	\$0	\$0	\$10,283	\$159,122	53.0	0.0	0.0	3.7	56.7
Large Cap Growth	\$288,542,333	\$116,756	\$0	\$0	\$531	\$117,288	16.6	0.0	0.0	0.1	16.7
International Core Equity	\$468,754,120	\$291,498	\$1,744	\$0	\$48,705	\$341,946	25.5	0.2	0.0	4.3	29.9
Short-Term Govt Credit	\$275,110,262	\$73,952	\$0	\$0	\$3,252	\$77,204	11.0	0.0	0.0	0.5	11.5
Immunization	\$86,169,323	\$30,000	\$0	\$0	\$0	\$30,000	14.3	0.0	0.0	0.0	14.3
Value Added Real Estate	\$39,093,134	\$135,740	-\$16,439	\$0	\$1,071	\$120,372	142.5	-17.3	0.0	1.1	126.4
Core Real Estate	\$130,717,369	\$63,301	\$7,524	\$0	\$1,071	\$71,896	19.9	2.4	0.0	0.3	22.6
Private Credit	\$96,712,362	\$453,963	\$86,304	\$243,108	\$2,134	\$785,508	192.6	36.6	103.2	0.9	333.3
Infrastructure	\$23,149,632	\$168,750	\$0	\$63,860	\$531	\$233,141	299.2	0.0	113.2	0.9	413.3
Domestic Core Equity	\$172,966,124	\$6,384	\$0	\$0	\$0	\$6,384	1.5	0.0	0.0	0.0	1.5
Risk Parity	\$140,083,309	\$122,150	\$0	\$20,965	\$531	\$143,646	35.8	0.0	6.1	0.2	42.1
US Treasury	\$57,971,157	\$6,501	\$0	\$0	\$0	\$6,501	4.6	0.0	0.0	0.0	4.6

* Performance fees can be negative due to the clawback of incentive fees



Investment Fees By Type

<u>By Asset Class</u>	<u>Fees</u>
Domestic Equity	\$349,989
Domestic Fixed Income	\$113,705
International Equity	\$341,946
Alternatives	\$785,508
Real Assets	\$425,409
Risk Parity	<u>\$143,646</u>
Total	\$2,160,204

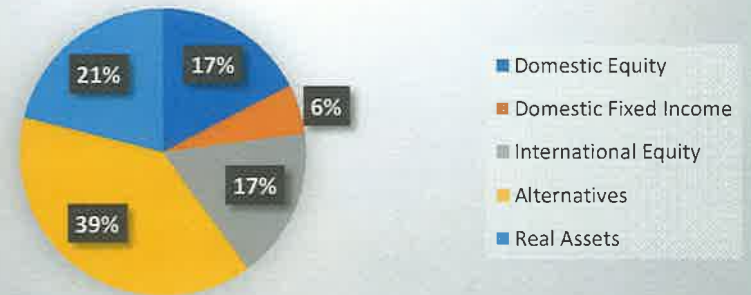
<u>By Investment Discretion</u>	<u>Fees</u>
Active	\$2,110,061
Passive	<u>\$50,143</u>
Total	\$2,160,204

<u>By Investment Style</u>	<u>Fees</u>
Large Cap Value	\$67,195
Small Cap Value	\$159,122
Large Cap Growth	\$117,288
International Core Equity	\$341,946
Short-Term Govt Credit	\$77,204
Immunization	\$30,000
Value Added Real Estate	\$120,372
Core Real Estate	\$71,896
Private Credit	\$785,508
Infrastructure	\$233,141
Domestic Core Equity	\$6,384
Risk Parity	\$143,646
US Treasury	<u>\$6,501</u>

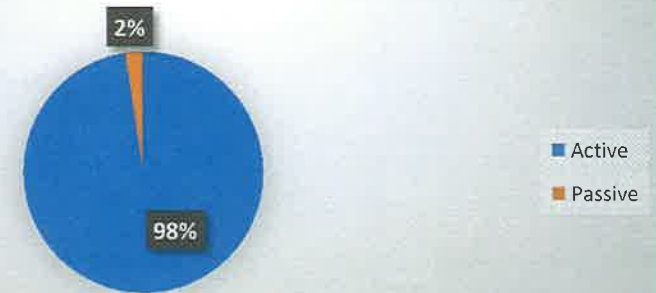
Total \$2,160,204

1/1/2018 thru 3/31/2018

Fees By Asset Class



Fees By Investment Discretion



Fees By Investment Style





StanCERA Investment Fee Summary - Manager Level

1/1/2018 thru 3/31/2018

Mngr_ID	Manager Name	Average AUM	Fees in Dollars					Fees in Annualized Basis Points				
			Management	Performance	Other	Custodial	Total	Management	Performance	Other	Custodial	Total
1	Dodge Cox Equity	\$115,159,045	\$59,384	\$0	\$0	\$2,464	\$61,848	21.2	0.0	0.0	0.9	22.0
4	Bernzott	\$16,291,226	\$20,492	\$0	\$0	\$1,302	\$21,794	51.6	0.0	0.0	3.3	54.9
7	Jackson Square	\$167,545,219	\$110,644	\$0	\$0	\$0	\$110,644	41.6	0.0	0.0	0.0	41.6
8	LSV	\$238,998,769	\$147,584	\$0	\$0	\$32,964	\$180,548	25.3	0.0	0.0	5.7	31.0
10	Fidelity	\$229,755,350	\$143,914	\$1,744	\$0	\$15,741	\$161,399	25.7	0.3	0.0	2.8	28.8
11	Blackrock Value	\$96,317,313	\$4,816	\$0	\$0	\$531	\$5,347	2.1	0.0	0.0	0.2	2.3
12	Blackrock Growth	\$120,997,114	\$6,112	\$0	\$0	\$531	\$6,643	2.1	0.0	0.0	0.2	2.3
13	Raven Asset-Based Opportunity Fund I L.P.	\$15,871,502	\$68,645	\$0	\$77,797	\$531	\$146,973	177.5	0.0	201.2	1.4	380.0
15	White Oak Pinnacle Fund L.P.	\$33,106,848	\$117,091	\$86,304	\$38,611	\$531	\$242,537	145.1	107.0	47.9	0.7	300.6
16	Medley Opportunity Fund II L.P.	\$20,103,724	\$52,474	\$0	\$36,786	\$531	\$89,791	107.1	0.0	75.1	1.1	183.3
17	Blackrock US Real Estate	\$112,349,181	\$24,728	\$0	\$0	\$540	\$25,267	9.0	0.0	0.0	0.2	9.2
18	Greenfield GAP VII Management Fund, L.L.C	\$14,615,596	\$56,250	-\$16,439	\$0	\$531	\$40,342	157.9	-46.2	0.0	1.5	113.3
25	Channing	\$24,659,635	\$30,774	\$0	\$0	\$2,798	\$33,572	51.2	0.0	0.0	4.7	55.9
26	Inview	\$25,432,587	\$31,642	\$0	\$0	\$1,357	\$33,000	51.1	0.0	0.0	2.2	53.2
27	Keeley	\$13,124,748	\$16,387	\$0	\$0	\$1,374	\$17,761	51.2	0.0	0.0	4.3	55.5
28	Pacific Ridge	\$20,498,670	\$30,562	\$0	\$0	\$1,768	\$32,330	61.2	0.0	0.0	3.5	64.7
29	Walhausen	\$15,235,135	\$18,982	\$0	\$0	\$1,683	\$20,665	51.1	0.0	0.0	4.5	55.7
30	Morgan Stanley Prime Property Fund, L.L.C	\$18,368,188	\$38,573	\$7,524	\$0	\$531	\$46,628	86.2	16.8	0.0	1.2	104.2
31	American Realty Advisors Fund	\$24,477,538	\$79,490	\$0	\$0	\$540	\$80,030	133.3	0.0	0.0	0.9	134.2
32	North Haven Infrastructure II GP LP	\$23,149,632	\$168,750	\$0	\$63,860	\$531	\$233,141	299.2	0.0	113.2	0.9	413.3
33	Raven Asset-Based Opportunity Fund III L.P.	\$27,630,287	\$215,753	\$0	\$89,914	\$540	\$306,207	320.5	0.0	133.5	0.8	454.8
34	Insight Investment	\$86,169,323	\$30,000	\$0	\$0	\$0	\$30,000	14.3	0.0	0.0	0.0	14.3
35	Dimensional Fund Advisors	\$275,110,262	\$73,952	\$0	\$0	\$3,252	\$77,204	11.0	0.0	0.0	0.5	11.5
39	Northern Trust Long Term Bond Fund	\$14,697,207	\$1,678	\$0	\$0	\$0	\$1,678	4.7	0.0	0.0	0.0	4.7
40	Northern Trust Intermediate Term Bond Fund	\$43,273,950	\$4,823	\$0	\$0	\$0	\$4,823	4.6	0.0	0.0	0.0	4.6
41	Northern Trust Russell 1000 Fund	\$172,966,124	\$6,384	\$0	\$0	\$0	\$6,384	1.5	0.0	0.0	0.0	1.5
42	PanAgora Diversified Risk Multi-Asset Fund, Ltd.	\$140,083,309	\$122,150	\$0	\$20,965	\$531	\$143,646	35.8	0.0	6.1	0.2	42.1
Total		\$2,105,987,483	\$1,682,035	\$79,133	\$327,933	\$71,103	\$2,160,204	32.8	1.5	6.4	1.4	42.1



**American Realty Advisors Fund Auxiliary Reporting as of
3/31/2018**

Original Commitment:	\$30,000,000
Investment Start Date:	12/15/2014
Commitment Period End Date:	Open End
Total Paid In Capital:	\$23,211,700
Total Distributed Capital:	\$2,029,728
Current Capital Balance:	\$25,795,944
Management Fee:	1.20%
Carried Interest:	20.0%
Hurdle Rate:	10.0%
Target Net Returns:	11% - 13%
Max. Potential Fees Paid on Uncommitted Capital:	Only on Invested Capital
Vintage Year:	2009

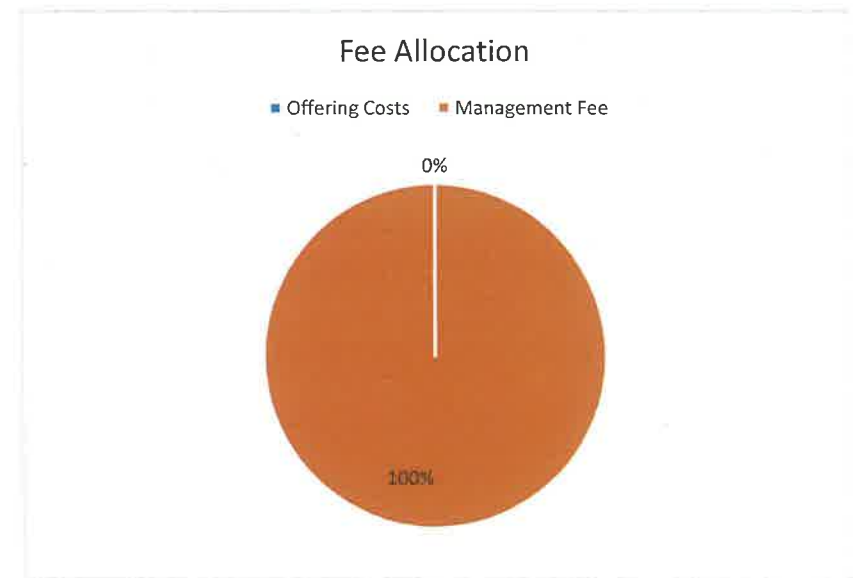
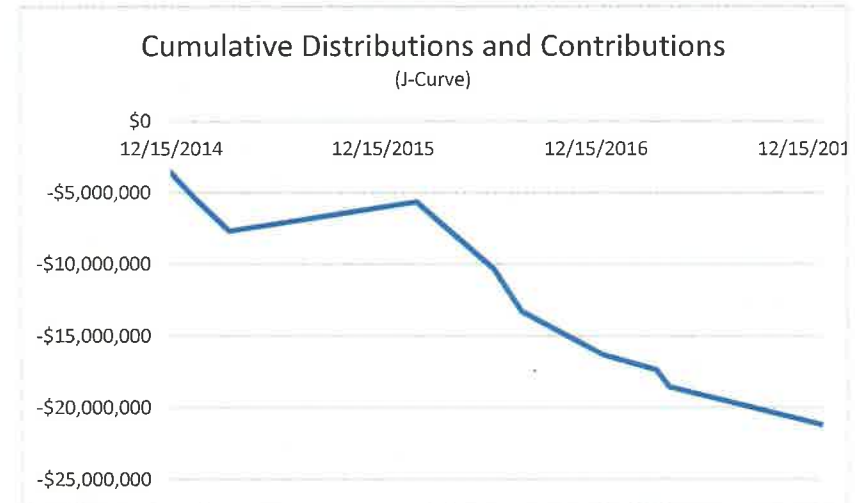
Performance Measurements Since Inception

Net IRR Since Investment Start Date:	10.71%
Investment Multiple (TVPI):	\$1.20
Realization Multiple (DPI):	\$0.09
Residual Value Paid In Multiple (RVPI):	\$1.11
Paid In Capital Multiple (PIC):	77.4%
StanCERA % of Total Fund:	4.1%

Fee Analysis Since Inception

<u>Fee Type</u>	<u>Fee</u>
Offering Costs	\$54
Management Fee	\$603,460

Total Fees	\$603,515
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Greenfield GAP VII Management Fund, L.L.C Auxiliary Reporting as of
3/31/2018

Original Commitment:	\$15,000,000
Investment Start Date:	7/8/2014
Commitment Period End Date:	12/1/2017
Total Paid In Capital:	\$16,138,921
Total Distributed Capital:	\$7,754,656
Current Capital Balance:	\$15,199,773
Management Fee:	1.50%
Carried Interest:	20.0%
Hurdle Rate:	8.0%
Target Net Returns:	13.0%
Max. Potential Fees Paid on Uncommitted Capital:	\$5,613
Vintage Year:	2011

Performance Measurements Since Inception

Net IRR Since Investment Start Date:	17.00%
Investment Multiple (TVPI):	\$1.42
Realization Multiple (DPI):	\$0.48
Residual Value Paid In Multiple (RVPI):	\$0.94
Paid In Capital Multiple (PIC):	107.6%
StanCERA % of Total Fund:	3.74%

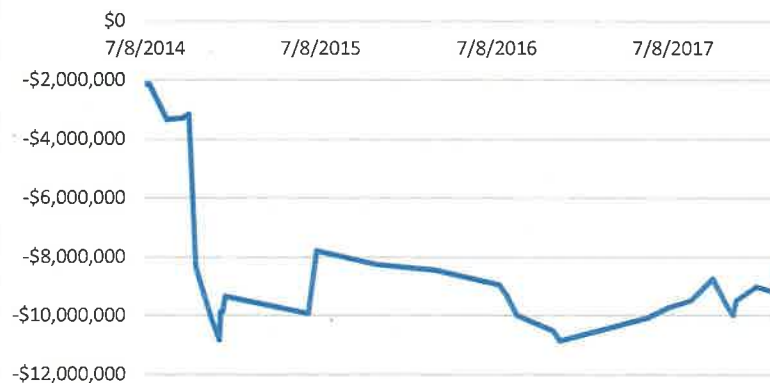
Fee Analysis Since Inception

<u>Fee Type</u>	<u>Fee</u>
Management Fee	\$965,497
Incentive Allocation	\$158,874

Total Fees \$1,124,371

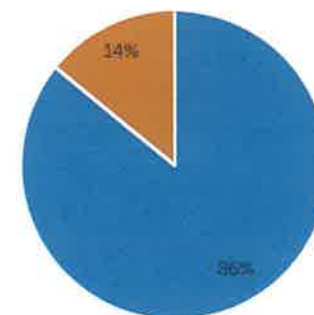
Cumulative Distributions and Contributions

(J-Curve)



Fee Allocation

■ Management Fee ■ Incentive Allocation





Medley Opportunity Fund II L.P. Auxiliary Reporting as of
3/31/2018

Original Commitment:	\$30,000,000
Investment Start Date:	5/16/2013
Commitment Period End Date:	Period Over
Total Paid In Capital:	\$33,346,007
Total Distributed Capital:	\$19,647,375
Current Capital Balance:	\$20,109,304
Management Fee:	1.50%
Carried Interest:	20.0%
Hurdle Rate:	8.0%
Target Net Returns:	13.6% - 16%
Vintage Year:	2011

Performance Measurements Since Inception

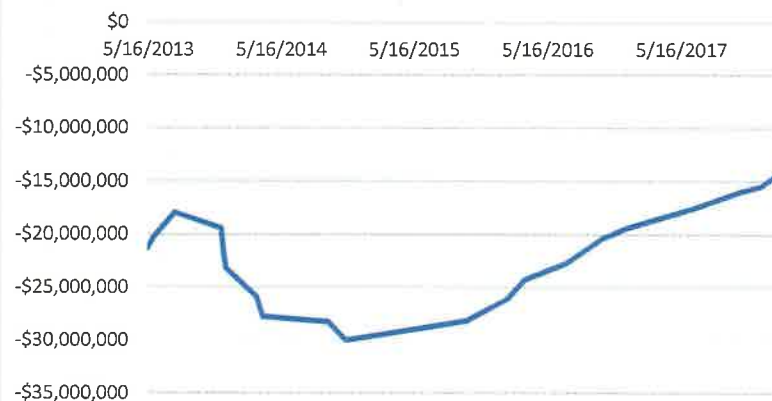
Net IRR Since Investment Start Date:	5.06%
Investment Multiple (TVPI):	\$1.19
Realization Multiple (DPI):	\$0.59
Residual Value Paid In Multiple (RVPI):	\$0.60
Paid In Capital Multiple (PIC):	1.11
StanCERA % of Total Fund:	5.16%

Fee Analysis Since Inception

<u>Fee Type</u>	<u>Fee</u>
Management Fee	\$2,219,935
Partnership Operations	\$565,870
Incentive Allocation	-\$103
Other Expense	\$252,518
Total Fees	\$3,038,220

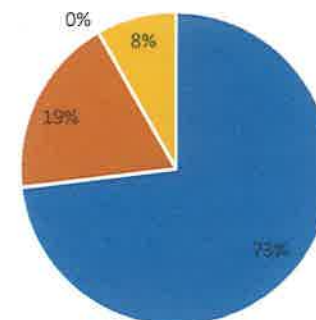
Cumulative Distributions and Contributions

(J-Curve)



Fee Allocation

■ Management Fee ■ Partnership Operations
■ Incentive Allocation ■ Other Expense





North Haven Infrastructure II GP LP Auxiliary Reporting as of
3/31/2018

Original Commitment:	\$50,000,000
Investment Start Date:	5/19/2015
Commitment Period End Date:	9/1/2019
Total Paid In Capital:	\$21,934,339
Total Distributed Capital:	\$5,180,343
Current Capital Balance:	\$23,617,361
Management Fee:	1.35%
Incentive Allocation:	20.0%
Hurdle Rate:	8.0%
Target Net Returns:	10.5% - 13.5%
Max. Potential Fees Paid on Uncommitted Capital:	\$538,377
Vintage Year:	2015

Performance Measurements Since Inception

Net IRR Since Investment Start Date:	17.86%
Investment Multiple (TVPI):	\$1.31
Realization Multiple (DPI):	\$0.24
Residual Value Paid In Multiple (RVPI):	\$1.08
Paid In Capital Multiple (PIC):	43.9%
StanCERA % of Total Fund:	1.33%

Fee Analysis Since Inception

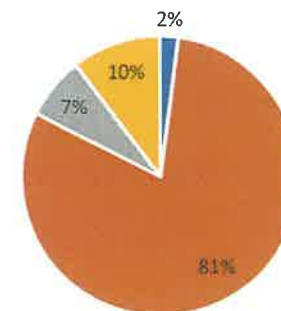
<u>Fee Type</u>	<u>Fee</u>
Syndication Costs	\$65,425
Management Fee	\$2,458,895
Other Expense	\$218,614
Partnership Operations	\$316,614
 Total Fees	 \$3,059,548

Cumulative Distributions and Contributions



Fee Allocation

■ Syndication Costs ■ Management Fee ■ Other Expense ■ Partnership Operations





**Morgan Stanley Prime Property Fund, L.L.C Auxiliary Reporting as of
3/31/2018**

Original Commitment:	\$15,000,000
Investment Start Date:	10/1/2015
Commitment Period End Date:	Open End
Total Paid In Capital:	\$15,000,000
Total Distributed Capital:	\$0
Current Capital Balance:	\$18,368,188
Management Fee:	0.84%
Incentive Allocation:	Max 0.35%
Hurdle Rate:	Formula Based
Target Net Returns:	7.8%
Max. Potential Fees Paid on Uncommitted Capital:	N/A
Vintage Year:	1973

Performance Measurements Since Inception

Net IRR Since Investment Start Date:	8.44%
Investment Multiple (TVPI):	\$1.22
Realization Multiple (DPI):	\$0.00
Residual Value Paid In Multiple (RVPI):	\$1.22
Paid In Capital Multiple (PIC):	100.0%
StanCERA % of Total Fund:	0.09%

Fee Analysis Since Inception

<u>Fee Type</u>	<u>Fee</u>
Management Fee	\$350,508
Incentive Allocation	\$63,072

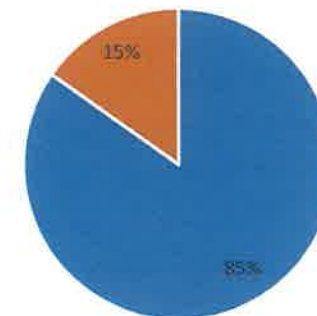
Total Fees \$413,579

**Cumulative Distributions and Contributions
(J-Curve)**



Fee Allocation

■ Management Fee ■ Incentive Allocation





Raven Asset-Based Opportunity Fund I L.P. Auxiliary Reporting as of
3/31/2018

Original Commitment:	\$40,000,000
Investment Start Date:	5/22/2013
Commitment Period End Date:	Period Over
Total Paid In Capital:	\$34,668,305
Total Distributed Capital:	\$20,130,245
Current Capital Balance:	\$15,576,202
Management Fee:	1.75%
Carried Interest:	12.5%
Hurdle Rate:	8.0%
Target Net Returns:	13% - 17%
Vintage Year:	2012

Performance Measurements Since Inception

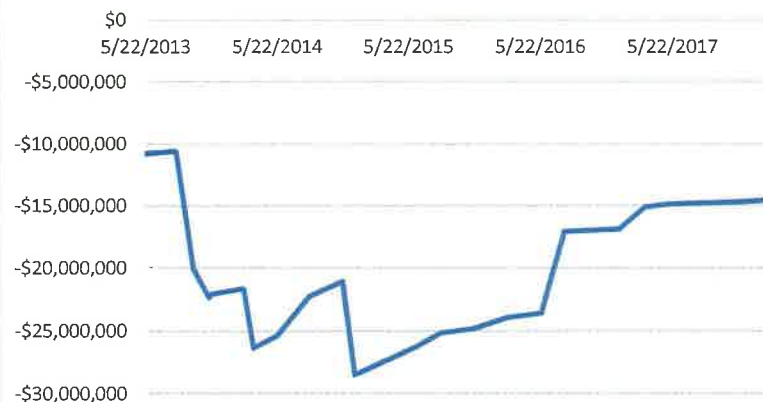
Net IRR Since Investment Start Date:	1.02%
Investment Multiple (TVPI):	\$1.03
Realization Multiple (DPI):	\$0.58
Residual Value Paid In Multiple (RVPI):	\$0.45
Paid In Capital Multiple (PIC):	0.87
StanCERA % of Total Fund:	26.26%

Fee Analysis Since Inception

<u>Fee Type</u>	<u>Fee</u>
Management Fee	\$3,005,358
Other Expense	\$1,158,481
Service Fee	\$339,601
Offering Costs	\$22,211
Organizational Expense	\$92,275
Total Fees	\$4,617,926

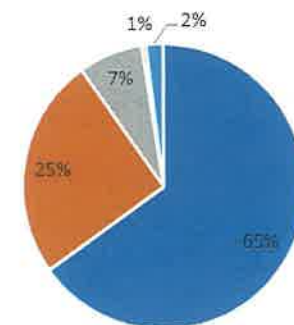
Cumulative Distributions and Contributions

(J-Curve)



Fee Allocation

■ Management Fee ■ Other Expense ■ Service Fee
■ Offering Costs ■ Organizational Expense





**Raven Asset-Based Opportunity Fund III L.P. Auxiliary Reporting as of
3/31/2018**

Original Commitment:	\$50,000,000
Investment Start Date:	7/6/2015
Commitment Period End Date:	9/1/2019
Total Paid In Capital:	\$34,722,742
Total Distributed Capital:	\$5,210,759
Current Capital Balance:	\$28,882,000
Management Fee:	1.75%
Carried Interest:	15.0%
Hurdle Rate:	8.0%
Target Net Returns:	15.0%
Max. Potential Fees Paid on Uncommitted Capital:	\$1,243,326
Vintage Year:	2015

Performance Measurements Since Inception

Net IRR Since Investment Start Date:	-1.70%
Investment Multiple (TVPI):	\$0.98
Realization Multiple (DPI):	\$0.15
Residual Value Paid In Multiple (RVPI):	\$0.83
Paid In Capital Multiple (PIC):	0.69
StanCERA % of Total Fund:	19.50%

Fee Analysis Since Inception

<u>Fee Type</u>	<u>Fee</u>
Management Fee	\$2,411,643
Other Expense	\$809,758
Organizational Expense	\$4,341
 Total Fees	 \$3,225,742

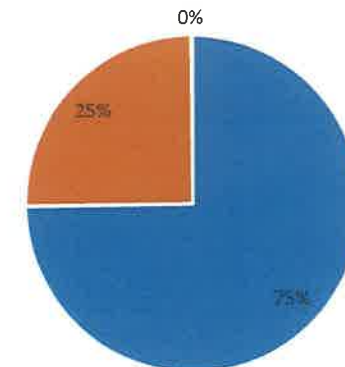
Cumulative Distributions and Contributions

(J-Curve)



Fee Allocation

■ Management Fee ■ Other Expense ■ Organizational Expense





White Oak Pinnacle Fund L.P. Auxiliary Reporting as of
3/31/2018

Original Commitment:	\$40,000,000
Investment Start Date:	8/2/2013
Commitment Period End Date:	Period Over
Total Paid In Capital:	\$55,537,388
Total Distributed Capital:	\$33,319,941
Current Capital Balance:	\$32,819,946
Management Fee:	1.50%
Carried Interest:	20.0%
Hurdle Rate:	7.5%
Target Net Returns:	12.0%
Vintage Year:	2012

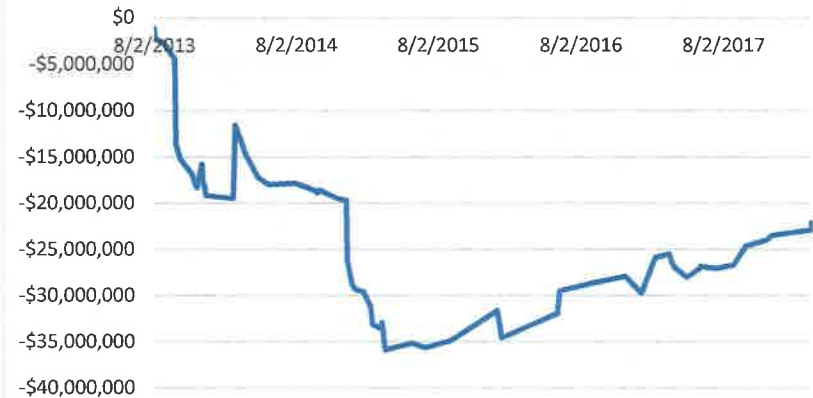
Performance Measurements Since Inception

Net IRR Since Investment Start Date:	7.75%
Investment Multiple (TVPI):	\$1.19
Realization Multiple (DPI):	\$0.60
Residual Value Paid In Multiple (RVPI):	\$0.59
Paid In Capital Multiple (PIC):	1.39
StanCERA % of Total Fund:	9.58%

Fee Analysis Since Inception

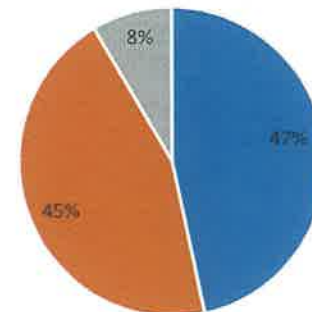
Fee Type	Fee
Incentive Allocation	\$2,546,318
Management Fee	\$2,452,341
Other Expense	\$463,107
Total Fees	\$5,461,766

Cumulative Distributions and Contributions
(J-Curve)



Fee Allocation

■ Incentive Allocation ■ Management Fee ■ Other Expense





Cash Flow Report

Jan 2018 through March 2018

Beginning Cash Balance*	\$11,553,329
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Cash Flow In

Sales of Investments	\$4,064,798
Plan Sponsor Contributions	\$20,848,438
Employee Contributions	\$7,088,621
Employee Buybacks	\$101,071
Interest Income	\$0
Rental Income	\$16,174
Commission Recapture	\$2,096
Litigation Recovery	<u>\$0</u>

Total Cash Flow In	\$32,121,198
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Cash Flow Out

Retirement Benefits	\$29,764,125
StanCERA Payroll	\$349,665
Operations Expense	\$150,637
Pension Software	\$13,062
Fixed Asset Purchases	\$280,118
Member Refunds	\$213,055
Post Retirement Death Benefits	\$887
Burial Allowances	\$120,000
Retiree Death - Return of Contributions	\$24,455
Investment Consultant Fees	\$72,936
Actuarial Fees	\$31,328
Custodial Fees	\$89,472
Audit Fees	\$6,901
Legal Fees	\$63,566
Other Fees	<u>\$0</u>

Total Cash Flow Out	\$31,180,207
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Ending Cash Balance	\$12,494,320
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Change in Cash Balance	\$940,991
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** Prior end balances may not always equal current beginning balance due to subsequent refinement of data*



Functionally Focused Portfolio Shortfall Report

August 2017 Through April 2018

<u>Month</u>	<u>Actual Cash Flows</u>				<u>Shortfall Over/(Under)</u>	
	<u>Benefits</u>	<u>Admin Expenses</u>	<u>Contributions</u>	<u>Actual Shortfall</u>	<u>Expected Shortfall</u>	<u>Cash Over/(Under)</u>
Aug-17	\$9,836,101	\$1,019,603	\$6,838,954	\$4,016,750	\$3,523,124	-\$493,626
Sep-17	\$9,881,179	\$515,373	\$11,620,109	-\$1,223,557	\$0	\$1,223,557
Oct-17	\$9,909,257	\$875,428	\$7,885,126	\$2,899,559	\$2,093,735	-\$805,824
Nov-17	\$9,945,838	\$535,009	\$8,008,390	\$2,472,457	\$2,377,091	-\$95,366
Dec-17	\$9,879,939	\$652,998	\$7,971,219	\$2,561,718	\$2,078,822	-\$482,896
Jan-18	\$9,904,708	\$432,542	\$8,214,390	\$2,122,860	\$2,191,326	\$68,466
Feb-18	\$9,931,419	\$466,451	\$11,894,213	-\$1,496,343	\$0	\$1,496,343
Mar-18	\$9,927,998	\$659,688	\$8,056,990	\$2,530,696	\$2,089,751	-\$440,945
Apr-18	\$9,967,025	\$346,583	\$8,086,358	\$2,227,250	\$1,975,047	-\$252,203
Totals	\$89,183,464	\$5,503,675	\$78,575,749	\$16,111,390	\$16,328,896	\$217,506

Error Percentage

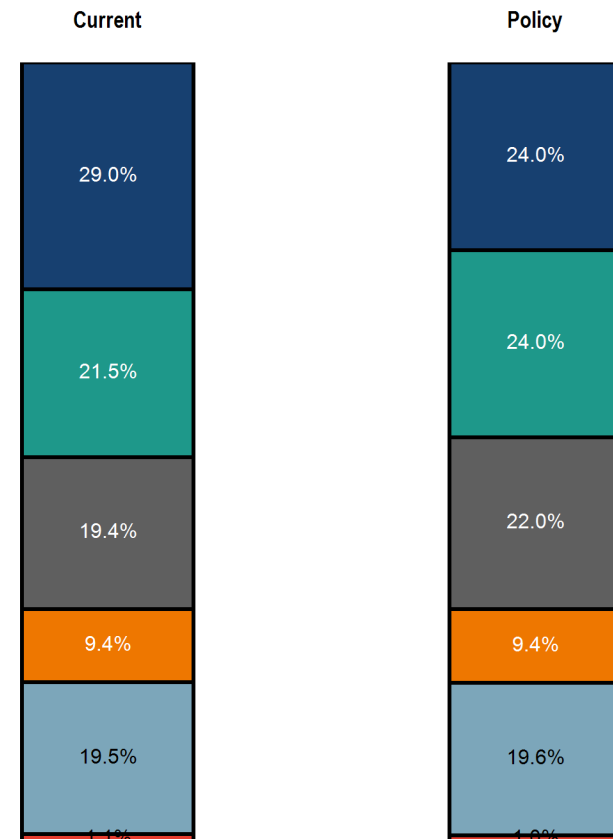
1.33%

Total Fund Flash Report (Net of Fees) - Preliminary

Period Ending: May 31, 2018

	Market Value	% of Portfolio	1 Mo	YTD	Fiscal YTD
Total Fund	2,121,162,433	100.0	0.8	1.1	8.3
<i>Policy Index</i>			0.4	0.6	7.6
US Equity	615,850,042	29.0	2.6	3.0	13.2
<i>US Equity Blended</i>			3.3	3.1	14.4
<i>Russell 3000</i>			2.8	2.5	14.0
Northern Trust Russell 1000	173,956,759	8.2	2.6	2.2	--
<i>Russell 1000</i>			2.6	2.2	--
BlackRock Russell 1000 Growth	124,536,141	5.9	4.4	6.2	21.3
<i>Russell 1000 Growth</i>			4.4	6.2	21.3
BlackRock Russell 1000 Value	94,490,306	4.5	0.6	-1.9	6.6
<i>Russell 1000 Value</i>			0.6	-1.9	6.5
Dodge & Cox-Equity	113,093,852	5.3	0.5	-0.3	9.3
<i>Russell 1000 Value</i>			0.6	-1.9	6.5
Capital Prospects	109,772,956	5.2	4.7	3.2	14.3
<i>Russell 2000 Value</i>			5.8	4.8	12.4
International Equity	455,755,684	21.5	-2.3	-1.5	9.2
<i>MSCI ACWI ex USA Gross</i>			-2.2	-1.6	9.8
LSV Asset Mgt	230,805,038	10.9	-3.3	-1.7	9.5
<i>MSCI ACWI ex USA Gross</i>			-2.2	-1.6	9.8
Fidelity	224,950,647	10.6	-1.2	-1.2	8.9
<i>MSCI ACWI ex USA Gross</i>			-2.2	-1.6	9.8
US Fixed Income	412,295,966	19.4	0.6	-0.5	0.3
<i>BBgBarc US Aggregate TR</i>			0.7	-1.5	-0.3
Insight	78,839,043	3.7	0.5	-0.7	0.0
<i>BBgBarc US Govt/Credit 1-5 Yr. TR</i>			0.5	-0.3	-0.2
DFA	275,449,998	13.0	0.5	-0.4	--
<i>ICE BofAML 1-5 Yrs US Corp & Govt TR</i>			0.5	-0.3	--
Northern Trust Intermediate Gov't Bond	43,307,946	2.0	0.6	-0.7	--
<i>BBgBarc US Govt Int TR</i>			0.6	-0.7	--
Northern Trust Long Term Gov't Bond	14,698,980	0.7	2.1	-3.1	--
<i>BBgBarc US Govt Long TR</i>			2.1	-3.1	--

	Current	%	Policy	%
Domestic Equity	\$615,850,042	29.0%	\$509,078,984	24.0%
International Equity	\$455,755,684	21.5%	\$509,078,984	24.0%
Domestic Fixed Income	\$412,295,966	19.4%	\$466,655,735	22.0%
Real Estate	\$199,167,182	9.4%	\$199,389,269	9.4%
Alternatives	\$413,716,579	19.5%	\$415,747,837	19.6%
Cash and Equivalents	\$24,376,980	1.1%	\$21,211,624	1.0%
Total	\$2,121,162,433	100.0%	\$2,121,162,433	100.0%



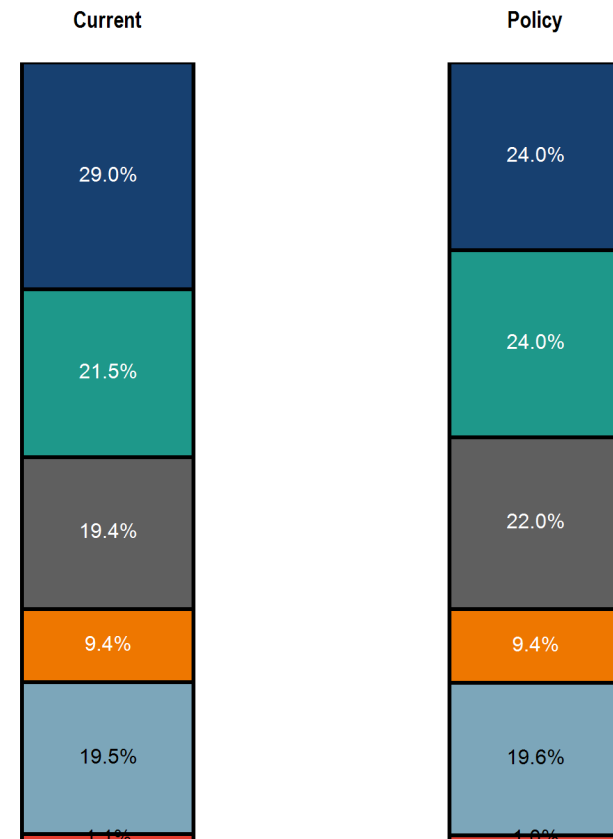
Policy Index (7/1/2017): 18.5% Russell 1000, 5.5% Russell 2000, 24% MSCI ACWI ex-USA, 19% BBgBarc US Gov't/Credit 1-3 Yr, 3% BBgBarc US Treasury 7-10 Yr, 7.7% NCREIF Property, 1.7% NCREIF Property +2%, 0.6% CPI +5%, 5% BBgBarc US High Yield +2%, 14% 60% MSCI ACWI / 40% BBgBarc Global Aggregate, 1% Citi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

Total Fund Flash Report (Net of Fees) - Preliminary

Period Ending: May 31, 2018

	Market Value	% of Portfolio	1 Mo	YTD	Fiscal YTD
Real Estate	199,167,182	9.4	2.5	-0.2	3.3
DJ US Select RESI			4.0	-2.3	0.0
Prime Property Fund	18,735,473	0.9	0.0	2.0	6.5
NCREIF-ODCE			0.0	2.2	6.3
American Strategic Value Realty	30,353,083	1.4	0.0	2.5	7.1
NCREIF Property Index			0.0	1.7	5.3
BlackRock US Real Estate	129,719,125	6.1	4.0	-2.3	0.0
DJ US Select RESI TR USD			4.0	-2.3	0.0
Greenfield Gap	20,359,501	1.0			
Direct Lending	94,864,241	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	30,290,830	1.4			
Risk Parity	286,343,269	13.5	1.9	0.2	--
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			-0.2	-0.3	--
AQR Global Risk Premium - EL	145,193,409	6.8	2.6	--	--
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			-0.2	--	--
PanAgora Risk Parity Multi Asset	141,149,860	6.7	1.2	-0.4	--
60% MSCI ACWI Net/40% BBgBarc Global Aggregate			-0.2	-0.3	--
Infrastructure	32,509,069	1.5			
MS Infrastructure Partners II	32,509,069	1.5			
Cash Account					

	Current	%	Policy	%
Domestic Equity	\$615,850,042	29.0%	\$509,078,984	24.0%
International Equity	\$455,755,684	21.5%	\$509,078,984	24.0%
Domestic Fixed Income	\$412,295,966	19.4%	\$466,655,735	22.0%
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June 26, 2018

Retirement Board Agenda Item

TO: Retirement Board

FROM: Chris Wisdom, Retirement Investment Officer

- I. SUBJECT: Annual Asset Allocation Review
- II. ITEM NUMBER: 7.b
- 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 slightly, lower risk slightly and ultimately reduce drawdown risk (portfolio stress and capital loss during a negative economic event). This revised allocation also has an expected real return that keeps us in line with our current actuarial discount rate (7.25%).

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

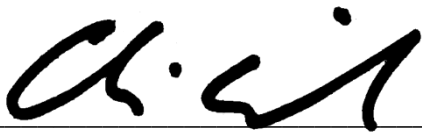
<u>Asset Class</u>	<u>Current Target</u>	<u>New Target</u>	<u>Change</u>
Dom. Equity US Large	16%	10%	-6%
Int. Equity Developed	19%	20%	1%
Emerg. Market Debt	0%	4%	4%
Private Credit	6%	5%	-1%
Infrastructure	0%	1%	1%
Short-Term Gov/Credit	18%	20%	2%
Risk Parity	14%	13%	-1%

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



PERSPECTIVES THAT DRIVE ENTERPRISE SUCCESS



JUNE 26, 2018

Annual Asset Allocation Analysis

Stanislaus County Employees' Retirement Association

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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 | ▪ India | ▪ Qatar |
| ▪ Chile | ▪ Indonesia | ▪ Russia |
| ▪ China | ▪ Malaysia | ▪ South Africa |
| ▪ Colombia | ▪ Mexico | ▪ South Korea |
| ▪ Czech Republic | ▪ Pakistan | ▪ Taiwan |
| ▪ Egypt | ▪ Peru | ▪ Thailand |
| ▪ Greece | ▪ Philippines | ▪ Turkey |
| ▪ Hungary | ▪ Poland | ▪ 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).

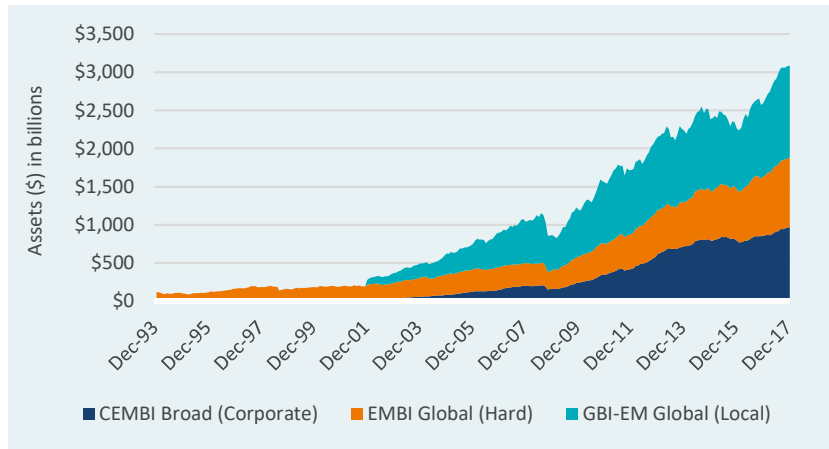
Source: MSCI

Emerging market debt

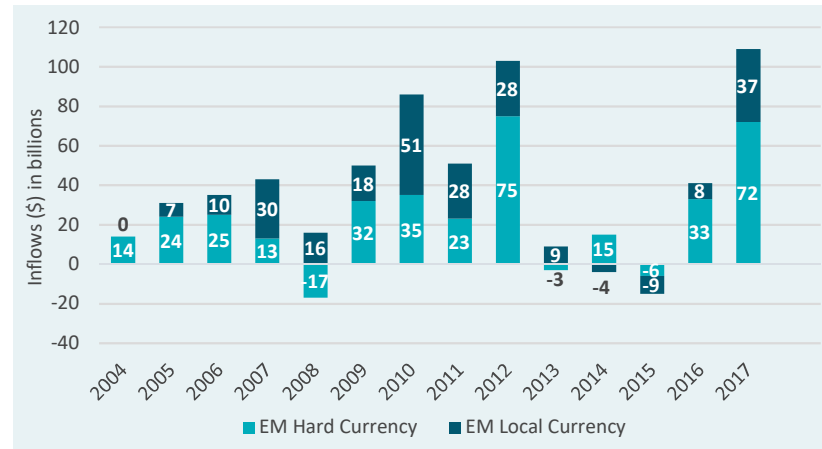
- The evolving opportunity set within Emerging Markets Debt (EMD) is broad and consists of four main asset groups:
 - Local rates
 - Emerging market currencies
 - External (hard currency) bonds
 - Corporate debt
- When constructing a portfolio, investment managers can allocate to these asset groups to 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

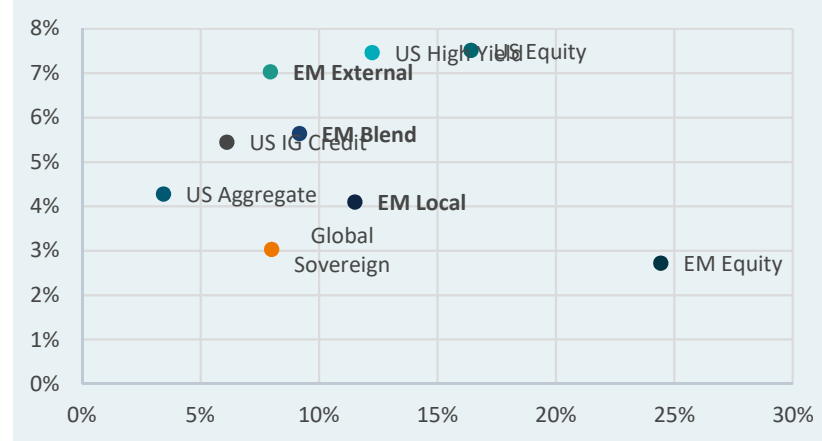


The size of the EMD market has vastly changed over the last 25 years. Local currency debt and EM corporates have outpaced external issuance.

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



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.

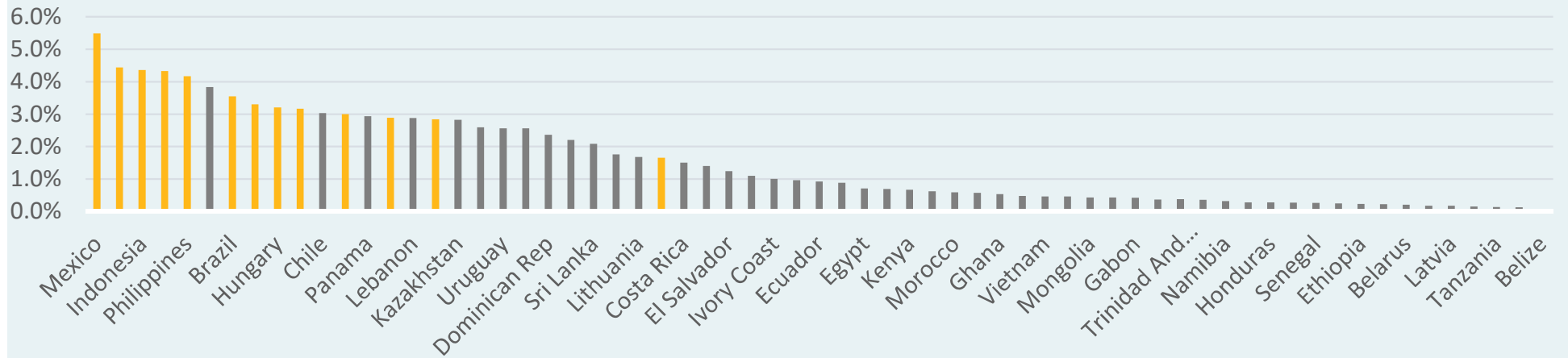
	JPM EMBI Global Diversified (Hard Currency)	JPM GBI-EM Global Diversified (Local Currency)
Duration	6.79	4.89
Yield to Maturity	5.86%	6.51%
Investment Grade	54%	100%
High Yield	46%	0%
	JPM EMBI Global Diversified (Hard Currency)	JPM GBI-EM Global Diversified (Local Currency)
Market Cap (Billions)	\$692.30	\$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

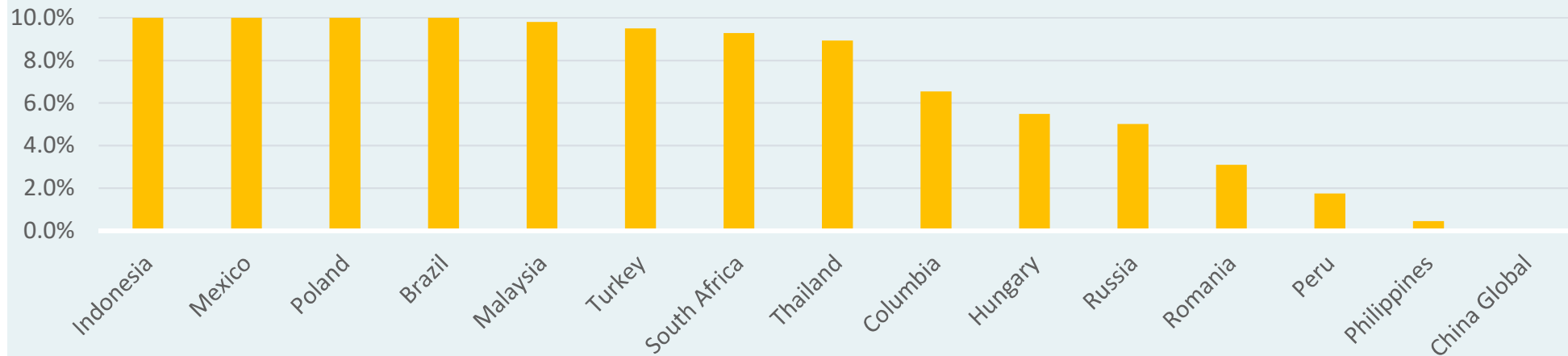
Index country weights

Overlap in country exposure is denoted by yellow

JPM EMBI GLOBAL DIVERSIFIED (HARD CURRENCY) COUNTRY WEIGHTS



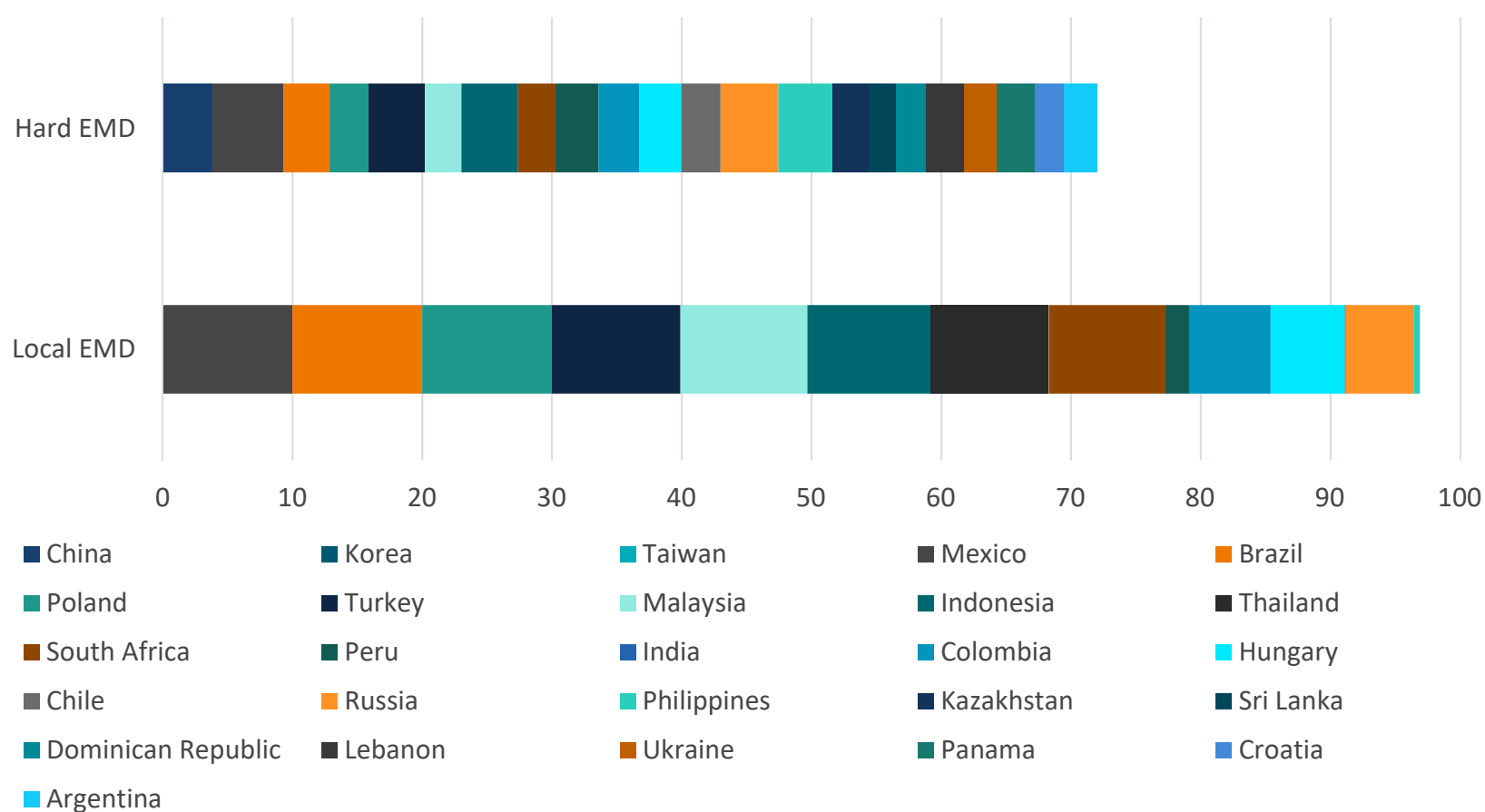
JPM GBI GLOBAL DIVERSIFIED (LOCAL CURRENCY) COUNTRY WEIGHTS



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

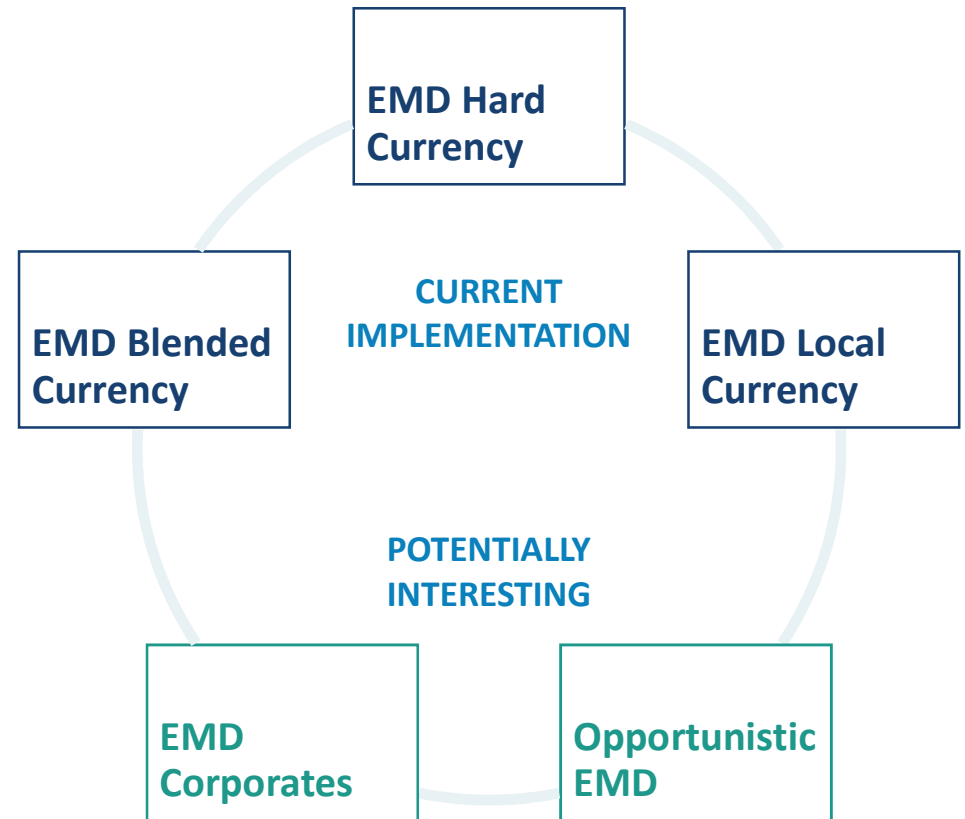
Implementation

- 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 inceptioned 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
<ul style="list-style-type: none"> — Offers a yield premium relative to similar rated developed markets — Potentially improves the risk/return profile of the portfolio 	<ul style="list-style-type: none"> — Lower yields compared to local currency debt — Liquidity risk compared to developed markets sovereign bonds — Interest rate risk — Issuer takes on currency risk 	<ul style="list-style-type: none"> — 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 	<ul style="list-style-type: none"> — Higher volatility compared to hard currency due mainly to FX volatility — Higher liquidity risk relative to hard currency — Interest rate risk — Default risk 	<ul style="list-style-type: none"> — 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 	<ul style="list-style-type: none"> — 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

	Presented May 22								CMA's (10 Yr)		
	Current (3/31/18)	Phase 1 Targets	Long-Term Targets	Alt. Mix A	Alt. Mix B	Alt. Mix C	Alt. Mix D	Alt. Mix E	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

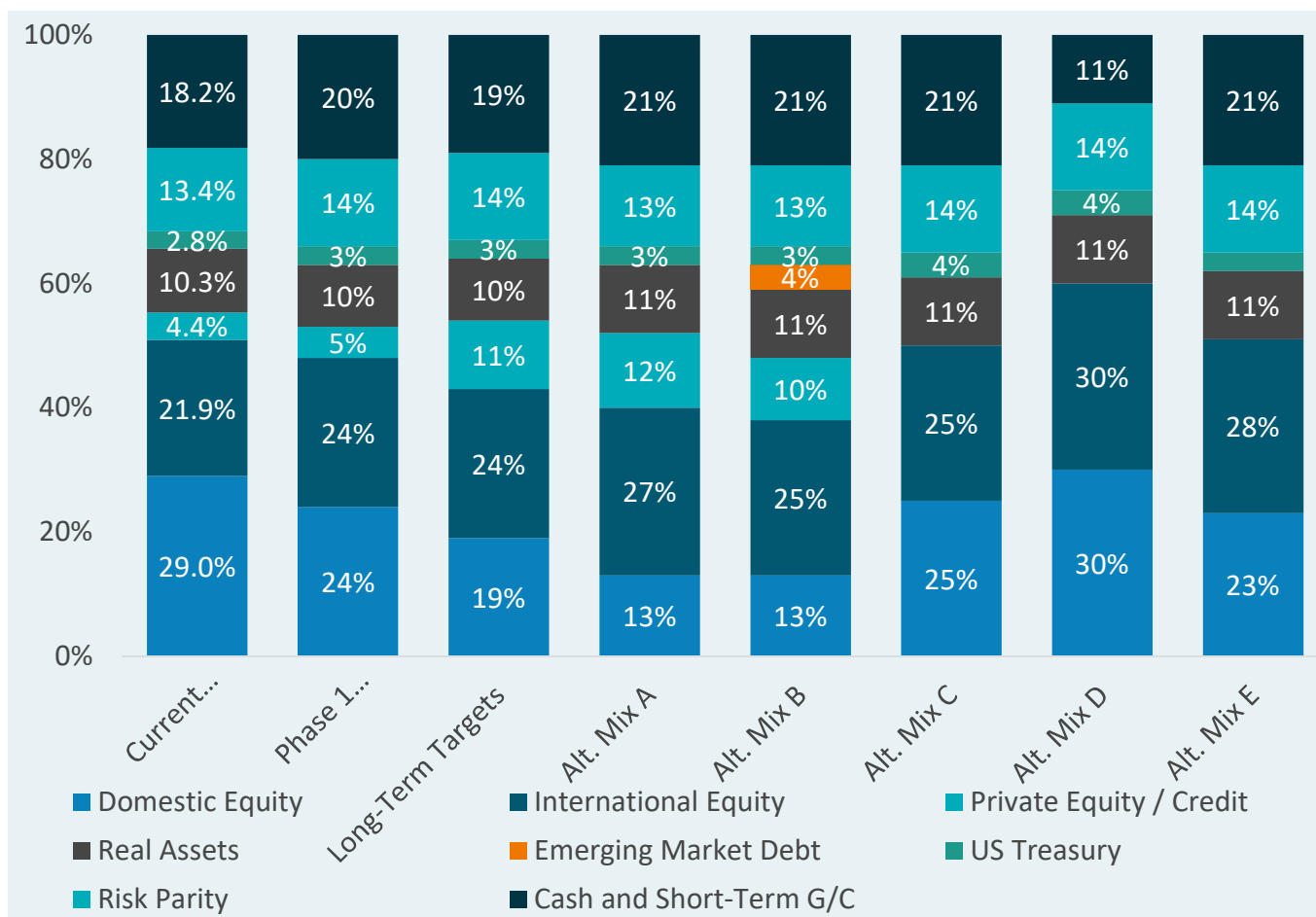
Presented May 22								
	Current (3/31/18)	Phase 1 Targets	Long-Term Targets	Alt. Mix A	Alt. Mix B	Alt. Mix C	Alt. Mix D	Alt. Mix E
Mean Variance Analysis								
Forecast 10 Year Return	6.0	6.1	6.4	6.6	6.5	6.1	6.5	6.2
Forecast 10 Year <u>Real</u> Return	3.9	4.0	4.3	4.5	4.4	4.0	4.4	4.1
Standard Deviation	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 <u>Real</u> 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

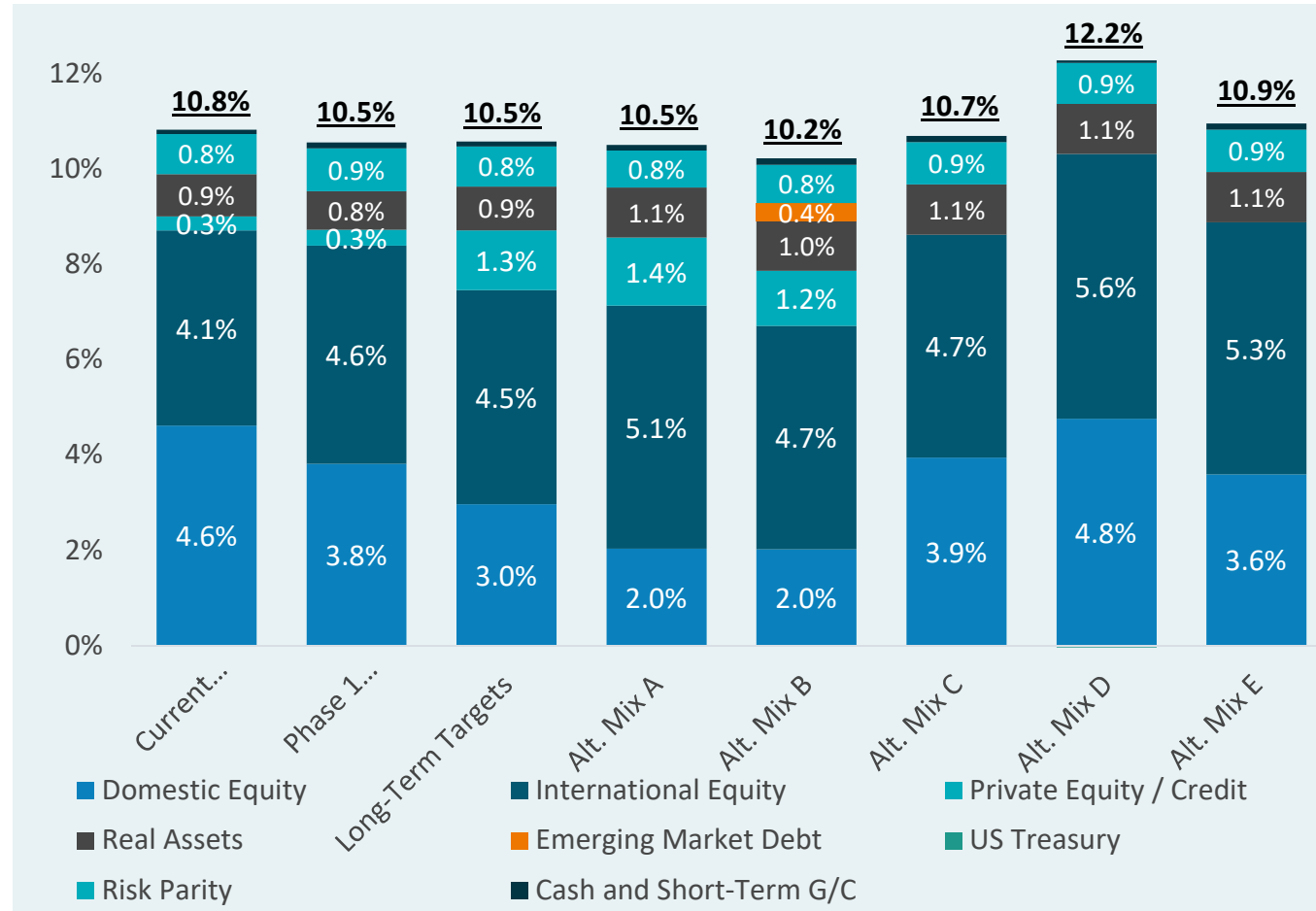
ASSET ALLOCATION BY ASSET CLASS



As of March 31, 2018

Risk contribution

RISK CONTRIBUTION BY ASSET CLASS



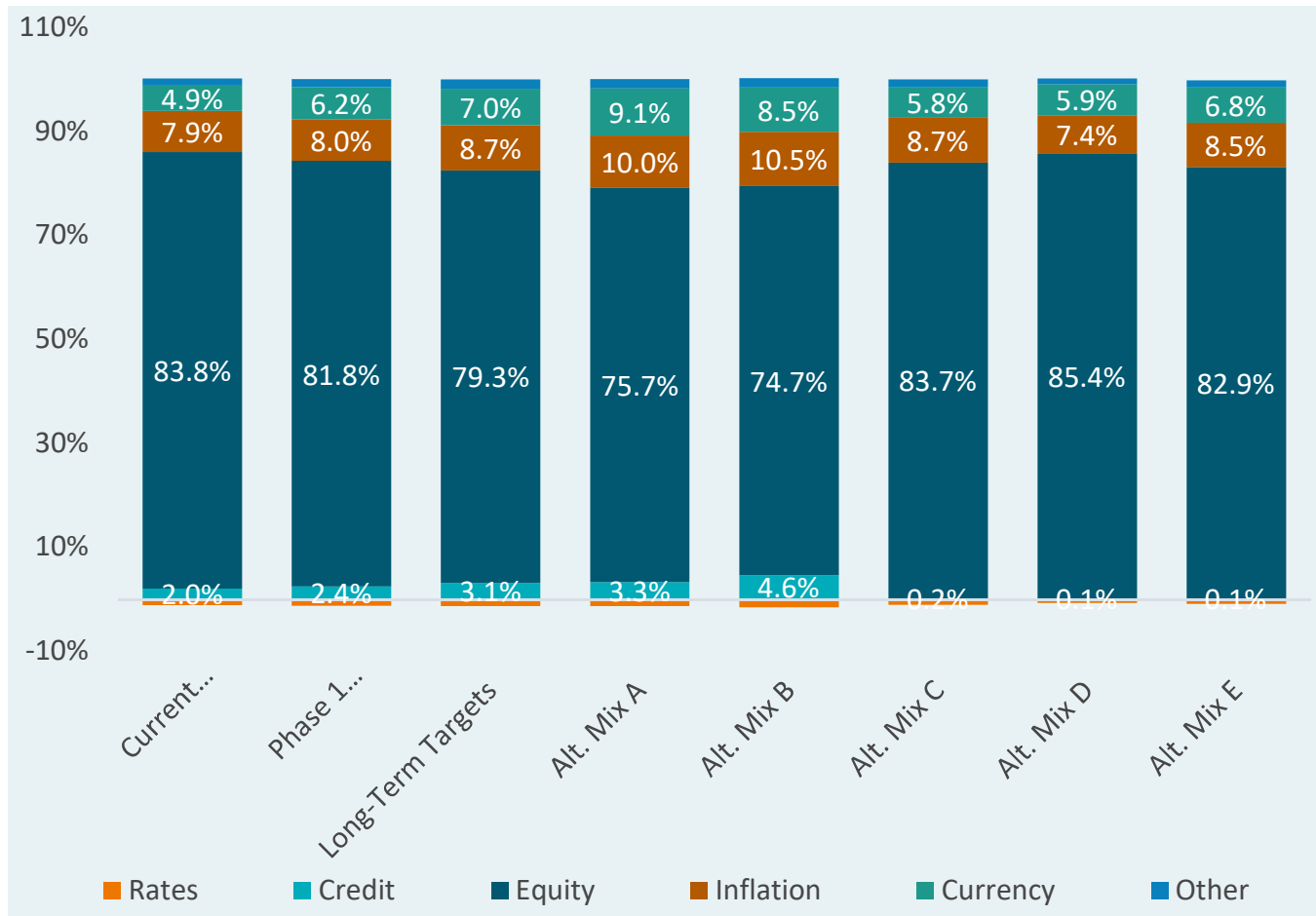
With the exception of the Current portfolio, international equity remains the largest contributor to risk.

As of March 31, 2018

Based on Verus' 2018 Capital Market Assumptions

Risk contribution

RISK CONTRIBUTION BY RISK FACTOR



As of March 31, 2018

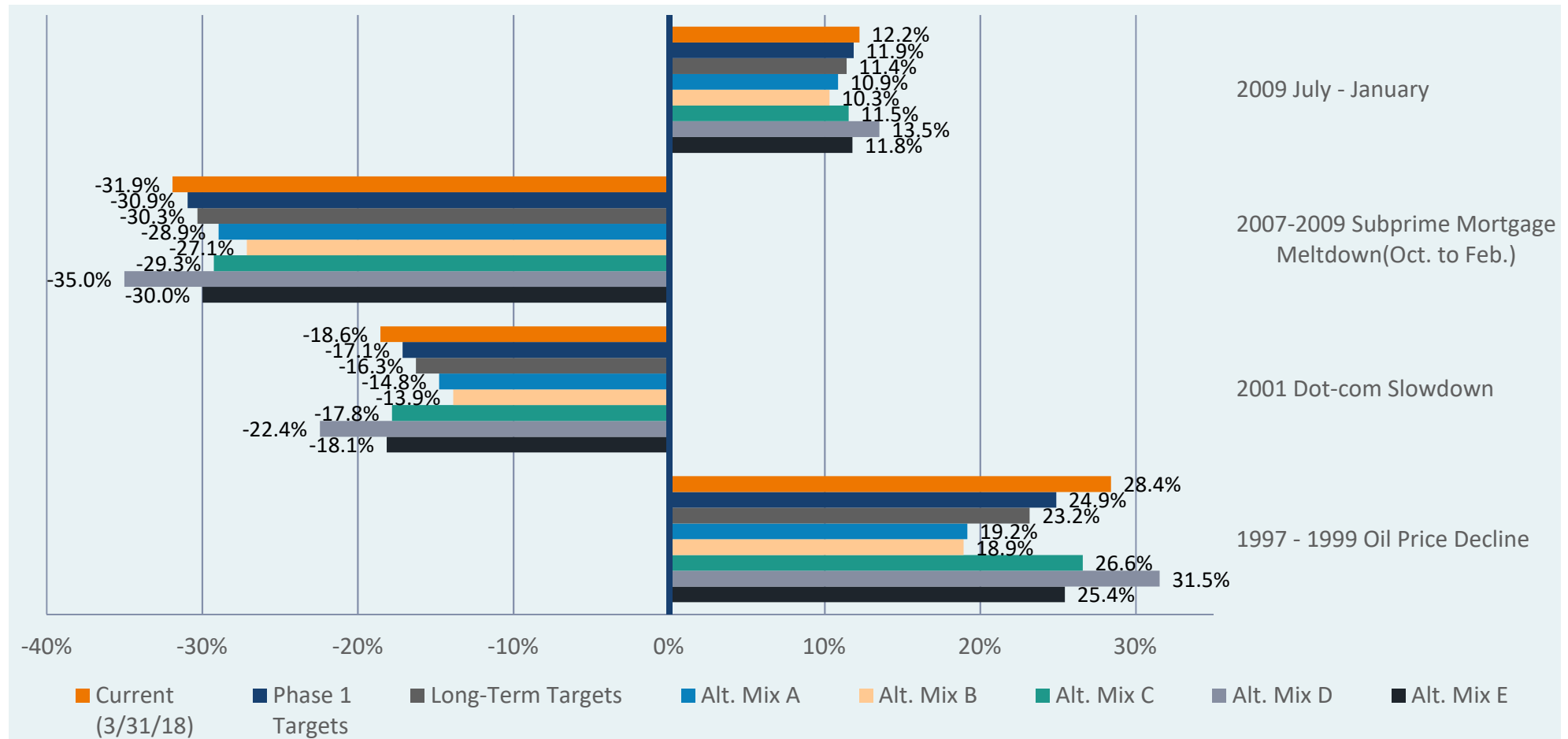
Based on MSCI BarraOne's 2018 Capital Market Assumptions

The main drivers behind the notable risk factors are:

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

Historical scenario analysis

TAIL RISK – SCENARIO ANALYSIS

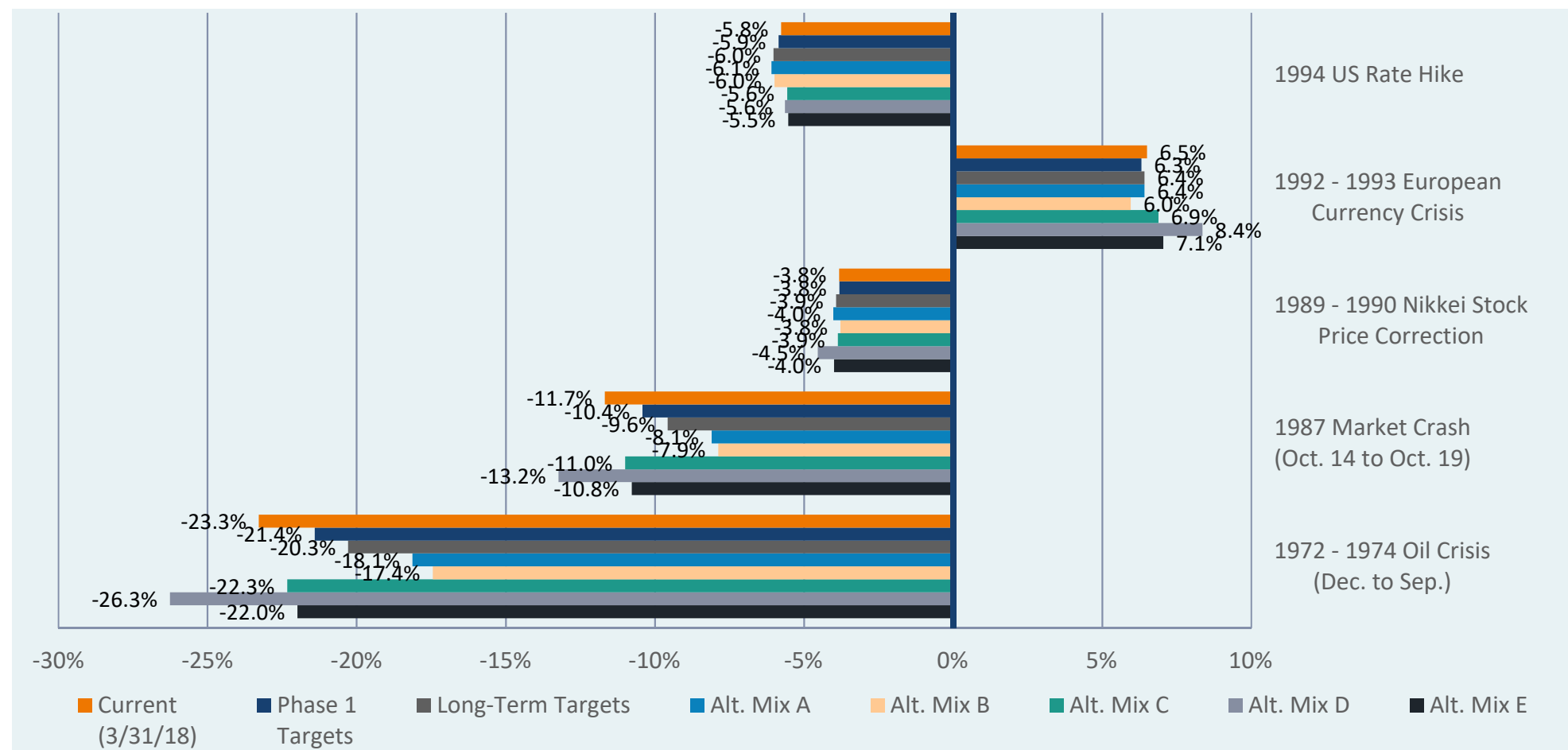


As of March 31, 2018

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

Historical scenario analysis

TAIL RISK – SCENARIO ANALYSIS

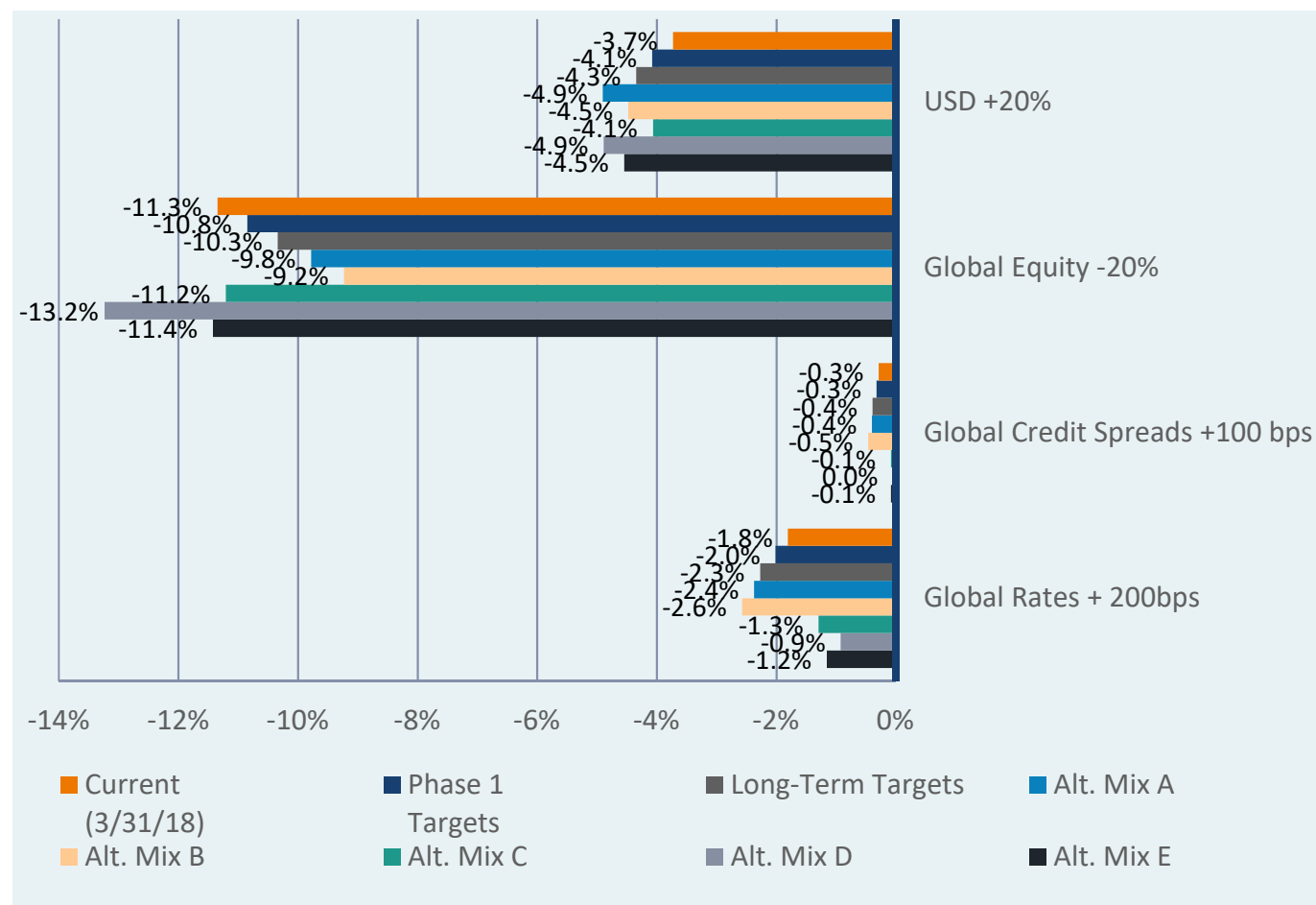


As of March 31, 2018

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

Stress test

TAIL RISK – STRESS TEST



As of March 31, 2018

Based on MSCI BarraOne's 2018 Capital Market Assumptions

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

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

Next steps

- 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



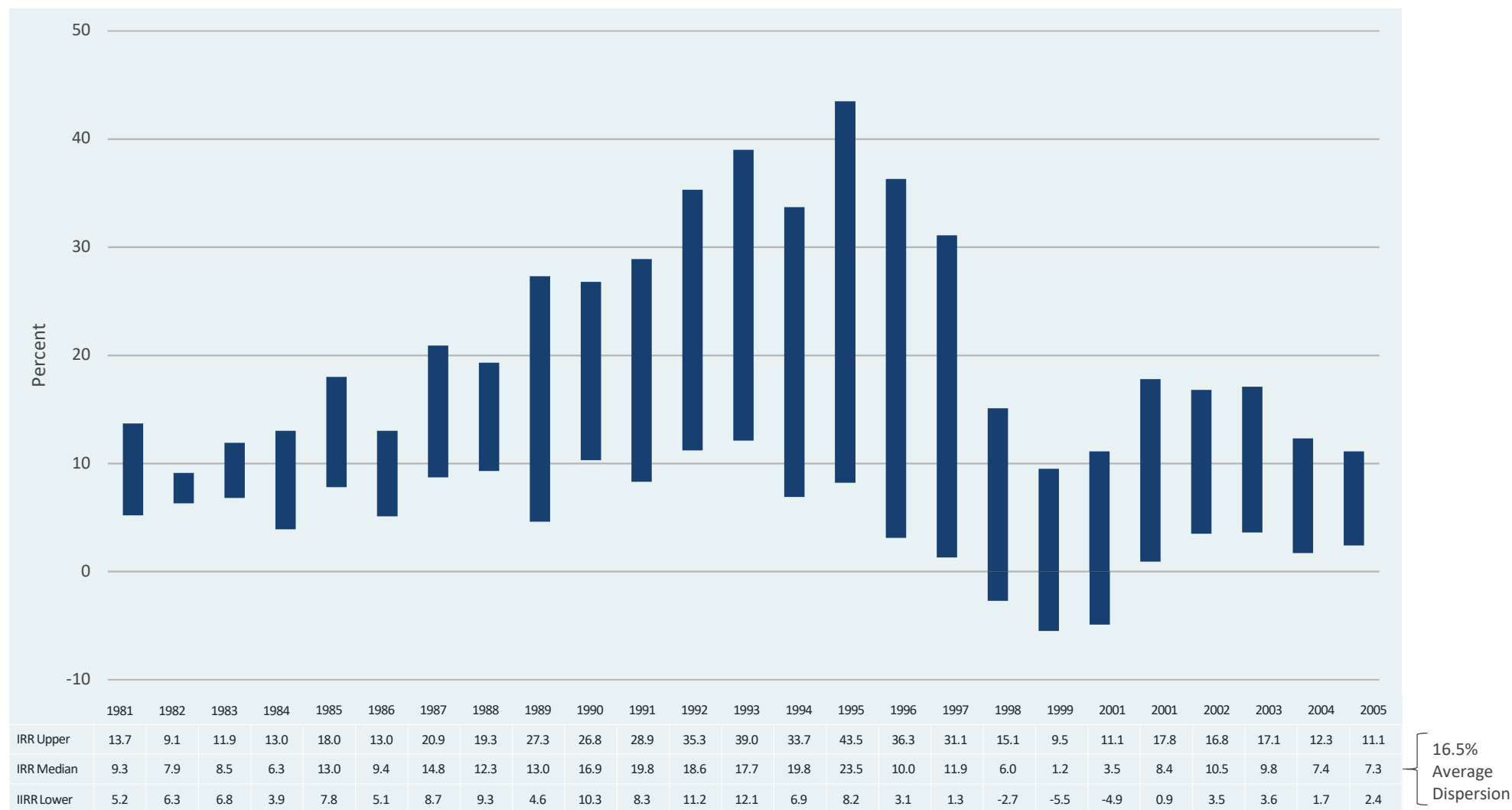
Passive Investors

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				
	Sub-asset class				
	Geography				
	Sector/industry				
Required Staff	Portfolio construction/oversight				
	Manager selection				
	Legal diligence				
	Ongoing administration (capital flows, stock distributions, ammendments)				
	Monitoring				
	Performance tracking / reporting				
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
		<div> <div>High</div> <div>Med</div> <div>Low</div> </div>			

Manager selection is critical to results



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

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

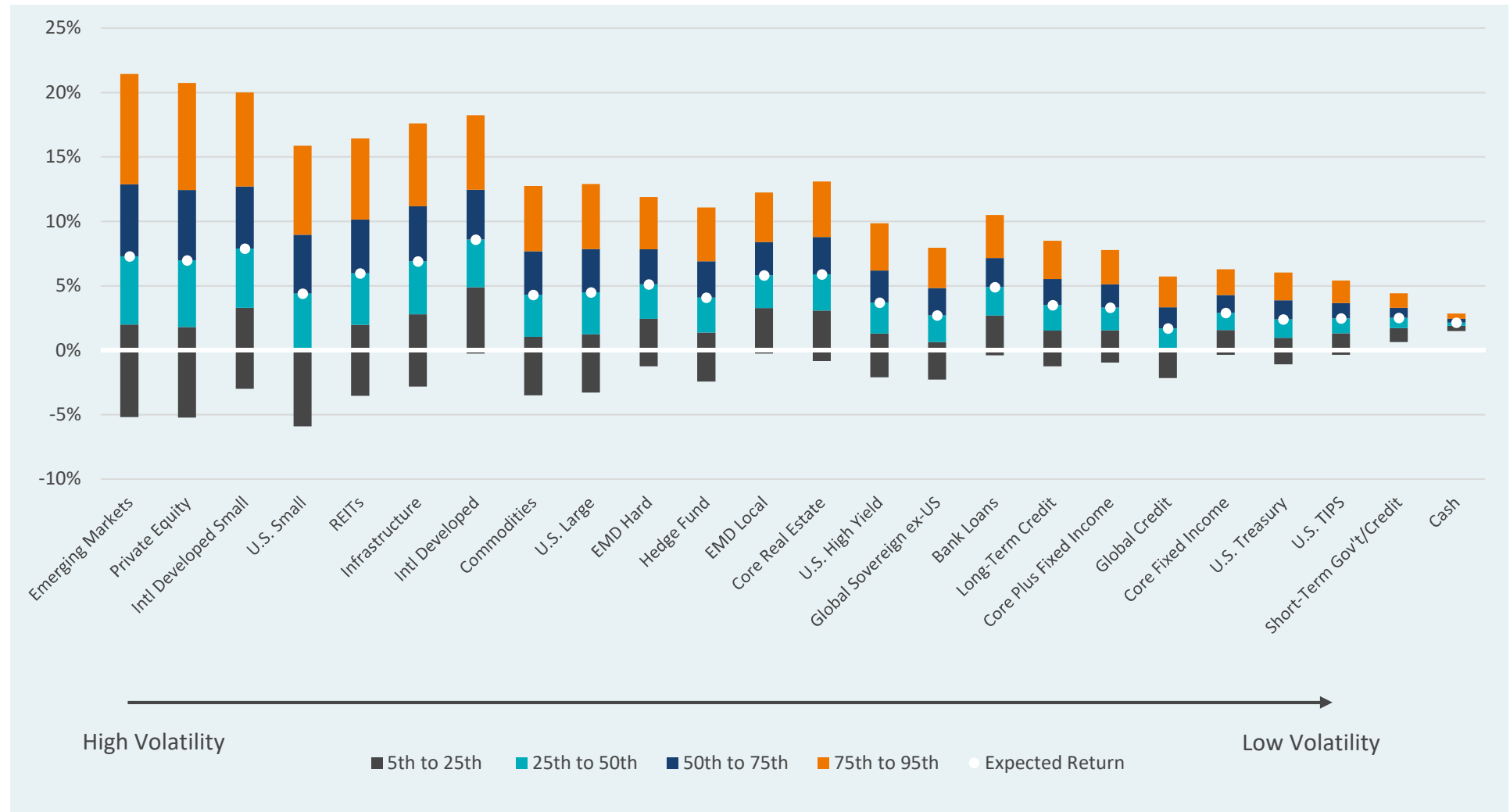
Correlation assumptions

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

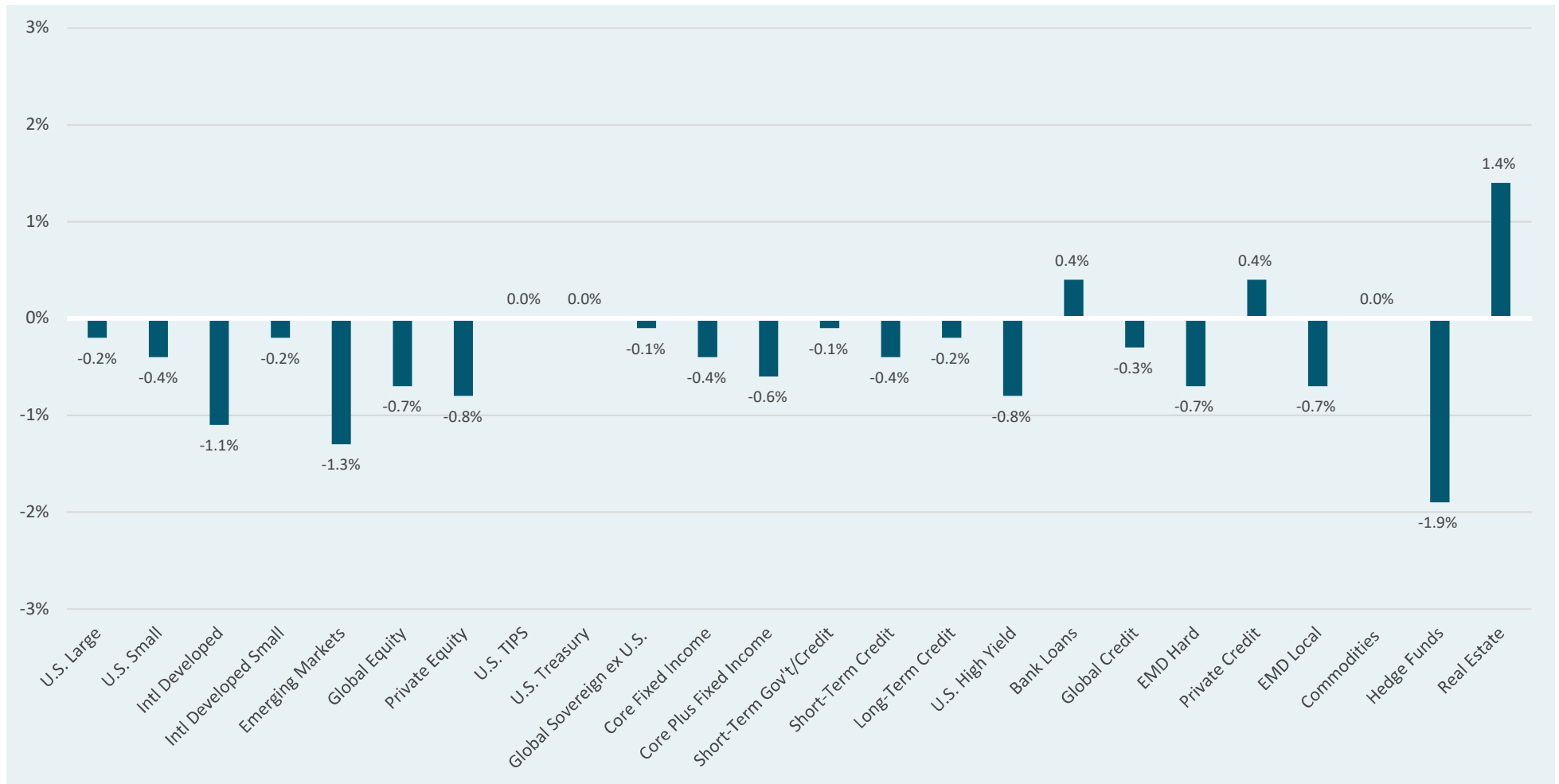
Note: Correlation assumptions are based on the last ten years. Private Equity and Real Estate correlations are especially difficult to model – we have therefore used BarraOne correlation data to strengthen these correlation estimates.

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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June 26, 2018

Retirement Board Agenda Item

TO: Retirement Board

FROM: Kellie Gomes, Executive Board Assistant

I. SUBJECT: Education and Travel Committee

II. ITEM NUMBER: 8.c

III. ITEM TYPE: Discussion and Action

IV. STAFF RECOMMENDATION: Form an ad hoc Education and Travel Committee to be comprised of staff and not less than two (2) and no more than three (3) trustees.

V. EXECUTIVE SUMMARY:

As part of the recent update to StanCERA's bylaws, it was decided by the Board that certain procedures and practices could be more effectively managed by removing them from the bylaws and moving them to internal policies. At the most recent Internal Governance Committee meeting, the group discussed the value of creating an Education and Travel Committee.

Such a committee would be responsible for the following:

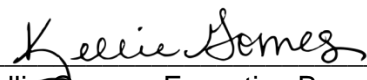
- Establish, educational requirements for Retirement Board members.
- Update list of approved continuing education resources (e.g. seminars/conferences).
- Determine any reporting or communication requirements.
- Update StanCERA's Travel Policy.

The expectation is that the Education and Travel Committee will meet several times this year to establish these policies. Meetings would be called on an ad hoc basis, subject to availability of the committee members.

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, Executive Board Assistant


Rick Santos, Executive Director