VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

BOARD OF RETIREMENT

BUSINESS MEETING

May 18, 2015

AGENDA

PLACE: Ventura County Employees' Retirement Association
Second Floor Boardroom
1190 South Victoria Avenue
Ventura, CA 93003

TIME: 9:00 a.m.

Members of the public may comment on any item under the Board's jurisdiction by filling out a speaker form and presenting it to the Clerk. Unless otherwise directed by the Chair, comments related to items on the agenda will be heard when the Board considers that item. Comments related to items not on the agenda will generally be heard at the time designated for Public Comment.

ITEM:

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I.	**CALL TO ORDER**	
II.	**APPROVAL OF AGENDA**	1 – 3
III.	**APPROVAL OF MINUTES**	
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B.	Actuarial Experience Study and Review of Economic Assumptions, Continued from April 20, 2015 Business Meeting Paul Angelo, FSA and John Monroe, ASA of Segal Consulting	29 – 66
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VI. INVESTMENT INFORMATION

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4.	Presentation of Investment Performance Report Quarter Ending March 31, 2015. **RECOMMENDED ACTION: Receive and file.**	297 – 373
5.	Preliminary Performance Report Month Ending April 30, 2015 **RECOMMENDED ACTION: Receive and file.**	374 – 380

VII. NEW BUSINESS

A. Quarterly Administrator Report for January – April, 2015. 381 – 384
RECOMMENDED ACTION: Receive and file.

B. Ventura County Employees' Retirement Information System (VCERIS) Pension Administration Project

1. VCERIS Project Monthly Status Report 385
RECOMMENDED ACTION: Receive and file.

C. Oral Update on VCERA's General Counsel Position

VIII. INFORMATIONAL

A. Adams Street Client Conference, June 2-3 2015, Chicago, IL. 386 – 387

B. CALAPRS Trustees' Roundtable, June 12, 2015, Burbank, CA. 388

IX. PUBLIC COMMENT

X. STAFF COMMENT

XI. BOARD MEMBER COMMENT

XII. ADJOURNMENT

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

BOARD OF RETIREMENT

DISABILITY MEETING

May 4, 2015

MINUTES

DIRECTORS PRESENT:	Tracy Towner, Chair, Alternate Safety Employee Member William W. Wilson, Vice Chair, Public Member Peter C. Foy, Public Member Joseph Henderson, Public Member Mike Sedell, Public Member Deanna McCormick, General Employee Member Craig Winter, General Employee Member Chris Johnston, Safety Employee Member Arthur E. Goulet, Retiree Member Will Hoag, Alternate Retiree Member
DIRECTORS ABSENT:	Steven Hintz, Treasurer-Tax Collector
STAFF PRESENT:	Lori Nemiroff, Assistant County Counsel Julie Stallings, Chief Operations Officer Vickie Williams, Retirement Benefits Manager Donna Edwards, Retirement Benefits Specialist Stephanie Caiazza, Program Assistant Dan Gallagher, Chief Investment Officer
PLACE:	Ventura County Employees' Retirement Association Second Floor Boardroom 1190 South Victoria Avenue Ventura, CA 93003
TIME:	9:00 a.m.

ITEM:

I. CALL TO ORDER

Chair Towner called the Disability Meeting of May 4, 2015, to order at 9:00 a.m.

II. APPROVAL OF AGENDA

Chair Towner amended the agenda by switching items “V.E.” and “V.F.”. Chair Towner stated that the amendment was necessary because the applicant’s attorney for Case 11-021 indicated that he may be late or absent for the meeting due to illness.

The following motion was made:

MOTION: Approve the agenda, as amended.

Moved by Henderson, seconded by Sedell.

Vote: Motion carried
Yes: Goulet, Foy, Johnston, Sedell, Winter, Henderson, McCormick, Wilson
No: -
Absent: Hintz

III. APPROVAL OF MINUTES

A. Business Meeting of April 20, 2015.

The following motion was made:

MOTION: Approve.

Moved by Henderson, seconded by Goulet.

Vote: Motion carried
Yes: Goulet, Foy, Johnston, Sedell, Winter, Henderson, McCormick, Wilson
No: -
Absent: Hintz

IV. RECEIVE AND FILE PENDING DISABILITY APPLICATION STATUS REPORT

MOTION: Approve.

Moved by Goulet, seconded by Henderson.

Vote: Motion carried
Yes: Goulet, Foy, Johnston, Sedell, Winter, Henderson, McCormick, Wilson
No: -
Absent: Hintz

V. APPLICATIONS FOR DISABILITY RETIREMENT

A. Application for Service Connected and Non-Service Connected Disability Retirement, Andrew W. Poland; Case No. 13-005.

1. Summary of Evidence, Findings of Fact, Conclusions of Law, and Recommendations, submitted by Hearing Officer John L. Rosenthal, dated April 11, 2015.

2. Hearing Notice Served on April 15, 2015.

Paul Hilbun and John Gilman, Attorney at Law, were present on behalf of County of Ventura Risk Management. The applicant, Andrew Poland, was also present.

Both parties declined to make a statement.

Staff clarified that the hearing officer's original report contained incorrect references to OCERS instead of VCERA and the corrected report that was submitted to the Board was meant to replace the original report within the case record.

The following motion was made:

MOTION: Approve the Hearing Officer's recommendation and grant the applicant, Andrew Poland, a non-service connected disability retirement.

Moved by Wilson, seconded by Johnston.

Vote: Motion carried
Yes: Goulet, Foy, Johnston, Sedell, Winter, Henderson, McCormick, Wilson
No: -
Absent: Hintz

B. Application for Service Connected Disability Retirement, Ignacio Godinez; Case No. 14-023.

1. Application for Service Connected Disability Retirement and Supporting Documentation.

2. Hearing Notice Served on April 14, 2015.

Janet Chu-Hooker and Michael Youril, Attorney at Law, were present on behalf of Ventura Regional Sanitation District (VRSD). The applicant, Ignacio Godinez, was also present.

The representatives from VRSD declined to make a statement. The applicant gave a brief statement describing his background and condition.

Trustee Goulet commented that the report from VRSD was comprehensive and well-done.

The following motion was made:

<u>MOTION</u>: Grant the applicant, Ignacio Godinez, a service connected disability retirement.

Moved by Goulet, seconded by McCormick.

Vote: Motion carried
Yes: Goulet, Foy, Johnston, Sedell, Winter, Henderson, McCormick, Wilson
No: -
Absent: Hintz

The parties agreed to waive preparations of Findings of Fact and Conclusions of Law.

C. Application for Service Connected Disability Retirement, RayMel Lloyd; Case No. 14-024.

1. Application for Service Connected Disability Retirement and Supporting Documentation.

2. Hearing Notice Served on April 8, 2015.

Janet Chu-Hooker and Michael Youril, Attorney at Law, were present on behalf of Ventura Regional Sanitation District. The applicant, RayMel Lloyd, was also present.

Trustee Goulet stated that he found the report to be deficient and noted that it did not include a description of how the accident occurred.

The applicant summarized the events of the accident for the Board.

Trustee Goulet requested further clarification of the records submitted by VRSD.

Following discussion by the Board and Mr. Youril, the following motion was made:

<u>MOTION</u>: Request that VRSD submit a revised report with additional supporting documentation, and continue this matter at the July 6, 2015 disability meeting or at a preceding meeting if the materials are submitted early.

Moved by Henderson, seconded by Johnston.

Vote: Motion carried
Yes: Goulet, Foy, Johnston, Sedell, Winter, Henderson, McCormick, Wilson
No: -
Absent: Hintz

D. Application for Non-Service Connected Disability Retirement, Cynthia Lazenby; Case No. 14-026.

1. Application for Non-Service Connected Disability Retirement and Supporting Documentation.

2. Hearing Notice Served on April 22, 2015.

Paul Hilbun was present on behalf of County of Ventura Risk Management. The applicant, Cynthia Lazenby, was also present.

Both parties declined to make statements.

The following motion was made:

<u>MOTION</u>: Grant the applicant, Cynthia Lazenby, a non-service connected disability retirement.

Moved by Wilson, seconded by McCormick.

Vote: Motion carried
Yes: Goulet, Foy, Johnston, Sedell, Winter, Henderson, McCormick, Wilson
No: -
Absent: Hintz

The parties agreed to waive preparations of Findings of Fact and Conclusions of Law.

E. Michael Wheat v. Board of Retirement of VCERA, Ventura County Superior Court Case No. 56-2013-00440045-CU-WM-VTA

1. Memorandum from County Counsel dated April 24, 2015

2. Notice of Entry of Judgement and Issuance of Writ of Mandate, dated April 9, 2015

3. Minute Order dated December 19, 2014

4. Hearing Notice Served on April 8, 2015

Paul Hilbun and Derek Straatsma, Attorney at Law, were present on behalf of County of Ventura Risk Management.

Following the issuance of judgment on the applicant's petition for writ of mandate, Ms. Nemiroff recommended that the Board grant the applicant a service connected disability.

The following motion was made:

MOTION: Grant the applicant, Michael Wheat, a service connected disability retirement.

Moved by Wilson, seconded by McCormick.

Vote: Motion carried
Yes: Goulet, Foy, Johnston, Sedell, Winter, Henderson, McCormick, Wilson
No: -
Absent: Hintz

F. Application for Service Connected Disability Retirement, Karen Anderson; Case No. 11-021.

1. Proposed Findings of Fact, Conclusions of Law, and Recommendation, submitted by Hearing Officer Kenneth A. Perea,

dated March 18, 2015.

2. Hearing Notice Served on April 16, 2015.

The applicant's attorney was not present due to illness. The following motion was made:
MOTION: Continue this matter at the June 1, 2015 disability meeting.

Moved by Goulet, seconded by McCormick.

Vote: Motion carried
Yes: Goulet, Foy, Johnston, Sedell, Winter, Henderson, McCormick, Wilson
No: -
Absent: Hintz

VI. NEW BUSINESS

A. Approval of Assignment of Contract from Schott & Lites to California Strategies & Advocacy, LLC

1. Staff Letter

2. Press Release

3. Schott & Lites Advocates Letter of Agreement, dated January 29, 2015.

After discussion by the Board, the following motion was made:

MOTION: Approve assignment of the contract for advocating VCERA's proposed CERL Legislation (AB 1291) to California Strategies and Advocacy, LLC. and delegate authority to the Chair to approve and execute an assignment agreement.

Moved by Goulet, seconded by Sedell.

Vote: Motion carried
Yes: Goulet, Foy, Johnston, Sedell, Winter, Henderson, McCormick, Wilson
No: -
Absent: Hintz

B. Recommendation to Approve Trustees' Attendance at Nossaman LLP Public Pensions & Investments Fiduciaries Forum, September 24 – 25, 2015, San Francisco, CA.

The following motion was made:

MOTION: Approve.

Moved by Henderson, seconded by Winter.

Vote: Motion carried
Yes: Goulet, Foy, Johnston, Sedell, Winter, Henderson, McCormick, Wilson
No: -
Absent: Hintz

C. Pension Bridge Report, Submitted by Trustee McCormick and Trustee Goulet

The following motion was made:

MOTION: Receive and file.

Moved by Henderson, seconded by Winter.

Vote: Motion carried
Yes: Goulet, Foy, Johnston, Sedell, Winter, Henderson, McCormick, Wilson
No: -
Absent: Hintz

D. Ventura County Employees' Retirement Information System (VCERIS) Pension Administration Project

1. Staff Letter

2. VCERIS Project Quarterly Status Update

Brian Colker of Linea Solutions, Inc. was present to provide the Board with a status update on the VCERIS Pension Administration Project.

After discussion by the Board and Mr. Colker, the following motion was made:

MOTION: Receive and file.

Moved by Henderson, seconded by Sedell.

Vote: Motion carried
Yes: Goulet, Foy, Johnston, Sedell, Winter, Henderson, McCormick, Wilson
No: -
Absent: Hintz

VII. INFORMATIONAL

A. CALAPRS Principles of Pension Management for Trustees 2015, August 25 – 28, 2015, Pepperdine University, Malibu, CA.

VIII. PUBLIC COMMENT

None.

IX. STAFF COMMENT

None.

X. BOARD MEMBER COMMENT

Chair Towner welcomed Dan Gallagher, VCERA's new Chief Investment Officer.

XI. ADJOURNMENT

The meeting was adjourned at 9:41 a.m.

Respectfully submitted,

Linda Webb

____
LINDA WEBB, Retirement Administrator

Approved,

____
TRACY TOWNER, Chairman

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
REPORT OF REGULAR AND DEFERRED RETIREMENTS AND SURVIVORS CONTINUANCES

APRIL 2015

FIRST NAME	LAST NAME	G/S	DATE OF MEMBERSHIP	TOTAL SERVICE	OTHER SERVICE	DEPARTMENT	EFFECTIVE DATE
REGULAR RETIREMENTS:							
Steven R.	Adam	S	10/14/1990	3.20	C = 21.2286	Sheriff's Department (deferred)	03/30/15
Scott C.	Anderson	G	12/08/2008	6.20	C=4.54900	Probation	02/28/15
Carla J.	Ardissoni	G	09/29/1991	0.24		Public Defender (Non-member spouse, deferred)	04/01/15
Nancy E.	Austin	G	01/20/1991	23.00		Resource Management	03/14/15
Steven A.	Baker	S	11/11/1991	23.40	C=4.26100	Fire Protection	03/25/15
Rita	Batchley	G	10/19/1986	21.00	B=0.6252	Health Care Agency	03/05/15
Donald P.	Beese	S	11/04/1990	25.50	D= 1.08330	Sheriff's Department	03/27/15
Ivor	Benci-Woodward	G	08/06/2001	4.20		Public Works (deferred)	12/01/14
Debora M.	Bohan	G	02/04/1990	8.50		Health Care Agency	03/26/15
Deborah W.	Burke	G	04/11/1982	13.20	C=19.717	Library (deferred)	02/01/15
Irene	Camarena	G	07/04/2004	10.60		Human Services Agency	03/27/15
Alan L.	Campbell	S	03/27/1983	31.90		Fire Protection	03/17/15
Karen A.	Carpenter	G	12/23/2002	12.20		Human Services Agency	03/06/15
Debora A.	Carrington	G	05/15/1977	37.50		Public Defender	03/28/15
Connie F.	Clark	G	04/01/1990	24.00		Health Care Agency	03/18/15
Cyndie R.	Cole	G	01/19/1992	18.30		Health Care Agency	03/28/15
Cheryl M.	Collart	G	01/21/2001	12.60	B=0.41740	CEO (deferred)	03/10/15
Judith	Collinge	G	11/07/2004	5.70		Health Care Agency (deferred)	03/18/15
Anne M.	Dana	G	08/05/1990	26.60	B=2.1286	Public Works	03/14/15
Wilma L.	Donovan	G	12/09/2002	11.90		Child Support Services (deferred)	03/31/15
Christopher D.	Dumbauld	S	02/04/1991	25.90	B=1.81350 C=5.5833	Fire Protection	03/15/15
Jean L.	Farley	G	07/21/1986	28.60	C=7.42763	Public Defender	03/28/15
Doni J.	Farner-Smith	G	02/13/2005	12.20	A=2.4287	Fire Protection	03/12/15
Janet H.	Foreny	G	11/06/2005	5.80	B=.74090	Library (deferred)	03/16/15
Melba P.	Fry	G	11/01/1998	15.30		Health Care Agency	03/06/15
Linda B.	Galvan	G	05/31/1987	31.80	B=1.3410	Health Care Agency	03/18/15
James B.	Hall	G	01/22/2001	13.10		Harbor	03/28/15
Ruby	Lara-Leon	G	03/15/1992	21.70		Human Services Agency	03/20/15
Minerva	Loya	G	03/29/1981	33.80		District Attorney	03/26/15
John M.	Pennington	G	05/11/1980	34.90		Public Works	03/28/15
Mary L.	Poulson	G	04/29/2014	4.30		Courts (non-member spouse, deferred)	02/01/15
Phillip M.	Poulson	G	05/12/1991	4.30	C=13.646	Courts (deferred)	07/01/13

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
REPORT OF REGULAR AND DEFERRED RETIREMENTS AND SURVIVORS CONTINUANCES

APRIL 2015

FIRST NAME	LAST NAME	G/S	DATE OF MEMBERSHIP	TOTAL SERVICE	OTHER SERVICE	DEPARTMENT	EFFECTIVE DATE
Kelly A.	Ryan	G	06/04/1995	17.60		Sheriff's Department	04/01/15
Thomas P.	Sloyan	S	07/02/1978	38.40	A=0.30480 B=1.33210	Probation	03/27/15
Barbara J.	Stallings	G	09/30/2014	13.57		Sheriff's Department (Non-member spouse, deferred)	03/01/15
Yolanda C.	Walker	G	05/25/2003	11.80	C=26.800	CEO	03/28/15
Christina F.	Zarate	S	09/21/1997	20.00	A=1.378 B=2.555	Probation	03/18/15
Stanley J.	Zarkowski	G	03/24/1996	15.70		Public Works	03/11/15

DEFERRED RETIREMENTS:

Rebecca Sue	Carter	G	04/29/2002	12.96		Animal Regulations	04/10/2015
Jose Tabin	Cosio	G	02/04/2007	8.18		CEO	04/10/2015
Juan Antonio	Diaz	G	03/27/2005	9.81		Health Care Agency	04/02/2015
Nicole	Faulkner	G	05/04/2008	6.55		Health Care Agency	02/27/2015
Claudia	Giba	G	11/05/2006	7.68		Human Services Agency	03/26/2015
Elizabeth	Krene	S	07/24/1988	26.70	B=0.1151	Probation Agency	03/27/2015
Patrick	McKinley	G	06/18/2006	8.72		Health Care Agency	04/03/2015
Melissa	Rodriguez	G	11/10/2013	0.78	C=7.236	Sheriff's Department	08/22/2014

SURVIVORS' CONTINUANCES:

Barbara E.	Higginbotham
Carlos E.	Rodriguez
Willodeane	Valdez

*** = Member Establishing Reciprocity**
A = Previous Membership
B = Other County Service (eg Extra Help)
C = Reciprocal Service
D = Public Service

Ventura County Retirement Assn

Check Register - Standard

Period: 10-15 As of: 5/4/2015

Check Nbr	Check Type	Check Date	Vendor ID / Vendor Name	Period To Post	Period Closed	Ref Nbr	Doc Type	Invoice Number	Invoice Date	Discount Taken	Amount Paid
Company:	**VCERA**										
Acct / Sub:	1002		00								
024985	CK	4/1/2015	100856 CHARLOTTE CARBONE	10-15		019845	VO	REFUND T2 COL	4/1/2015	0.00	14,586.79
024986	CK	4/1/2015	104638 MELBA P. FRY	10-15		019846	VO	REFUND T2 COL	4/1/2015	0.00	13,445.68
024987	CK	4/1/2015	106474 MARIA L. LANDEROS	10-15		019847	VO	REFUND T2 COL	4/1/2015	0.00	11,520.34
024988	CK	4/1/2015	107840R USAA IMCO	10-15		019848	VO	ROLLOVER	4/1/2015	0.00	115,092.98
024989	CK	4/1/2015	118463 TAMARA HORNSEY	10-15		019849	VO	REFUND CONTRIB	4/1/2015	0.00	22,086.25
024990	CK	4/1/2015	119367 FRANCIS H. MORELLI	10-15		019850	VO	REFUND CONTRIB	4/1/2015	0.00	15,897.50
024991	CK	4/1/2015	119624 DONNA VENARDOS	10-15		019851	VO	REFUND CONTRIB	4/1/2015	0.00	423.41
024992	CK	4/1/2015	120909 SHAWN T. PERREIRA	10-15		019852	VO	REFUND CONTRIB	4/1/2015	0.00	6,386.68
024993	CK	4/1/2015	121189R PRINCIPAL FUNDS	10-15		019853	VO	ROLLOVER	4/1/2015	0.00	1,188.45
024994	CK	4/1/2015	122036R TD AMERITRADE	10-15		019854	VO	ROLLOVER	4/1/2015	0.00	822.16
024995	CK	4/1/2015	122157 JOSHUA MCKINNON	10-15		019855	VO	REFUND CONTRIB	4/1/2015	0.00	14,516.24
024996	CK	4/1/2015	123015 RAFAEL M. BORRAYO	10-15		019856	VO	REFUND CONTRIB	4/1/2015	0.00	825.95
024997	CK	4/1/2015	F0723B1 MARK TOPPING	10-15		019857	VO	DEATH BENEFIT	4/1/2015	0.00	206.90

Ventura County Retirement Assn

Check Register - Standard

Period: 10-15 As of: 5/4/2015

Check Nbr	Check Type	Check Date	Vendor ID / Vendor Name	Period To Post	Period Closed	Ref Nbr	Doc Type	Invoice Number	Invoice Date	Discount Taken	Amount Paid
024998	CK	4/1/2015	F3554S WILLODEANE VALDEZ	10-15		019858	VO	DEATH BENEFIT	4/1/2015	0.00	1,671.54
024999	CK	4/1/2015	F4109B1 ERIN A. DOYLE	10-15		019859	VO	DEATH BENEFIT	4/1/2015	0.00	2,191.45
025000	CK	4/1/2015	F4109B2 SHEA M. DOYLE	10-15		019860	VO	DEATH BENEFIT	4/1/2015	0.00	2,191.44
025001	CK	4/1/2015	F6443B1 REGINA CALDERON	10-15		019861	VO	DEATH BENEFIT	4/1/2015	0.00	1,194.58
025002	CK	4/1/2015	F6443B3 JENNIFER GARCIA	10-15		019862	VO	DEATH BENEFIT	4/1/2015	0.00	1,023.92
025003	CK	4/1/2015	COUNTY COUNTY COUNSEL	10-15		019863	VO	ADMIN EXP	4/1/2015	0.00	27,367.00
025004	CK	4/1/2015	CPS COOPERATIVE PERSONNEL	10-15		019864	VO	ADMIN EXP	4/1/2015	0.00	2,291.81
025005	CK	4/1/2015	PRUDENTIAL PRUDENTIAL INSURANCE	10-15		019865	VO	INVESTMENT FEES	4/1/2015	0.00	197,833.43
025006	CK	4/1/2015	SPRUCE SPRUCEGROVE INVESTMEN	10-15		019866	VO	INVESTMENT FEES	4/1/2015	0.00	58,966.12
025007	CK	4/8/2015	107611 WILMA L. DONOVAN	10-15		019867	VO	REFUND T2 COL	4/8/2015	0.00	16,028.12
025008	CK	4/8/2015	118895 JAMIE N. SPALDING	10-15		019868	VO	REFUND CONTRIB	4/8/2015	0.00	39,165.58
025009	CK	4/8/2015	121738 JUSTIN Q. WERTH	10-15		019869	VO	REFUND CONTRIB	4/8/2015	0.00	17,337.64
025010	CK	4/8/2015	121852R AMERICAN CENTURY INVES	10-15		019870	VO	ROLLOVER	4/8/2015	0.00	12,724.29

Ventura County Retirement Assn

Check Register - Standard

Period: 10-15 As of: 5/4/2015

Check Nbr	Check Type	Check Date	Vendor ID / Vendor Name	Period To Post	Period Closed	Ref Nbr	Doc Type	Invoice Number	Invoice Date	Discount Taken	Amount Paid
025011	CK	4/8/2015	F4319B2 TRACEY D. WALTERS	10-15		019871	VO	DEATH BENEFIT	4/8/2015	0.00	2,544.92
025012	CK	4/8/2015	F8496S CARLOS E. RODRIGUEZ	10-15		019872	VO	DEATH BENEFIT	4/8/2015	0.00	2,978.93
025013	CK	4/8/2015	990002 ARTHUR E. GOULET	10-15		019873	VO	MILEAGE REIMB	4/8/2015	0.00	39.10
025014	CK	4/8/2015	CORPORATE STAPLES ADVANTAGE	10-15		019874	VO	ADMIN EXP	4/8/2015	0.00	1,821.59
025015	CK	4/8/2015	MEGAPATH GLOBAL CAPACITY	10-15		019875	VO	IT/PAS	4/8/2015	0.00	608.58
025016	CK	4/8/2015	SBS SBS GROUP	10-15		019876	VO	IT	4/8/2015	0.00	87.50
025017	CK	4/8/2015	THONIS TIM THONIS	10-15		019877	VO	ADMIN EXP	4/8/2015	0.00	39,930.74
025018	CK	4/8/2015	VOLT VOLT	10-15		019878	VO	ADMIN EXP/PAS	4/8/2015	0.00	2,060.64
025019	CK	4/8/2015	WSJ WALL STREET JOURNAL	10-15		019879	VO	ADMIN EXP	4/8/2015	0.00	373.97
025020	CK	4/15/2015	102039B1R JP MORGAN CHASE - JPMCC	10-15		019880	VO	ROLLOVER	4/15/2015	0.00	137,310.73
025021	CK	4/15/2015	102204 CONNIE F. CLARK	10-15		019881	VO	REFUND T2 COL	4/15/2015	0.00	12,408.90
025022	CK	4/15/2015	102788 RUBY LARA-LEON	10-15		019882	VO	REFUND T2 COL	4/15/2015	0.00	13,268.92
025023	CK	4/15/2015	104599B1 THE JUDITH L. OVERMYER TI	10-15		019883	VO	DEATH BENEFIT	4/15/2015	0.00	148,736.65
025024	CK	4/15/2015	107645 KAREN CARPENTER	10-15		019884	VO	REFUND T2 COL	4/15/2015	0.00	11,982.05

Ventura County Retirement Assn

Check Register - Standard

Period: 10-15 As of: 5/4/2015

Check Nbr	Check Type	Check Date	Vendor ID / Vendor Name	Period To Post	Period Closed	Ref Nbr	Doc Type	Invoice Number	Invoice Date	Discount Taken	Amount Paid
025025	CK	4/15/2015	117866 JESSICA CARSON	10-15		019885	VO	REFUND-CONTRIB	4/15/2015	0.00	38,182.43
025026	CK	4/15/2015	124134 ANH-HAO LE VU	10-15		019886	VO	REFUND-CONTRIB	4/15/2015	0.00	6,487.35
025027	CK	4/15/2015	221018 JOHN C. ECKERT	10-15		019887	VO	REFUND T2 COL	4/15/2015	0.00	666.09
025028	CK	4/15/2015	990002 ARTHUR E. GOULET	10-15		019888	VO	TRAVEL REIMB	4/15/2015	0.00	1,035.14
025029	CK	4/15/2015	ADP ADP LLC	10-15		019889	VO	ADMIN EXP	4/15/2015	0.00	11,619.93
025030	CK	4/15/2015	BARNEY ABU COURT REPORTING INC	10-15		019890	VO	ADMIN EXP	4/15/2015	0.00	945.00
025031	CK	4/15/2015	CMP CMP & ASSOCIATES, INC	10-15		019891	VO	IT/PAS	4/15/2015	0.00	16,738.13
025032	CK	4/15/2015	HARRIS HARRIS WATER CONDITIONI	10-15		019892	VO	ADMIN EXP	4/15/2015	0.00	134.50
025033	CK	4/15/2015	HEXAVEST HEXAVEST INC	10-15		019893	VO	INVESTMENT FEES	4/15/2015	0.00	92,414.99
025034	CK	4/15/2015	LINEA LINEA SOLUTIONS	10-15		019894	VO	IT/PAS	4/15/2015	0.00	66,758.75
025035	CK	4/15/2015	MBS MANAGED BUSINESS SOLUT	10-15		019895	VO	PAS	4/15/2015	0.00	18,675.87
025036	CK	4/15/2015	PEREA KENNETH A. PEREA	10-15		019896	VO	ADMIN EXP	4/15/2015	0.00	6,475.00
025037	CK	4/15/2015	ROSENTHAL JOHN L. ROSENTHAL	10-15		019897	VO	ADMIN EXP	4/15/2015	0.00	10,543.75

Ventura County Retirement Assn

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Period: 10-15 As of: 5/4/2015

Check Nbr	Check Type	Check Date	Vendor ID / Vendor Name	Period To Post	Period Closed	Ref Nbr	Doc Type	Invoice Number	Invoice Date	Discount Taken	Amount Paid
025038	CK	4/15/2015	SACRS SACRS	10-15		019898	VO	ADMIN EXP	4/15/2015	0.00	960.00
025039	CK	4/15/2015	S&L ADV SCHOTT & LITES ADVOCATE	10-15		019899	VO	ADMIN EXP	4/15/2015	0.00	2,500.00
025040	CK	4/15/2015	TOWERS TOWERS WATSON DELAWAF	10-15		019900	VO	ADMIN/PAS	4/15/2015	0.00	23,500.00
025041	CK	4/15/2015	TRI TRI COUNTY OFFICE FURNIT	10-15		019901	VO	ADMIN EXP	4/15/2015	0.00	1,388.28
025042	CK	4/15/2015	VITECH VITECH SYSTEMS GROUP IN	10-15		019902	VO	PAS	4/15/2015	0.00	219,600.00
025043	CK	4/15/2015	VSG VSG HOSTING, INC	10-15		019903	VO	PAS	4/15/2015	0.00	19,500.00
025044	CK	4/15/2015	VOLT VOLT	10-15		019904	VO	ADMIN/PAS	4/15/2015	0.00	4,028.94
025045	CK	4/15/2015	WISSLEY DEBORAH Z. WISSLEY	10-15		019905	VO	ADMIN EXP	4/15/2015	0.00	332.50
025046	CK	4/22/2015	101493 LINDA GALVAN	10-15		019906	VO	REFUND T2 COL	4/22/2015	0.00	13,010.12
025047	CK	4/22/2015	103569 LUCIANNE RANNI	10-15		019907	VO	REFUND T2 COL	4/22/2015	0.00	272.46
025048	CK	4/22/2015	104914 IRENE CAMARENA	10-15		019908	VO	REFUND T2 COL	4/22/2015	0.00	10,496.58
025049	CK	4/22/2015	115594 BRENDA GOMEZ ORTIZ	10-15		019909	VO	REFUND CONTRIB	4/22/2015	0.00	12,506.88
025050	CK	4/22/2015	119245 KENNETH N. HAMILTON	10-15		019910	VO	REFUND CONTRIB	4/22/2015	0.00	50,684.98
025051	CK	4/22/2015	123579 RAPHAEL J. LACHS	10-15		019911	VO	REFUND CONTRIB	4/22/2015	0.00	4,457.95

Ventura County Retirement Assn

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Check Nbr	Check Type	Check Date	Vendor ID / Vendor Name	Period To Post	Period Closed	Ref Nbr	Doc Type	Invoice Number	Invoice Date	Discount Taken	Amount Paid
025052	CK	4/22/2015	123619 CHRISTOPHER R. PAGE	10-15		019912	VO	REFUND CONTRIB	4/22/2015	0.00	6,820.57
025053	CK	4/22/2015	124272 ANN MARIE JEROME	10-15		019913	VO	REFUND CONTRIB	4/22/2015	0.00	1,561.06
025054	CK	4/22/2015	F9050 SALLY A. DOYLE	10-15		019914	VO	PENSION PAYMENT	4/22/2015	0.00	737.22
025055	CK	4/22/2015	F1777B1 DAVID J. MALMIN	10-15		019915	VO	DEATH BENEFIT	4/22/2015	0.00	1,835.77
025056	CK	4/22/2015	F2672B1 GREGORY L. BECKER	10-15		019916	VO	DEATH BENEFIT	4/22/2015	0.00	3,986.46
025057	CK	4/22/2015	F2758S BARBARA ELLEN HIGGINBOT	10-15		019917	VO	DEATH BENEFIT	4/22/2015	0.00	6,221.86
025058	CK	4/22/2015	F3206B1R MORGAN STANLEY	10-15		019918	VO	ROLLOVER	4/22/2015	0.00	3,819.81
025059	CK	4/22/2015	F5892S CHRISTINE S. HECKERMAN	10-15		019919	VO	DEATH BENEFIT	4/22/2015	0.00	1,530.80
025060	CK	4/22/2015	F6811B1 STEVEN J. STONE	10-15		019920	VO	DEATH BENEFIT	4/22/2015	0.00	5,771.74
025061	CK	4/22/2015	990002 ARTHUR E. GOULET	10-15		019921	VO	MILEAGE REIMB	4/22/2015	0.00	39.10
025062	CK	4/22/2015	ACCESS ACCESS INFORMATION MAN	10-15		019922	VO	ADMIN EXP	4/22/2015	0.00	320.62
025063	CK	4/22/2015	AT&T AT & T MOBILITY	10-15		019923	VO	IT	4/22/2015	0.00	409.05
025064	CK	4/22/2015	BOFA BUSINESS CARD	10-15		019924	VO	ADMIN/PAS/IT	4/22/2015	0.00	1,805.76

Check Nbr	Check Type	Check Date	Vendor ID / Vendor Name	Period To Post	Period Closed	Ref Nbr	Doc Type	Invoice Number	Invoice Date	Discount Taken	Amount Paid
025065	CK	4/22/2015	CORPORATE STAPLES ADVANTAGE	10-15		019925	VO	ADMIN EXP	4/22/2015	0.00	105.28
025066	CK	4/22/2015	INTERGRATE INTEGRATED FIRE & SAFETY	10-15		019926	VO	IT	4/22/2015	0.00	250.00
025067	CK	4/22/2015	MF M.F. DAILY CORPORATION	10-15		019927	VO	ADMIN EXP	4/22/2015	0.00	16,547.53
025068	CK	4/22/2015	SHRED-IT SHRED-IT USA	10-15		019928	VO	ADMIN EXP	4/22/2015	0.00	195.60
025069	CK	4/22/2015	TWC TIME WARNER CABLE	10-15		019929	VO	ADMIN EXP	4/22/2015	0.00	481.97
025070	CK	4/22/2015	VOLT VOLT	10-15		019930	VO	ADMIN EXP	4/22/2015	0.00	1,253.88
025071	CK	4/29/2015	CA SDU CALIFORNIA STATE	10-15		019931	VO	CRT ORDERED PMT	4/29/2015	0.00	1,052.47
025072	CK	4/29/2015	CALPERS CALPERS LONG-TERM	10-15		019932	VO	INSURANCE	4/29/2015	0.00	18,263.04
025073	CK	4/29/2015	CHILD21 OREGON DEPT OF JUSTICE	10-15		019933	VO	CRT ORDERED PMT	4/29/2015	0.00	171.74
025074	CK	4/29/2015	CHILD9 SHERIDA SEGALL	10-15		019934	VO	CRT ORDERED PMT	4/29/2015	0.00	260.00
025075	CK	4/29/2015	CHILD5 STATE DISBURSEMENT UNIT	10-15		019935	VO	CRT ORDERED PMT	4/29/2015	0.00	511.00
025076	CK	4/29/2015	CVMP COUNTY OF VENTURA	10-15		019936	VO	INSURANCE	4/29/2015	0.00	592,793.85
025077	CK	4/29/2015	FTBCA3 FRANCHISE TAX BOARD	10-15		019937	VO	GARNISHMENT	4/29/2015	0.00	137.26
025078	CK	4/29/2015	IRS6 INTERNAL REVENUE SERVIC	10-15		019938	VO	GARNISHMENT	4/29/2015	0.00	321.00

Ventura County Retirement Assn

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Period: 10-15 As of: 5/4/2015

Check Nbr	Check Type	Check Date	Vendor ID / Vendor Name	Period To Post	Period Closed	Ref Nbr	Doc Type	Invoice Number	Invoice Date	Discount Taken	Amount Paid
025079	CK	4/29/2015	IRS7 INTERNAL REVENUE SERVIC	10-15		019939	VO	GARNISHMENT	4/29/2015	0.00	500.00
025080	CK	4/29/2015	REAVC RETIRED EMPLOYEES' ASSC	10-15		019940	VO	DUES	4/29/2015	0.00	4,287.00
025081	CK	4/29/2015	SEIU SEIU LOCAL 721	10-15		019941	VO	DUES	4/29/2015	0.00	355.50
025082	CK	4/29/2015	SPOUSE2 KELLY SEARCY	10-15		019942	VO	CRT ORDERED PMT	4/29/2015	0.00	1,874.00
025083	CK	4/29/2015	SPOUSE3 ANGELINA ORTIZ	10-15		019943	VO	CRT ORDERED PMT	4/29/2015	0.00	250.00
025084	CK	4/29/2015	SPOUSE4 CATHY C. PEET	10-15		019944	VO	CRT ORDERED PMT	4/29/2015	0.00	550.00
025085	CK	4/29/2015	SPOUSE5 SUZANNA CARR	10-15		019945	VO	CRT ORDERED PMT	4/29/2015	0.00	829.00
025086	CK	4/29/2015	SPOUSE6 BARBARA JO GREENE	10-15		019946	VO	CRT ORDERED PMT	4/29/2015	0.00	675.00
025087	CK	4/29/2015	SPOUSE7 MARIA G. SANCHEZ	10-15		019947	VO	CRT ORDERED PMT	4/29/2015	0.00	104.00
025088	CK	4/29/2015	SPOUSE8 DEBBIE ANN BETTIS	10-15		019948	VO	CRT ORDERED PMT	4/29/2015	0.00	1,358.00
025089	CK	4/29/2015	VCDSA VENTURA COUNTY DEPUTY	10-15		019949	VO	INSURANCE	4/29/2015	0.00	248,352.42
025090	CK	4/29/2015	VCPFF VENTURA COUNTY PROFES:	10-15		019950	VO	INSURANCE	4/29/2015	0.00	71,654.74
025091	CK	4/29/2015	VRSD VENTURA REGIONAL	10-15		019951	VO	INSURANCE	4/29/2015	0.00	7,429.61

Ventura County Retirement Assn

Check Register - Standard

Period: 10-15 As of: 5/4/2015

Check Nbr	Check Type	Check Date	Vendor ID / Vendor Name	Period To Post	Period Closed	Ref Nbr	Doc Type	Invoice Number	Invoice Date	Discount Taken	Amount Paid
025092	CK	4/29/2015	VSP VISION SERVICE PLAN - (CA)	10-15		019952	VO	INSURANCE	4/29/2015	0.00	10,247.65

Check Count: 108

Acct Sub Total: **2,620,726.45**

Check Type	Count	Amount Paid
Regular	108	2,620,726.45
Hand	0	0.00
Electronic Payment	0	0.00
Void	0	0.00
Stub	0	0.00
Zero	0	0.00
Mask	0	0.00
Total:	**108**	**2,620,726.45**

Company Disc Total **0.00** **Company Total** **2,620,726.45**

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
BUDGET SUMMARY FISCAL YEAR 2014-2015
April 2015 - 83.33% of Fiscal Year Expended

EXPENDITURE DESCRIPTIONS	Adopted 2014/2015 Budget	Adjusted 2014/2015 Budget	Apr-15	Year to Date Expended	Available Balance	Percent Expended
Salaries & Benefits:						
Salaries	$ 1,842,500.00	$ 1,842,500.00	$ 209,605.77	$ 1,338,328.50	$ 504,171.50	72.64%
Extra-Help	62,600.00	62,600.00	47,274.20	105,213.23	(42,613.23)	168.07%
Overtime	1,000.00	1,000.00	0.00	2,155.44	(1,155.44)	215.54%
Supplemental Payments	59,600.00	59,600.00	6,300.34	40,095.52	19,504.48	67.27%
Vacation Redemption	102,500.00	102,500.00	6,153.74	62,058.08	40,441.92	60.54%
Retirement Contributions	366,000.00	366,000.00	42,080.87	273,869.64	92,130.36	74.83%
OASDI Contributions	115,600.00	115,600.00	13,511.78	83,641.54	31,958.46	72.35%
FICA-Medicare	29,100.00	29,100.00	3,160.00	20,447.33	8,652.67	70.27%
Retiree Health Benefit	13,300.00	13,300.00	1,447.20	18,371.60	(5,071.60)	138.13%
Group Health Insurance	182,100.00	182,100.00	20,196.00	130,607.40	51,492.60	71.72%
Life Insurance/Mgmt	1,100.00	1,100.00	117.64	800.66	299.34	72.79%
Unemployment Insurance	2,300.00	2,300.00	253.25	1,617.66	682.34	70.33%
Management Disability Insurance	4,500.00	4,500.00	1,509.34	7,430.93	(2,930.93)	165.13%
Worker' Compensation Insurance	13,400.00	13,400.00	1,701.61	10,746.50	2,653.50	80.20%
401K Plan Contribution	33,100.00	33,100.00	3,781.17	22,233.82	10,866.18	67.17%
Transfers In	150,700.00	150,700.00	5,188.31	63,076.07	87,623.93	41.86%
Transfers Out	(150,700.00)	(150,700.00)	(5,188.31)	(63,076.07)	(87,623.93)	41.86%
Total Salaries & Benefits	$ 2,828,700.00	$ 2,828,700.00	$ 357,092.91	$ 2,117,617.85	$ 711,082.15	74.86%
Services & Supplies:						
Telecommunication Services - ISF	$ 37,800.00	$ 37,800.00	$ 3,158.12	$ 31,486.09	$ 6,313.91	83.30%
General Insurance - ISF	12,200.00	12,200.00	0.00	6,104.00	6,096.00	50.03%
Office Equipment Maintenance	1,000.00	1,000.00	0.00	539.80	460.20	53.98%
Membership and Dues	9,500.00	9,500.00	0.00	8,359.00	1,141.00	87.99%
Education Allowance	10,000.00	10,000.00	0.00	4,000.00	6,000.00	40.00%
Cost Allocation Charges	(35,400.00)	(35,400.00)	(17,498.00)	(34,996.00)	(404.00)	98.86%
Printing Services - Not ISF	3,000.00	3,000.00	0.00	2,275.47	724.53	75.85%
Books & Publications	2,500.00	2,500.00	373.97	1,930.04	569.96	77.20%
Office Supplies	20,000.00	20,000.00	1,926.87	12,192.60	7,807.40	60.96%
Postage & Express	59,700.00	59,700.00	12,907.25	49,095.13	10,604.87	82.24%
Printing Charges - ISF	10,000.00	10,000.00	5,423.72	15,777.00	(5,777.00)	157.77%
Copy Machine Services - ISF	6,500.00	6,500.00	0.00	1,030.80	5,469.20	15.86%
Board Member Fees	12,000.00	12,000.00	1,600.00	10,000.00	2,000.00	83.33%
Professional Services	1,074,000.00	1,091,500.00	78,505.12	739,563.48	351,936.52	67.76%
Storage Charges	5,500.00	5,500.00	320.62	3,025.80	2,474.20	55.01%
Equipment	0.00	0.00	0.00	8,277.50	(8,277.50)	#DIV/0!
Office Lease Payments	186,000.00	196,700.00	16,547.53	158,449.36	38,250.64	80.55%
Private Vehicle Mileage	9,000.00	9,000.00	879.95	5,454.59	3,545.41	60.61%
Conference, Seminar and Travel	63,000.00	63,000.00	2,003.39	41,162.30	21,837.70	65.34%
Furniture	5,000.00	5,000.00	1,388.28	4,190.48	809.52	83.81%
Facilities Charges	3,900.00	3,900.00	1,384.79	5,334.26	(1,434.26)	136.78%
Transfers In	16,000.00	16,000.00	550.97	6,698.38	9,301.62	41.86%
Transfers Out	(16,000.00)	(16,000.00)	(550.97)	(6,698.38)	(9,301.62)	41.86%
Total Services & Supplies	$ 1,495,200.00	$ 1,523,400.00	$ 108,921.61	$ 1,073,251.70	$ 450,148.30	70.45%
Total Sal, Ben, Serv & Supp	$ 4,323,900.00	$ 4,352,100.00	$ 466,014.52	$ 3,190,869.55	$ 1,161,230.45	73.32%
Technology:						
Computer Hardware	$ 32,600.00	$ 32,600.00	$ 1,783.99	3,972.54	$ 28,627.46	12.19%
Computer Software	193,000.00	193,000.00	149,963.72	198,982.99	(5,982.99)	103.10%
Systems & Application Support	670,200.00	670,200.00	48,435.12	426,724.19	243,475.81	63.67%
Pension Administration System	1,621,400.00	1,972,800.00	158,836.62	1,332,850.45	639,949.55	67.56%
Total Technology	$ 2,517,200.00	$ 2,868,600.00	$ 359,019.45	$ 1,962,530.17	$ 906,069.83	68.41%
Contingency	$ 615,200.00	$ 235,600.00	$ -	$ -	$ 235,600.00	0.00%
Total Current Year	$ 7,456,300.00	$ 7,456,300.00	$ 825,033.97	$ 5,153,399.72	$ 2,302,900.28	69.11%

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
1190 South Victoria Avenue, Suite 200
Ventura, CA 93003-6572
(805) 339-4250 • Fax: (805) 339-4269
http://www.ventura.org/vcera

May 18, 2015

Board of Retirement
Ventura County Employees' Retirement Association
1190 South Victoria Avenue, Suite 200
Ventura, CA 93003

SUBJECT: FINAL APPROVAL OF JUNE 30, 2014 ACTUARIAL VALUATION REPORT WITH CORRECTIONS

Dear Board Members:

On February 23rd, the Board of Retirement approved the June 20, 2014 Actuarial Valuation Report. In late March, we were informed by Segal that they had a correction/revision to page 75 to the chart listing member contribution rates for non-PEPRA Tiers that include a 50/50 sharing of normal cost. As this revision effected member contribution rates, VCERA allowed for another 25-day review period after informing stakeholders of the correction. This period has passed and staff requests formal adoption of the report and contribution rates within it. Page 75 is provided again for your reference; the entire final report is on our public site as well as the actuarial folder in DropBox.

Provided is my written recommendation to the Ventura County Board of Supervisors, dated April 30, 2015 communicating the rates provided in the report for their adoption. This item is scheduled for their May 19th, 2015 meeting.

RECOMMENDATION: ADOPT CORRECTED JUNE 30, 2014 ACTUARIAL VALUATION, RATIFY WRITTEN RECOMMENDATION TO BOARD OF SUPERVISORS DATED APRIL 30, 2015 AND AUTHORIZE THE RETIREMENT ADMINISTRATOR TO FORMALLY RECOMMEND THE CORRESPONDING RATES AT THE BOARD OF SUPERVISORS MEETING ON MAY 19TH.

Sincerely,

Linda Webb

Linda Webb
Retirement Administrator

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
1190 South Victoria Avenue, Suite 200
Ventura, CA 93003-6572
(805) 339-4250 · Fax: (805) 339-4269
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April 30, 2015

Board of Supervisors
County of Ventura
800 S. Victoria Avenue
Ventura, CA 93009

SUBJECT: APPROVAL OF ANNUAL ACTUARIAL VALUATION OF THE VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION (Report on File with Clerk of the Board)

Dear Board Members:

RECOMMENDATION:

Adopt, pursuant to Government Code sections 31453 and 31454, the employer and employee retirement plan contribution rates as detailed in the provided Actuarial Valuation and Review as of June 30, 2014, prepared by Segal Consulting (Study).

FISCAL IMPACTS:

Specific rates for specific member categories are provided on the following page, reflecting the 50/50 sharing of Normal Cost for non-PEPRA tiers. Generally speaking though, for all of active VCERA members before reflecting this sharing, the average employer rate will decrease from 29.03% of payroll to 28.11% of payroll. The average member rate will increase from 8.58% of payroll to 8.61% of payroll. Total annual employer contributions are projected to decrease from $185 million to approximately $182 million based upon a projected total plan compensation payroll of approximately $649 million.

Total annual employer contributions, and the associated employer contribution rates, will decrease for most retirement association member categories; the only increasing employer contribution rates are observed in the General Tier 2 categories with COLA (both legacy and PEPRA).

Annual employee contributions are expected to increase slightly from $54.8 to $55.8 million in the upcoming fiscal year (Study – pages v and 21).

SUMMARY OF RESULTS FROM JUNE 30, 2014, ACTUARIAL VALUATION AND REVIEW:

- VCERA's plan assets earned 18.1% for fiscal year ending June 30, 2014 on a market value basis.
- The investment return on the valuation value of assets in the Study was 8.1% due to the deferral of most of the current year investment gains and recognition of prior year investment gains and losses.
- There were $310 million in net deferred investment gains as of June 30, 2014, compared to $6 million deferred losses as of June 30, 2013.

- VCERA's funded status, the ratio of valuation value of assets to accrued liabilities is 82.7% as of June 30, 2014, an improvement of 3.5% since June 30, 2013.

The following table provides the new ***total*** contribution rates to be adopted for each tier for the fiscal year beginning July 1, 2015. It reflects the normal cost as well as the costs associated with the Unfunded Actuarial Accrued Liability (UAAL) and, for those categories eligible, COLA costs.

2015-2016 CONTRIBUTION RATES (REFLECTING 50/50 COST SHARING FOR LEGACY MEMBERS)			
MEMBER CATEGORY	**TOTAL* EMPLOYER RATE**	**TOTAL* MEMBER RATE**	
		First $350	**Over $350**
General Tier 1 Members	22.61%	6.65%	9.98%
General Tier 2 Members w/o COLA	16.8%	4.81%	7.22%
General Tier 2 Members w/COLA	19.43%	7.44%	9.85%
Safety Members	52.09%	15.35%	15.35%
General PEPRA Tier 2 Members w/o COLA	16.63%	6.92%	
General PEPRA Tier 2 Members w/COLA	19.21%	9.55%	
Safety PEPRA Members	50.30%	14.69%	

*Combines normal cost, UAAL and COLA costs, where applicable.

DISCUSSION:

The investment gain of $310 million indicated above will be recognized in the determination of the actuarial value of assets for funding purposes over the next few years. This net deferred gain represents about 7.3% of the market value of assets.

Last year, directly comparing the June 30, 2013, and June 30, 2012, valuations proved difficult, largely because of the Board of Retirement's decision to "phase-in" costs associated with certain plan economic assumption changes. In this current valuation, the 3-year phase-in is complete. The June 30, 2013 valuation results shown do not include the effect of the phase-in.

The Study was previously provided to the County Executive Office in December for use in developing budget projections in the upcoming fiscal year.

Sincerely,

Linda Webb
Retirement Administrator

c: Michael Powers, County Executive Officer
Leroy Smith, County Counsel
Jeff Burgh, Auditor-Controller

Appendix D
Member Contribution Rates Based on 50/50 Sharing of Normal Cost for Non-PEPRA Tiers

	Basic		COLA		Total	
	First $350	**Over $350**	**First $350**	**Over $350**	**First $350**	**Over $350**
General Tier 1	5.03%	7.54~~7.44~~%	1.62%	2.44~~2.41~~%	6.65%	9.98~~9.85~~%
General Tier 2 without COLA	4.81%	7.22~~7.09~~%	0.00%	0.00%	4.81%	7.22~~7.09~~%
General Tier 2 COLA	4.81%	7.22~~7.09~~%	2.63%[1]	2.63%[1]	7.44%	9.85~~9.72~~%
Safety	10.99%	10.99%	4.36%	4.36%	15.35%	15.35%

[1] *General Tier 2 members with COLA are required to pay COLA contributions of 2.63% of compensation based on current bargaining agreements.*

Segal Consulting

Ventura County Employees' Retirement Association

Actuarial Experience Study

April 20, 2015

Paul Angelo, FSA

John Monroe, ASA

Segal Consulting, San Francisco

Actuarial Assumptions

- Actuarial assumptions – two kinds
  - Demographic
    - When benefits will be payable
    - Amount of benefits
  - Economic
    - How assets grow
    - How salaries increase

Demographic Assumptions

- Rates of “decrement”
  - Termination, mortality, disability, retirement
  - Termination
    - Withdrawal
    - Deferred vested
  - Mortality:
    - Before and after retirement
    - Service connected or not
    - Service, disability, beneficiary
- Percent married
- Member/spouse age difference
- Reciprocity
- Assumptions can be distinct for General and Safety

Economic Assumptions

- Inflation - component, plus COLA
- Investment return
  - Real return
- Salary increases
  - Real wage increases (“across the board”)
  - Merit and promotion (included with demographic assumptions)
- In-Service Redemptions: also “demographic”

Selection of Actuarial Assumptions

- Objective, long term
- Recent experience of future expectations
  - Demographic: recent experience
  - Economic: not necessarily!
- Client specific or not
- Consistency among assumptions
- Desired pattern of cost incidence
  - Good assumptions produce level cost
  - Beware “results based” assumptions!

Always remember

$$C + I = B + E$$

<u>C</u>ontributions + <u>I</u>nvestment Income

equals

<u>B</u>enefit Payments + <u>E</u>xpenses

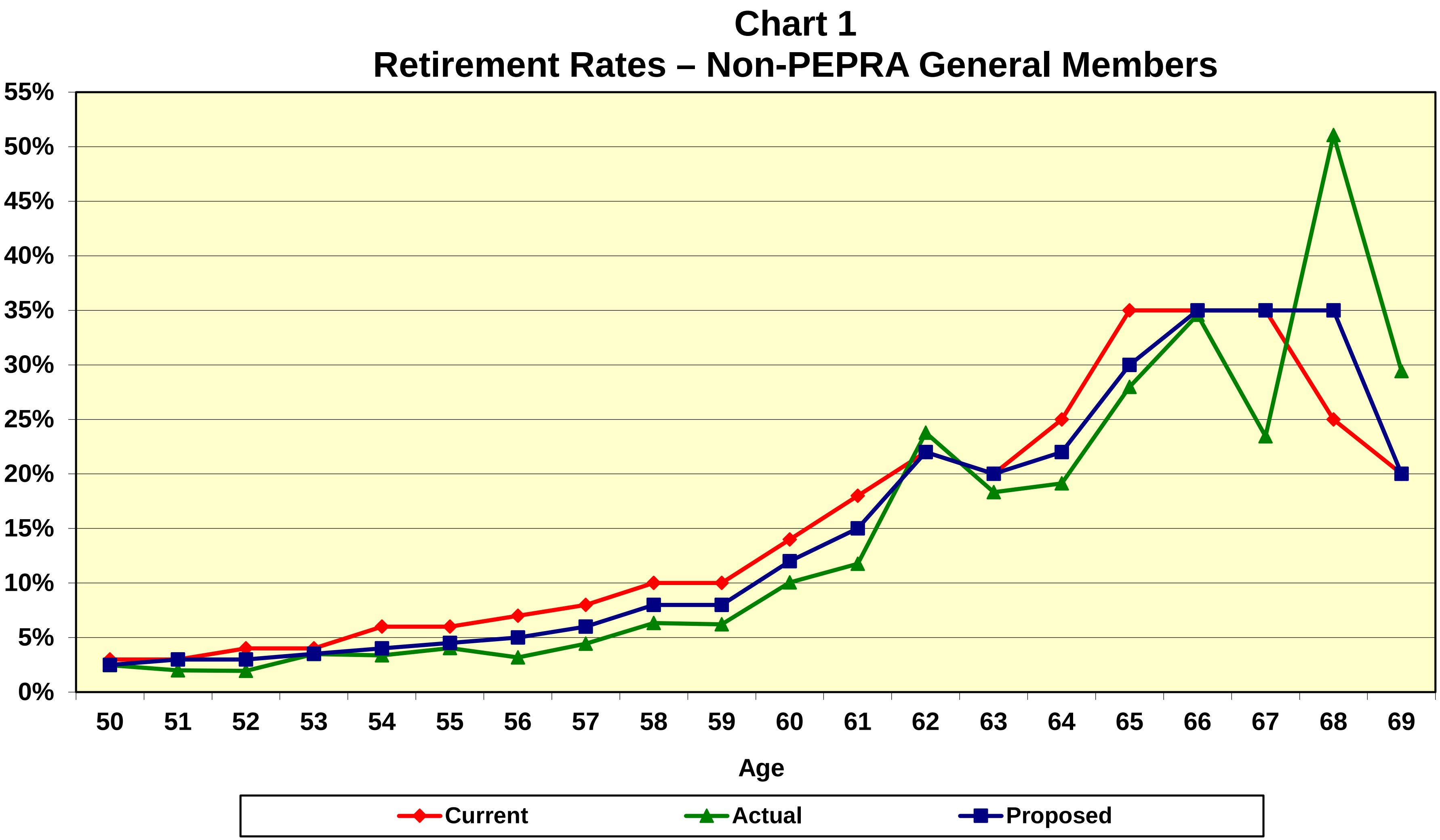
- Actuarial valuation determines the current or "measured" cost, not the ultimate cost
- Assumptions and funding methods affect only the timing of costs

Setting Demographic Assumptions

- To determine rates for each assumption we count the "decrements" and "exposures" for that event
  - Exposures = Number of employees who could have terminated, retired, etc.
  - Decrements = Number of employees who actually terminated, retired, etc.
  - This gives the "actual" decrement rates during the period
- Compare to the "current" assumed rates (or to expected number of decrements based on those current rates)
- Develop "proposed" new assumption based on both "current" assumption and recent "actual" experience
  - Weight the "actual" based on "credibility"

Setting Demographic Assumption – Retirement Rates

- Retirement Rates from Experience Study



Recommendations - Demographic

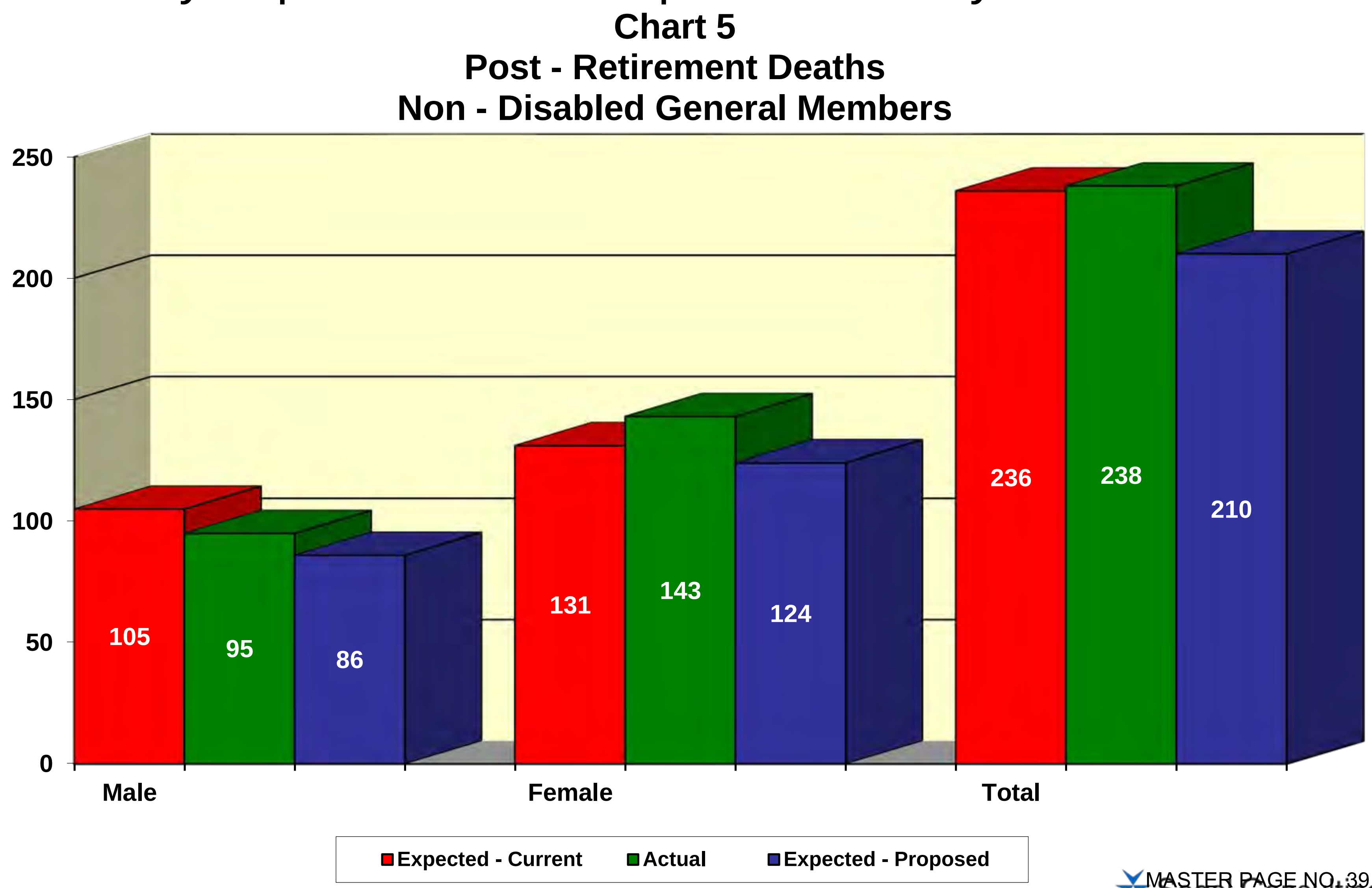
- Retirement rates:
  - Slightly later retirements for both General and Safety
- Termination rates:
  - Change from service/age based to service based
    - Decrease termination rates for both General and Safety
  - Maintain current assumption that member will choose a refund or deferred benefit based on which option is more valuable
- Disability incidence:
  - Decreased for both General and Safety
- In-Service Redemptions:
  - Decreased the assumptions for both non-PEPRA General Tier 1 and non-PEPRA Safety

Setting Demographic Assumptions – Mortality

- Mortality Rates
  - Service retirement – Longer life expectancies
  - Disabled retirement – Longer life expectancies for General and shorter for Safety
  - Preferable to have a margin of around 10%
    - Actual deaths during the study period should be around 10% greater than the expected deaths
  - Can allow for margin using “age setbacks”, mortality improvement scales or both
  - The Society of Actuaries has published scales to estimate future mortality improvements:
    - Scale AA - Has been standard since around 2000
      - Does not accurately reflect recent improvements in mortality
    - Scale BB - Interim standard scale issued in 2012
    - Scale MP-2014 – Issued in October 2014

Setting Demographic Assumptions – Mortality Rates

➢ Mortality Experience from Experience Study



Setting Demographic Assumptions – Mortality

- Two ways to use mortality improvement scales to project future mortality improvements: Static or Generational
- Static projection to a future year - reflect mortality at a future date, not as of today
  - Recommend use of static mortality projection to achieve approximately 10% margin for future mortality improvement
    - RP-2000 with Scale BB projection to 2035
- Future studies might include a recommendation for generational mortality
  - Each future year has its own mortality table that reflects the forecasted improvements at every age
    - Younger participants have more future mortality improvement built in than for older participants
- CalPERS has adopted a static projection

Economic Assumptions

- Price Inflation (CPI):
  - Investment Return, Salary Increases, COLA
- Salary Increases
  - "Across the board" increases (wage inflation)
    - Includes price inflation plus real wage growth
  - Promotional & Merit: based on experience
    - Really is a "demographic" assumption
- Investment Return (Investment Earnings)
  - Components include price inflation, real return, expenses (administrative and/or investment)
  - Generally based on passive returns

Current Economic Assumptions

- Last full review was for 6/30/2012
  - Price inflation (CPI): 3.25%
  - Wage inflation: 4.00%
    - So real wage growth is 0.75%
  - Investment return: 7.75%
    - So net real return is 4.50%

Economic Assumptions - Recommended

- Price inflation (CPI)
  - Decrease from 3.25% to 3.00%
- Salary increases
  - Decrease price inflation from 3.25% to 3.00%
  - Reduce the real wage growth from 0.75% to 0.50%
  - Total wage inflation reduced from 4.00% to 3.50%
  - Merit and promotional: slight increases to rates overall
  - Net impact is a reduction in assumed future salary increases
- Investment return: Decrease from 7.75% to 7.50%
  - Change from net of administrative expenses to gross
- Explicit Administrative Expenses
  - 0.7% of payroll allocated between the employer and member

Economic Assumptions - Recommended

	6/30/2012 Val'n		Recommended	
	Return	Pay	Return	Pay
Price Inflation	3.25%	3.25%	3.00%	3.00%
Real Wages	n/a	0.75%	n/a	0.50%
Merit (16+ years)	n/a	0.50%	n/a	0.50%
Net Real Return	4.50%	n/a	4.50%*	n/a
Total	7.75%	4.50%	7.50%	4.00%

* Recommended return is gross of administrative expense

Price Inflation (CPI)

- Historical Consumer Price Index
  - Median 15-year moving average = 3.4%
  - Median 30-year moving average = 4.1%
- 15-year averages have been declining due to recent low inflation
- NASRA Survey
  - Median inflation assumption is 3.00%
- Social Security Forecast = 2.7%
- Recommend reducing from 3.25% to 3.00%

Salary Increase Assumption - Recommended

- Three components
- Price inflation: decrease from 3.25% to 3.00%
- Real increases: decrease from 0.75% to 0.50%
  - Department of Labor: Annual State and Local Government real productivity increase: 0.5% - 0.7% over 10 - 20 years
- Promotional & Merit: from experience study
  - Based on years of service
  - General: Currently 5.00% (0-1 years) to 0.50% (9+ years)
    - Overall minor increase at most years of service
  - Safety: Currently 8.50% (0-1 years) to 0.50% (16+ years)
    - Overall minor increase at most years of service
- Net reduction in assumed future salary increases

Payroll Growth Assumption

- Active member payroll based on wage inflation
- Includes price inflation and real wage increases
  - Price inflation: reduce from 3.25% to 3.00%
  - Real increases: decrease from 0.75% to 0.50%
  - Total is reduced from 4.00% to 3.50%
- Used to project total payroll for UAAL amortization

Investment Earnings Assumption

- Also called the discount rate
- Used for contribution requirements
- Affects timing of Plan cost
  - Lower assumed rate means higher current cost
  - Ultimately, actual earnings determine cost
    - **C + I = B + E**
  - “Can’t pay benefits with assumed earnings!”

Setting the Earnings Assumption

- Four components
  - Inflation: consistent with salary increase assumption
  - Real returns by asset class
    - Weighted by asset allocation
  - Reduced by assumed expenses
    - Currently both investment and administrative
    - Recommend reflecting only investment expenses, with separate assumption for administrative expenses
  - Reduced by "risk adjustment"
    - Margin for adverse deviation
    - Expressed as confidence level above 50%

VCERA Earnings Assumption

Preview: Components of Preliminary Investment Return Assumption

	Current	Recommended
Assumed Inflation	3.25%	3.00%
Portfolio Real Rate of Return	5.31%	5.26%
Assumed Expenses *	(0.40%)	(0.40%)
Risk Adjustment	(0.41%)	(0.36%)
Assumed Investment Return	7.75%	7.50%
Confidence level	54%	54%

* *Includes both investment and administrative expenses*

When to Change Earnings Assumption?

- Easy: change in asset allocation
- Hard: change in estimated future real returns for asset classes
- Source of data:
  - Investment consultants (industry)
  - Investment consultant (your Fund)
- Actuaries are neither economists nor investment consultants

Real Returns by Asset Class

- Segal uses an average of 9 investment advisory firms retained by Segal public clients
  - Used results from NEPC for asset categories unique to VCERA
- Decrease in real return is due to a combination of:
  - Changes in the target asset allocation (+0.38%)
  - Changes in real return assumptions in survey (-0.33%)

VCERA Real Rate of Return

Asset Class	Target Allocation	Real Return	Weighted Return*
Large Cap U.S. Equity	27.74%	5.90%	1.64%
Small Cap U.S. Equity	3.41%	6.60%	0.23%
Developed Int'l Equity	14.73%	6.95%	1.02%
Emerging Market Equity	3.12%	8.44%	0.26%
U.S. Core Fixed Income	14.00%	0.71%	0.10%
Real Estate	7.00%	4.65%	0.33%
Private Debt/Credit Strategie	5.00%	6.01%	0.30%
Absolute Return (Risk Parity)	16.00%	4.13%	0.66%
Real Assets (MLPs)	4.00%	6.51%	0.26%
Private Equity	5.00%	9.25%	0.46%
Total	100.00%		5.26%

* Results may not add due to rounding

Administrative and Investment Expenses

Administrative and Investment Expenses
as a Percentage of Actuarial Value of Assets
(All dollars in 000's)

FYE	Actuarial Value of Assets	Administrative Expenses	Investment Expenses	Administrative %	Investment %	Total %
2010	$3,134,978	$4,081	$6,256	0.13%	0.20%	0.33%
2011	3,236,217	4,387	7,404	0.14	0.23	0.36
2012	3,411,149	3,505	9,103	0.10	0.27	0.37
2013	3,633,626	3,944	9,901	0.11	0.27	0.38
2014	3,964,814	4,045	12,877	0.10	0.32	0.43
Average				0.12%	0.26%	0.37%

- Based on this experience, we have maintained the future expense component at 0.40% for investment and administrative expenses.

Risk Adjustment Model and Confidence Level

- Compares the Association's risk position over time
- Confidence level is a relative, not absolute measure
  - Can be reevaluated and reset for future comparisons
- Confidence level is based on standard deviation
  - Measure of volatility based on portfolio assumptions
- Results should be evaluated for reasonableness

Risk Adjustment Model and Confidence Level

- Most useful for comparing risk position over time
  - 6/30/2009: 8.00% assumption gave 57% confidence
  - 6/30/2012: 7.75% assumption gave 54% confidence
  - 6/30/2015: 7.50% recommendation still gives confidence level of 54%
  - Maintaining 7.75% assumption would give 51% confidence
    - » Inflation decrease from 3.25% to 3.00%
    - » Portfolio real return down from 5.31% to 5.26%

VCERA Earnings Assumption

Components of Preliminary Investment Return Assumption

	Current	Recommended
Assumed Inflation	3.25%	3.00%
Portfolio Real Rate of Return	5.31%	5.26%
Assumed Expenses *	(0.40%)	(0.40%)
Risk Adjustment	(0.41%)	(0.36%)
Assumed Investment Return	7.75%	7.50%
Confidence level	54%	54%

** Includes both investment and administrative expenses*

Earnings Assumption - 2015

- Comparison with other systems
  - Median is 7.90% but trending down nationwide
  - California public systems – most at 7.25% to 7.50%
  - Orange CERS, Contra Costa CERA, Fresno CERA, Mendocino CERA and San Mateo CERA recently adopted 7.25%

Developing an Investment Return Assumption for use in GASB 67 and 68 Financial Reporting

- For funding, current investment return assumption is net of both investment and administrative expenses
- For financial reporting, GASB 67 and 68 require this assumption to be gross of administrative expense
- Advantages to using same assumption for funding and for financial reporting
  - Take advantage of consistency between new GASB rules and current funding practices
    - Entry Age cost method
    - Discount rate based on expected investment return
  - Consistency of liability and normal cost measures
    - The only difference is in how changes in liability are recognized

Developing an Investment Return Assumption for use in GASB 67 and 68 Financial Reporting

- Complication associated with eliminating administrative expenses from this assumption
- Administrative expense funded implicitly by employer and employees
  - Difficult to precisely reproduce current implicit cost sharing
- Allocate explicit load to employer/employees based on portion of contributions paid by each
  - Employee NC, Employer NC, Employer UAAL payment
- Current implicit method may “overcharge” for admin expenses
  - 0.12% of assets not the same as a 0.12% change in investment return assumption
    - 0.12% of assets is about $5 million annually or 0.7% of payroll
    - 0.12% change in return assumption increases contributions by about $7 million annually or 1.1% of payroll

Developing an Investment Return Assumption for use in GASB 67 and 68 Financial Reporting

- Review: Advantages to using same assumption for funding and for financial reporting
  - Consistency of liability and normal cost measures
- Two ways to do this:
  - Option "A" – Set the investment return assumption for funding on a gross of administrative expenses basis
    - Use same assumption for financial reporting
    - Add and allocate explicit contribution load for admin. expenses
  - Option "B" – Continue to set investment return assumption for funding on a net of administrative expenses basis
    - Use same value for assumption for financial reporting gross of administrative expenses
      - That return is net of administrative expenses for funding
      - Same return is gross of administrative expenses for financial reporting

Option A – Investment Return Assumption for Funding on a Gross of Administrative Expenses Basis

- Same investment return assumption for both funding and financial reporting that is gross of administrative expenses
- Introduce explicit administrative expenses loading of 0.7% of payroll or $5 million annually (allocated 0.55% employer and 0.15% employee)

	Recommended if Used only for Funding	Recommended for both Funding and Financial Reporting
Assumed Inflation	3.00%	3.00%
Portfolio Real Rate of Return	5.26%	5.26%
Assumed Expenses	(0.40%)	(0.28%)
Risk Adjustment	(0.36%)	(0.48%)
Assumed Investment Return	7.50%	7.50%
Confidence level	54%	55%
Administrative Expense Load	Not Applicable	0.70% of pay

Option B – Investment Return Assumption for Funding on a Net of Administrative Expenses Basis

- “Same” investment return assumption for both funding and financial reporting
  - Recommended 7.50% return is net of administrative expenses for funding
  - Recommended 7.50% return is gross of administrative expenses for financial reporting

	Recommended if Used only for Funding	Recommended for Financial Reporting
Assumed Inflation	3.00%	3.00%
Portfolio Real Rate of Return	5.26%	5.26%
Assumed Expenses	(0.40%)	(0.28%)
Risk Adjustment	(0.36%)	(0.48%)
Assumed Investment Return	7.50%	7.50%
Confidence level	54%	55%
Administrative Expense Load	Not Applicable	Not Applicable

Anticipated Impact on Valuation Results

- Modeled as of June 30, 2014 for illustration
- Increase in Actuarial Accrued Liability ($224 million)
- Total increase in average employer rate (3.45% of payroll)
  - Increase in average employer Normal Cost (0.20% of pay)
  - Increase in average employer UAAL rate (2.70% of pay)
  - Portion of explicit administrative expense allocated to employer (0.55% of payroll)
  - Primarily due to updating the mortality table, changing investment return assumption and introducing explicit administrative expense
- Increase in average member rate (0.20% of payroll)
  - Includes explicit administrative expense allocated to member (0.15% of payroll)
- Results are before 50/50 Normal sharing for non-PEPRA tiers
  - 50/50 sharing shifts 0.07% of the cost impact from employer to member

Asset Allocation and Earnings Assumption

- Investment return assumption is based on the asset allocation
  - Asset allocation results from a balance of risk and return, reflecting a plan's tolerance for risk
- Asset allocation is NOT based on the earnings assumption!
  - Earnings assumption is NOT a target, benchmark, hurdle or goal that the allocation seeks to achieve
  - Do not set asset allocation to "chase" your current earnings assumption

Always remember

$$C + I = B + E$$

<u>C</u>ontributions + <u>I</u>nvestment Income

equals

<u>B</u>enefit Payments + <u>E</u>xpenses

- Actuarial valuation determines the current or "measured" cost, not the ultimate cost
- Assumptions and funding methods affect only the timing of costs

Ventura County Employees' Retirement Association

ACTUARIAL EXPERIENCE STUDY

Analysis of Actuarial Experience During the Period July 1, 2011 through June 30, 2014

Segal Consulting

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San Francisco, CA 94104

MARCH 2015

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April 14, 2015

Board of Retirement
Ventura County Employees' Retirement Association
1190 South Victoria Avenue, Suite 200
Ventura, CA 93003-6572

Re: Review of Non-economic Actuarial Assumptions for the June 30, 2015 Actuarial Valuation

Dear Members of the Board:

We are pleased to submit this report of our review of the actuarial experience of the Ventura County Employees' Retirement Association. This study utilizes the census data of the last four actuarial valuations to review plan experience during the period from July 1, 2011 through June 30, 2014. The study develops the proposed actuarial assumptions to be used in future actuarial valuations starting with the June 30, 2015 actuarial valuation.

Please note that we have also reviewed the economic assumptions. The economic actuarial assumption recommendations for the June 30, 2015 valuation are provided in a separate report.

We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

We look forward to reviewing this report with you and answering any questions you may have.

Sincerely,

Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President and Actuary

John W. Monroe, ASA, MAAA, EA
Vice President and Actuary

AW/bqb

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I. INTRODUCTION, SUMMARY, AND RECOMMENDATIONS

To project the cost and liabilities of the pension plan, assumptions are made about all future events that could affect the amount and timing of the benefits to be paid and the assets to be accumulated. Each year actual experience is compared against the projected experience, and to the extent there are differences, the future contribution requirement is adjusted.

If assumptions are modified, contribution requirements are adjusted to take into account a change in the projected experience in all future years. There is a great difference in both philosophy and cost impact between recognizing the actuarial deviations as they occur annually and changing the actuarial assumptions. Taking into account one year's gains or losses without making a change in the assumptions means that that year's experience is treated as temporary and that, over the long run, experience will return to what was originally assumed. Changing assumptions reflects a basic change in thinking about the future, and it has a much greater effect on the current contribution requirements than recognizing gains or losses as they occur.

The use of realistic actuarial assumptions is important in maintaining adequate funding, while paying the promised benefit amounts to participants already retired and to those near retirement. The actuarial assumptions used do not determine the "actual cost" of the plan. The actual cost is determined solely by the benefits and administrative expenses paid out, offset by investment income received. However, it is desirable to estimate as closely as possible what the actual cost will be so as to permit an orderly method for setting aside contributions today to provide benefits in the future, and to maintain equity among generations of participants and taxpayers.

This study was undertaken in order to review the demographic actuarial assumptions and to compare the actual experience with that expected under the current assumptions during the three-year experience period from July 1, 2011 through June 30, 2014. The study was performed in accordance with Actuarial Standard of Practice (ASOP) No. 35, "Selection of Demographic and Other Non-economic Assumptions for Measuring Pension Obligations" and ASOP No. 27 "Selection of Economic Assumptions for Measuring Pension Obligations." These Standards of Practice put forth guidelines for the selection of the various actuarial assumptions utilized in a pension plan actuarial valuation. Based on the study's results and expected future experience, we are recommending various changes in the current actuarial assumptions.

The economic assumptions are currently reviewed every three years at the same time as the non-economic assumptions. See the "Review of Economic Actuarial Assumptions for the June 30, 2015 Actuarial Valuation" that is provided in a separate report.

In this report we are recommending changes in the assumptions for retirement from active employment, percent married at retirement, average entry age for active members, average retirement age for deferred vested members, percent of members assumed to go on to work for a reciprocal system, reciprocal salary increases, pre-retirement mortality, healthy life post-retirement mortality, disabled life post-retirement mortality, turnover, disability (ordinary and duty), promotional and merit salary increases, and in-service redemptions.

Our recommendations for the major actuarial assumption categories are as follows:

Ref: Pg. 5 **Retirement Rates –** The probability of retirement at each age at which participants are eligible to retire.

Recommendation: Adjust the current retirement rates to those developed in Section III(B). Both General and Safety members are assumed to retire at slightly later ages.

Ref: Pg. 15
Pg. 23 **Mortality Rates –** The probability of dying at each age. Mortality rates are used to project life expectancies.

Recommendation: Decrease pre- and post-retirement mortality rates for non-disabled General and Safety members as developed in Section III(C). Increase mortality rates for disabled Safety members and decrease mortality rates for disabled General members as developed in Section III(D).

Ref: Pg. 28 **Termination Rates –** The probability of leaving employment at each age and receiving either a refund of contributions or a deferred vested retirement benefit.

Recommendation: Change the termination rates for both General and Safety members to those developed in Section III(E). Overall, the termination rates have been decreased. In addition, maintain the assumption that a member will choose between a refund of contributions and a deferred vested benefit based on which option is more valuable.

Ref: Pg. 36 **Disability Incidence Rates –** The probability of becoming disabled at each age.

Recommendation: Decrease the current disability rates for General and Safety members to those developed in Section III(F).

Ref: Pg. 41 **Individual Salary Increases –** Increases in the salary of a member between the date of the valuation to the date of separation from active service.

Recommendation: Change the promotional and merit increases to those developed in Section III(G). In general, future promotional and merit salary increases are slightly higher under the new assumptions. Overall, salary increase are slightly lower for both General and Safety members due to the lower price inflation assumption (as recommended in our separate review of economic assumptions).

Ref: Pg. 47 **In-Service Redemptions –** Additional pay elements that are expected to be received during the member's final average earnings period.

Recommendation: Decrease the current in-service redemption assumptions for non-PEPRA General Tier 1 and non-PEPRA Safety to those developed in Section III(H).

Ref: Pg. 48 **Average Entry Age (for member contributions) –** Used for determining contribution rates for members hired after November 1974.

Recommendation: Decrease the current average entry age assumption for General members and maintain the current average entry age assumption for Safety members as developed in Section III(I).

We have estimated the impact of proposed assumption changes as if they were applied to the June 30, 2014 actuarial valuation. Please note that the rates shown below do not reflect the 50/50 sharing of Normal Cost for non-PEPRA Tiers. If all of the proposed demographic assumption changes were implemented, the average employer rate would have increased by 1.57% of compensation. The average member rate would have increased by 0.05% of compensation. Of the various demographic assumption changes, the most significant cost impact is from the mortality assumption change.

If all of the proposed economic assumptions (recommended in a separate report) were implemented (including the proposed change to an explicit administrative expense load), the average employer rate would have increased by 1.88% of compensation and the average member rate would have been increased by 0.15%. Of the various economic assumption changes, the most significant cost impact is from the investment return assumption change from 7.75% net of administrative expenses to 7.50% gross of administrative expenses.

Therefore, the estimated cost impact of all proposed assumption changes (both demographic and economic) is 3.45% of compensation for the average employer rate, where the Normal Cost rate increased by 0.20%, the UAAL amortization rate increased by 2.70% and the explicit administrative expense load is 0.55%. The average member rate would have increased by 0.20% of compensation, including the explicit administrative load of 0.15%. The allocation of the explicit administrative expense load between employers and members is discussed in the economic assumptions report.

Section II provides some background on basic principles and the methodology used for the experience study and for the review of the demographic actuarial assumptions. A detailed discussion of each assumption and reasons for the proposed changes is found in Section III. Section IV shows the cost impact of the proposed assumption changes.

II. BACKGROUND AND METHODOLOGY

In this report, we analyzed the “demographic” or “non-economic” assumptions only. Our analysis of the “economic” assumptions for the June 30, 2015 valuation is provided in a separate report. Demographic assumptions include the probabilities of certain events occurring in the population of members, referred to as “decrements,” e.g., termination from service, disability retirement, service retirement, and death after retirement. We also review the individual salary increases net of inflation (i.e., the promotional and merit assumptions) in this report.

Demographic Assumptions

In order to determine the probability of an event occurring, we examine the “decrements” and “exposures” of that event. For example, taking termination from service, we compare the number of employees who actually terminate in a certain age and/or service category (i.e., the number of “decrements”) with those “who could have terminated” (i.e., the number of “exposures”). For example, if there were 500 active employees in the 20-24 age group at the beginning of the year and 50 of them terminate during the year, we would say the probability of termination in that age group is 50 ÷ 500 or 10%.

The reliability of the resulting probability is highly dependent on both the number of decrements and the number of exposures. For example, if there are only a few people in a high age category at the beginning of the year (number of exposures), we would not lend as much credibility to the probability of termination developed for that age category, especially if it is out of line with the pattern shown for the other age groups. Similarly, if we are considering the death decrement, there may be a large number of exposures in, say, the age 20-24 category, but very few decrements (actual deaths); therefore, we would not be able to rely heavily on the probability developed for that category.

One reason we use several years of experience for such a study is to have more exposures and decrements, and therefore more statistical reliability. Another reason for using several years of data is to smooth out fluctuations that may occur from one year to the next. However, we also calculate the rates on a year-to-year basis to check for any trend that may be developing in the later years.

III. ACTUARIAL ASSUMPTIONS

A. ECONOMIC ASSUMPTIONS

The economic assumptions are currently reviewed every three years at the same time as the non-economic assumptions. See the separate reported titled "Review of Economic Actuarial Assumptions for the June 30, 2015 Actuarial Valuation".

B. RETIREMENT RATES

The age at which a member retires from service (i.e., who did not retire on a disability pension) will affect both the amount of the benefits that will be paid to that member as well as the period over which funding must take place.

The table on the following page shows the observed service retirement rates for non-PEPRA General members based on the actual experience over the past three years. The observed service retirement rates were determined by comparing those members who actually retired from service to those eligible to retire from service. This same methodology is followed throughout this report and was described in Section II. Also shown are the current assumed rates and the rates we propose:

Non-PEPRA General Tiers

Age	Current Rate of Retirement	Actual Rate of Retirement	Proposed Rate of Retirement
Under 50	0.00%	66.67%	0.00%
50	3.00	2.46	2.50
51	3.00	1.93	2.50
52	4.00	1.94	3.00
53	4.00	3.49	3.50
54	6.00	3.38	4.00
55	6.00	4.02	4.50
56	7.00	3.17	5.00
57	8.00	4.44	6.00
58	10.00	6.34	8.00
59	10.00	6.21	8.00
60	14.00	10.06	12.00
61	18.00	11.76	15.00
62	22.00	23.77	22.00
63	20.00	18.33	20.00
64	25.00	19.14	22.00
65	35.00	27.97	30.00
66	35.00	34.58	35.00
67	35.00	23.44	35.00
68	25.00	51.06	35.00
69	20.00	29.41	20.00
70	20.00	27.27	20.00
71	20.00	14.71	20.00
72	20.00	13.64	20.00
73	20.00	7.14	20.00
74	40.00	0.00	30.00
75 & Over	100.00	16.00	100.00

As shown above, we are recommending decreases in most of the retirement rates for non-PEPRA General members.

Chart 1 that follows later in this section compares actual experience with the current and proposed rates of retirement for non-PEPRA General members.

The following table shows the observed retirement rates for non-PEPRA Safety members over the past three years. Also shown are the current assumed rates and the rates we propose:

Non-PEPRA Safety Tiers

Age	Current Rate of Retirement	Actual Rate of Retirement	Proposed Rate of Retirement
Under 40	0.00%	0.00%	0.00%
40	1.00	50.00	1.00
41	1.00	0.00	1.00
42	1.00	4.00	1.00
43	1.00	2.86	1.00
44	1.00	0.00	1.00
45	1.00	0.00	1.00
46	1.00	0.00	1.00
47	1.00	0.00	1.00
48	1.00	0.00	1.00
49	1.00	2.56	1.50
50	2.00	3.36	2.50
51	2.00	1.64	2.00
52	4.00	1.61	3.00
53	6.00	1.92	4.00
54	18.00	16.35	17.00
55	25.00	16.84	22.00
56	20.00	25.00	22.00
57	20.00	21.28	20.00
58	18.00	21.88	19.00
59	25.00	19.35	22.00
60	25.00	18.18	22.00
61	30.00	21.43	25.00
62	40.00	36.36	35.00
63	50.00	16.67	40.00
64	50.00	14.29	40.00
65 & Over	100.00	100.00	100.00

Overall, we are recommending decreases in the retirement rates for non-PEPRA Safety members.

Chart 2 compares actual experience with the current and proposed rates for non-PEPRA Safety members.

Note that effective January 1, 2013, new PEPRA formulas were implemented for PEPRA General and PEPRA Safety Tiers. For these new tiers we do not have any experience from the past three years to propose new rates based on actual retirements from members of those tiers. However, we have recommended changes to the retirement assumptions at some ages for PEPRA members based on our recommended assumptions for non-PEPRA members.

The following are the current and proposed rates of retirement for PEPRA General and Safety members:

General and Safety PEPRA Tiers

Age	Current General PEPRA Tiers	Proposed General PEPRA Tiers	Current Safety PEPRA Tiers	Proposed Safety PEPRA Tiers
50	0.00%	0.00%	4.00%	5.00%
51	0.00	0.00	2.00	2.00
52	2.00	2.00	5.00	4.00
53	2.00	2.00	8.00	6.00
54	3.00	2.50	18.00	16.00
55	5.00	4.00	20.00	20.00
56	5.00	4.50	20.00	20.00
57	6.00	5.00	18.00	18.00
58	7.00	6.00	18.00	18.00
59	8.00	7.00	30.00	25.00
60	10.00	9.00	30.00	25.00
61	12.50	11.00	30.00	25.00
62	20.00	20.00	50.00	40.00
63	20.00	20.00	50.00	40.00
64	20.00	18.00	50.00	40.00
65	25.00	20.00	100.00	100.00
66	30.00	30.00	100.00	100.00
67	30.00	30.00	100.00	100.00
68	30.00	30.00	100.00	100.00
69	30.00	30.00	100.00	100.00
70	50.00	50.00	100.00	100.00
71	50.00	50.00	100.00	100.00
72	50.00	50.00	100.00	100.00
73	50.00	50.00	100.00	100.00
74	50.00	50.00	100.00	100.00
75 & Over	100.00	100.00	100.00	100.00

Chart 3 compares the current rates with the proposed rates of retirement for PEPRA General members.

Chart 4 compares the current rates with the proposed rates of retirement for PEPRA Safety members.

Deferred Vested Members

In prior valuations, deferred vested General and Safety members were assumed to retire at age 58 and 54, respectively. The average age at retirement over the prior three years was 59 for General and 54 for Safety. We recommend increasing the General assumption to age 59 and maintaining the Safety assumption at age 54.

Reciprocity

It was also assumed that 50% of inactive General and 65% of inactive Safety deferred vested participants would be covered under a reciprocal retirement system and receive 4.50% annual salary increases from termination until their date of retirement. As of June 30, 2014, about 52% of the total General deferred vested members and 63% of the total Safety deferred vested members have gone on to be covered by a reciprocal retirement system. As a result, we recommend maintaining the reciprocal assumption at 50% for General members and decreasing the assumption to 60% for Safety members. This recommendation takes into account the experience of all deferred vested members as of June 30, 2014 instead of just new deferred vested members during the three-year period. This is because there is a lag between a member's date of termination and the time that it is known if they have reciprocity with a reciprocal retirement system.

Based on our recommended salary increase assumptions, we propose that the current 4.50% annual salary increase assumption for reciprocal members be reduced from 4.50% to 4.00% to anticipate salary increases from termination from VCERA to the expected date of retirement.

Survivor Continuance Under Unmodified Option

In prior valuations, it was assumed that 70% of all active male members and 50% of all active female members would be married or have an eligible domestic partner when they retired. We reviewed experience for new retirees during the three-year period and determined the actual percentage of these new retirees that had an eligible spouse or eligible domestic partner at the time of retirement. The results of that analysis are shown below.

New Retirees – Actual Percent with Eligible Spouse or Domestic Partner

Year Ending June 30	Male	Female
2012	71%	55%
2013	64%	52%
2014	53%	58%
Total	63%	55%

According to experience of members who retired during the last three years, about 63% of all male members and 55% of all female members were married or had a domestic partner at retirement. However, we note that the 2014 percentage for males of 53% appears to be unusually low. We recommend maintaining the assumption at 70% for male members and increasing the assumption to 55% for female members.

Since the value of the survivor's benefit is dependent on the survivor's age and sex, we must also have assumptions for the age and sex of the survivor. Based on the experience during the three-year period and studies done for other retirement systems, we believe that it is reasonable to continue to assume a three-year age difference for the survivors age as compared to the member's age.

Since the majority of survivors are expected to be of the opposite sex, even with the inclusion of domestic partners, we will continue to assume that the survivor's sex is the opposite of the member.

The proposed assumption for the age of the survivor and recommended assumption are shown below. These assumptions will continue to be monitored in future experience studies.

Survivor Ages – Current Assumptions

	Survivor's Age as Compared to Member's Age	
Beneficiary Sex	Current Assumption	Recommended Assumption
Male	3 years older	No change
Female	3 years younger	No change

Chart 1
Retirement Rates - Non-PEPRA General Members

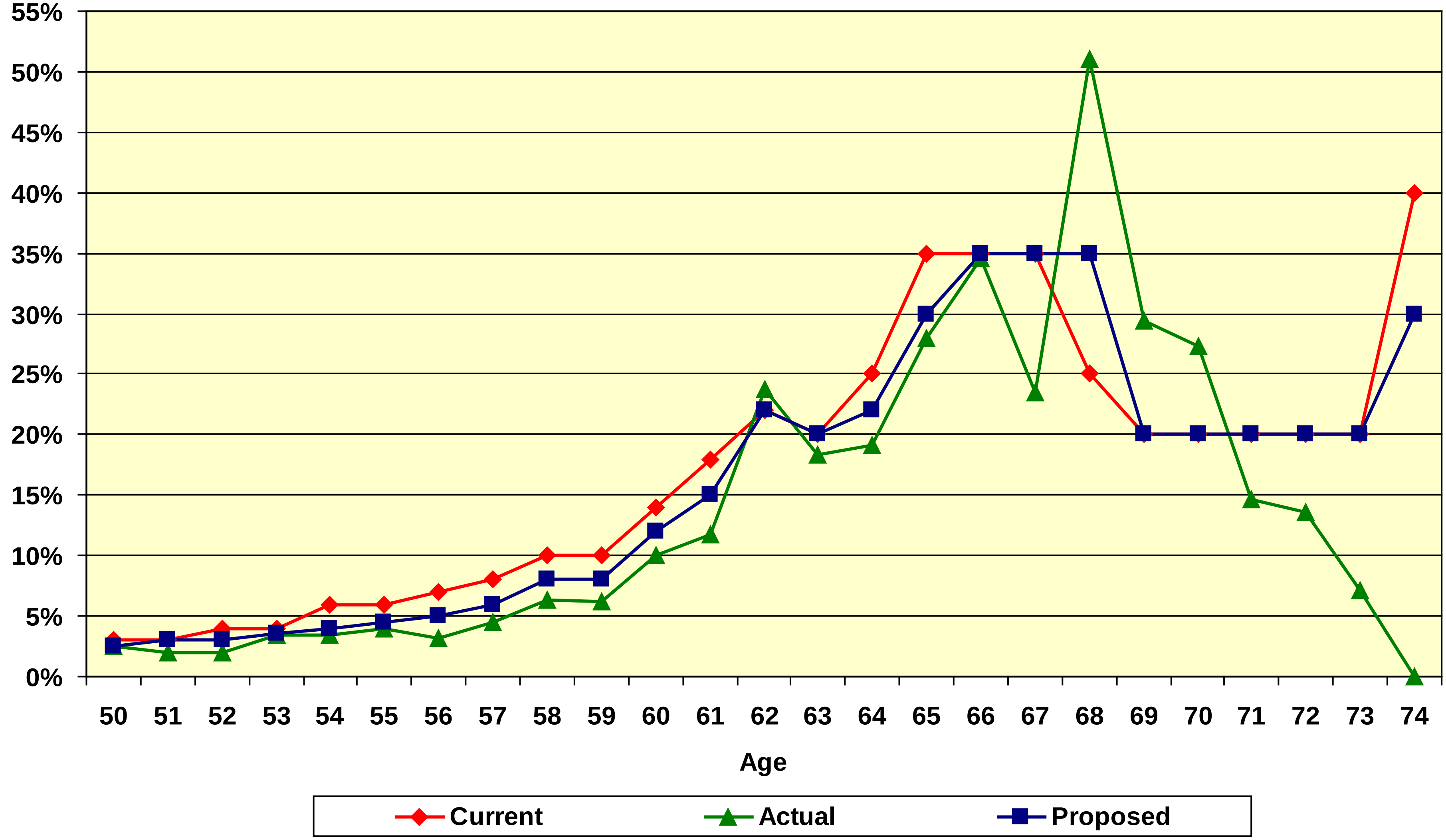


Chart 2
Retirement Rates - Non-PEPRA Safety Members

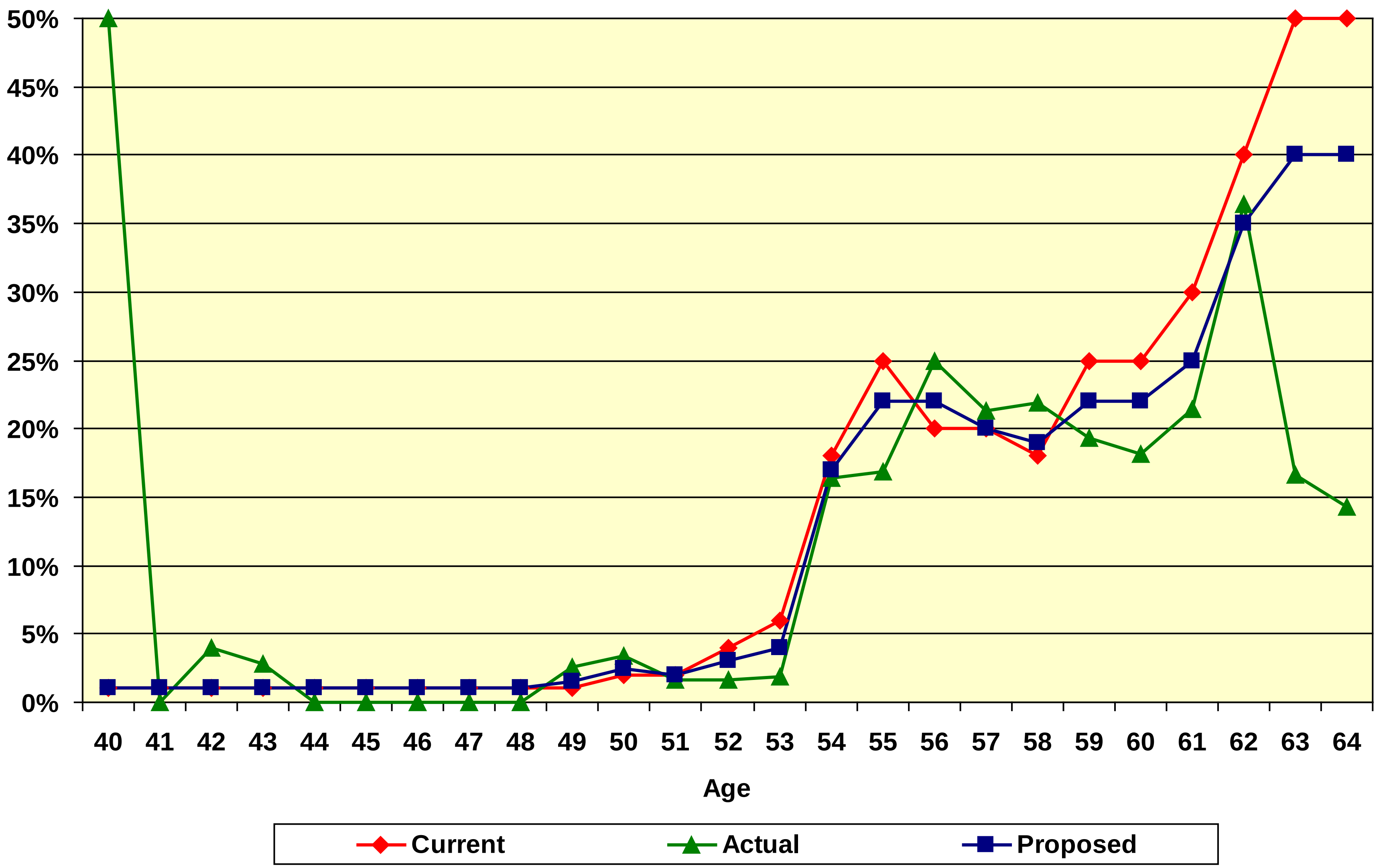


Chart 3
Retirement Rates - PEPRA General Members

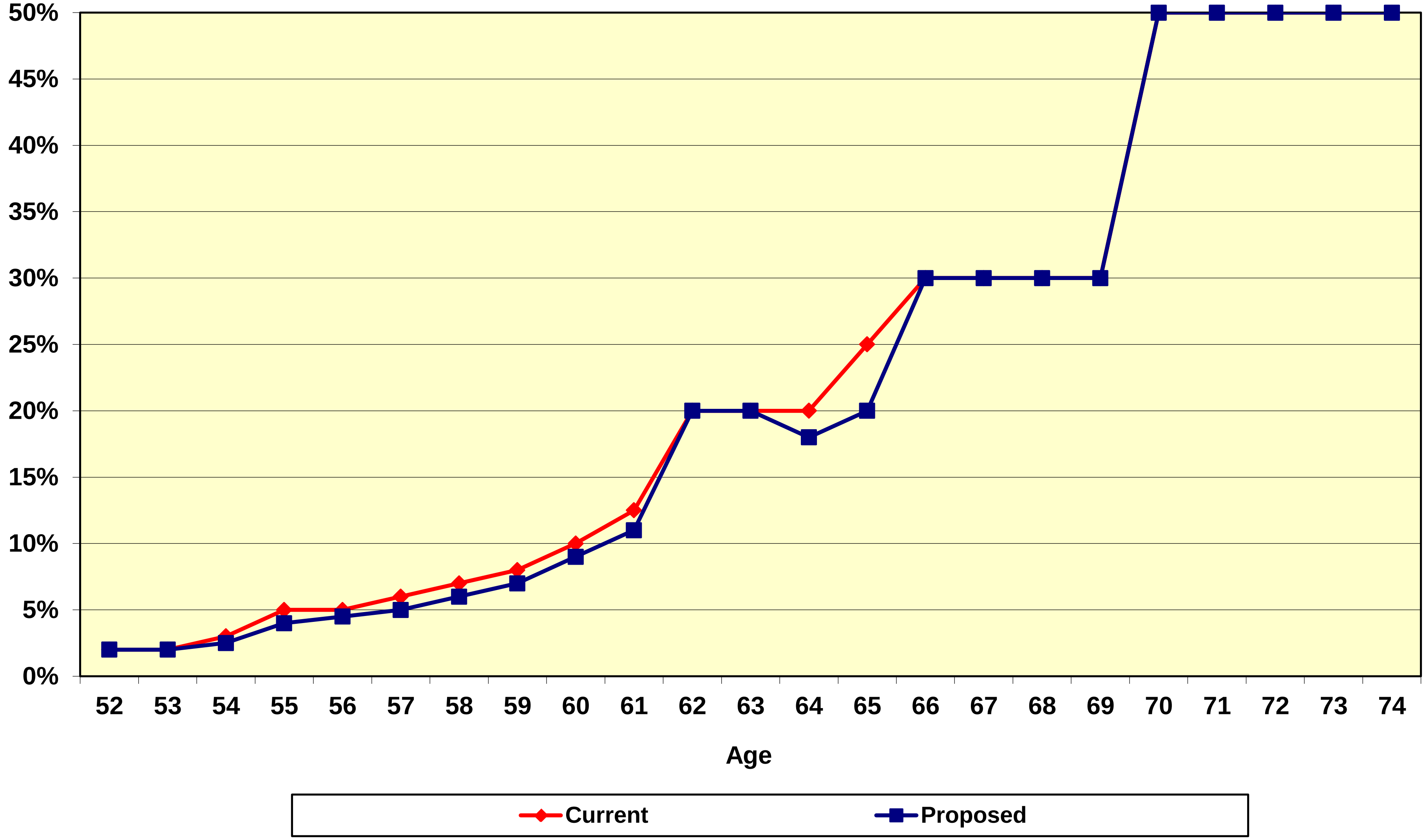
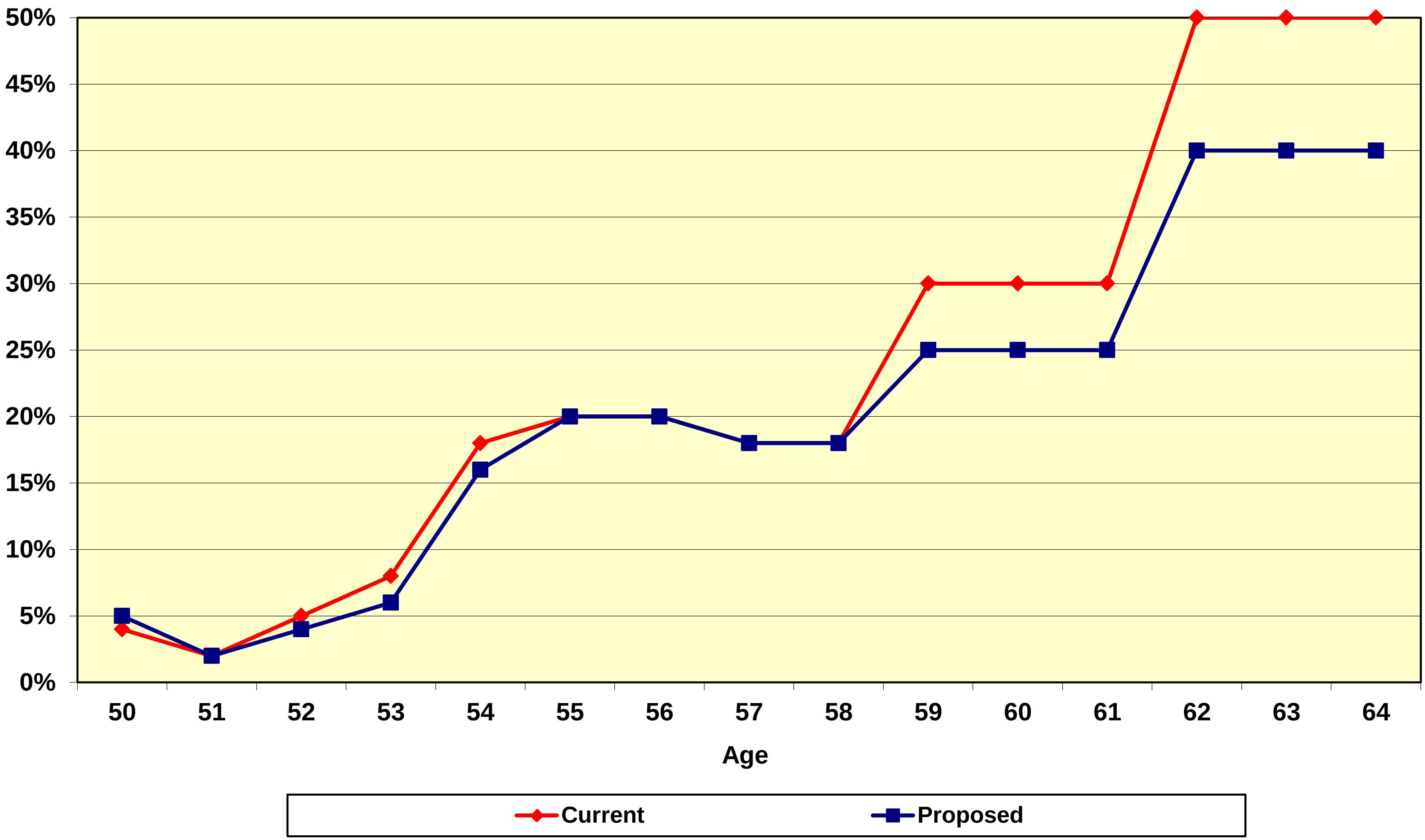


Chart 4
Retirement Rates - PEPRA Safety Members



C. MORTALITY RATES - HEALTHY

The "healthy" mortality rates project what proportion of members will die before retirement as well as the life expectancy of a member who retires from service (i.e., who did not retire on a disability pension). The table currently being used for both General and Safety post-service retirement mortality rates is the RP-2000 Combined Healthy Mortality Table (separate tables for males and females) projected with Scale AA to 2025 with ages set back one year. Beneficiaries are assumed to have the same mortality of a General member of the opposite sex who has taken a service (non-disability) retirement.

Recent changes to ASOP 35 have increased the actuary's responsibility to reflect and to disclose an allowance for future mortality improvement in this assumption. Ways to reflect anticipated future mortality improvement include:

- Age adjustments – A standard table is used without projection but with age adjustments ("set back" or "set forward") chosen as to forecast fewer deaths than the current experience level, thus implicitly allowing for future mortality improvement.
- Projection to a future year – The same mortality table is used for future years, but that table is intended to be reflective of mortality at some particular future year, not as of the current year.
- Generational mortality – Each future year has its own mortality table that reflects the forecasted improvements. In effect, this means that younger participants have more future mortality improvement built in than older participants do.

Historically, we have used age adjustments, but in the previous study we also included a projection to a future year when setting mortality assumptions for VCERA. In particular, the RP-2000 Combined Healthy Mortality Table was projected to the year 2025 and then we applied an age adjustment similar to the one described in the first bullet so that actual deaths would be at least 10% greater than those assumed.

<u>Pre-Retirement Mortality</u>

The number of deaths among active and deferred vested members is not large enough to provide a statistically credible basis for a specific pre-retirement mortality analysis. Therefore, we continue to propose that pre-retirement mortality follow the same tables used for post-retirement mortality. In addition, based on experience from the last three years of 23 total deaths, none were due to service connected (duty) causes. For that reason, we recommend maintaining the current assumption that all pre-retirement deaths are assumed to be ordinary (non-duty) based on recent data.

Post-Retirement Mortality (Service Retirements)

Our analysis starts with a table that shows among all service retired members, the actual deaths compared to the expected deaths under the current assumptions for the last three years. We also show the deaths under proposed assumptions based on using a methodology generally consistent with prior years. As noted above, in prior years we have generally set the mortality assumption so that actual deaths will be at least 10% greater than those assumed. We are recommending continuation of that methodology in this experience study. However, as discussed later in this section, the Board should be aware that a future recommendation may include the use of a generational mortality table.

	General – Healthy			**Safety – Healthy**		
	Current Expected Deaths	Actual Deaths	Proposed Expected Deaths	Current Expected Deaths	Actual Deaths	Proposed Expected Deaths
Male	106	95	86	21	15	15
Female	131	143	124	1	1	1
Total	237	238	210	22	16	16
Actual / Expected	100%		113%	73%		100%

Chart 5 compares actual to expected deaths for General members under the current and proposed assumptions over the last three years. Experience shows that there was one more death than predicted by the current table.

Chart 6 has the same comparison for Safety members. Experience shows that there were fewer deaths than predicted by the current table.

For General service retirees the ratio of actual to expected deaths was 100%. We recommend changing the current table to the RP-2000 Combined Healthy Mortality Table (separate tables for males and females) projected with Scale BB to 2035 with ages set back one year for males and set forward one year for females. This will bring the actual to expected ratio to 113%. This is consistent with ASOP 35 as we are continuing to include about a 10% margin in the rates to anticipate expected future improvement in life expectancy.

For Safety service retirees the ratio of actual to expected deaths was 73%. We recommend changing the current table to the RP-2000 Combined Healthy Mortality Table (separate tables for males and females) projected with Scale BB to 2035 with ages set back three years for both males and females. This will bring the actual to expected ratio to 100%. The aggregate actual to expected ratio is 112% when combining with General members. We will continue to closely monitor this assumption in future studies.

Chart 7 shows the life expectancies (i.e., expected future lifetime) under the current and the proposed tables for General members.

Chart 8 shows the same information for Safety members.

As mentioned earlier, we want to make the Board aware that a future recommendation might be for the use of a generational mortality table. While the use of generational mortality tables is under considerable discussion as an emerging practice within the actuarial profession, to date it is still uncommon for public sector retirement plans to actually use a generational mortality table. However, we anticipate that actuarial practice will continue to move in this direction, for reasons we will now discuss.

A generational mortality table provides dynamic projections of mortality experience for each cohort of retirees. For example, the mortality rate for someone who is 65 next year will be slightly less than for someone who is 65 this year. In general, using generational mortality anticipates increases in the cost of the Plan over time as participants' life expectancies are projected to increase. This is in contrast to updating a static mortality assumption with each experience study as we have proposed in this and prior experience studies.

Using generational mortality rather than static mortality incorporates a more explicit assumption for future mortality improvement. Accordingly, the goal is to start with a mortality table that closely matches the current experience (without a margin for future mortality improvement), and then reflect mortality improvement by projecting lower mortality rates in future years. That is why, for an illustrative generational mortality table that we developed for the Plan, the current actual to expected ratio shown in the tables below is only around 100%. In future years these ratios would remain around 100%, as long as actual mortality improved at the same rates as anticipated in the generational mortality tables.

	General – Healthy			**Safety – Healthy**		
	Expected Deaths	Actual Deaths	Proposed Expected Deaths*	Expected Deaths	Actual Deaths	Proposed Expected Deaths**
Male	106	95	93	21	15	16
Female	131	143	143	1	1	1
Total	237	238	236	22	16	17
Actual / Expected	100%		101%	73%		94%

* *For illustration purposes only and shown for the RP-2000 Combined Healthy Mortality Table projected to 2013 (middle year of the experience study period) with Scale BB, with age set back three years for males and no age set back for females.*

** *For illustration purposes only and shown for the RP-2000 Combined Healthy Mortality Table projected to 2013 (middle year of the experience study period) with Scale BB, with ages set back five years for males and females.*

Note that using generational mortality increases current liabilities and costs more than using static mortality but should result in fewer changes (and cost increases) in later years. For example, the generational mortality table developed above would increase the total (employer and member) contribution rate by about 1.5% of compensation more than the updated static table that we are recommending.[1]

Note that there are currently unresolved issues regarding how generational mortality tables would be used in determining member contribution rates, optional forms of payments and reserve values. These issues would need to be addressed for VCERA before using a generational mortality table.

Mortality Table for Member Contributions

We recommend that the mortality table used for determining contributions for General members be changed from RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set back one year weighted 35% male and 65% female to the RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set back one year for males and set forward one year for females weighted one-third male and two-third female. This is based on the proposed valuation mortality table for General members and the actual sex distribution of General members.

For Safety members, we recommend the mortality table be changed from the RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set back one year weighted 80% male and 20% female to the RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set back three years weighted 80% male and 20% female. This is based on the proposed valuation mortality table for Safety members and the actual sex distribution of Safety members.

1 These cost increases reflect the hypothetical adoption of generational mortality for both healthy and disabled retirees.

Chart 5
Post - Retirement Deaths
Non - Disabled General Members

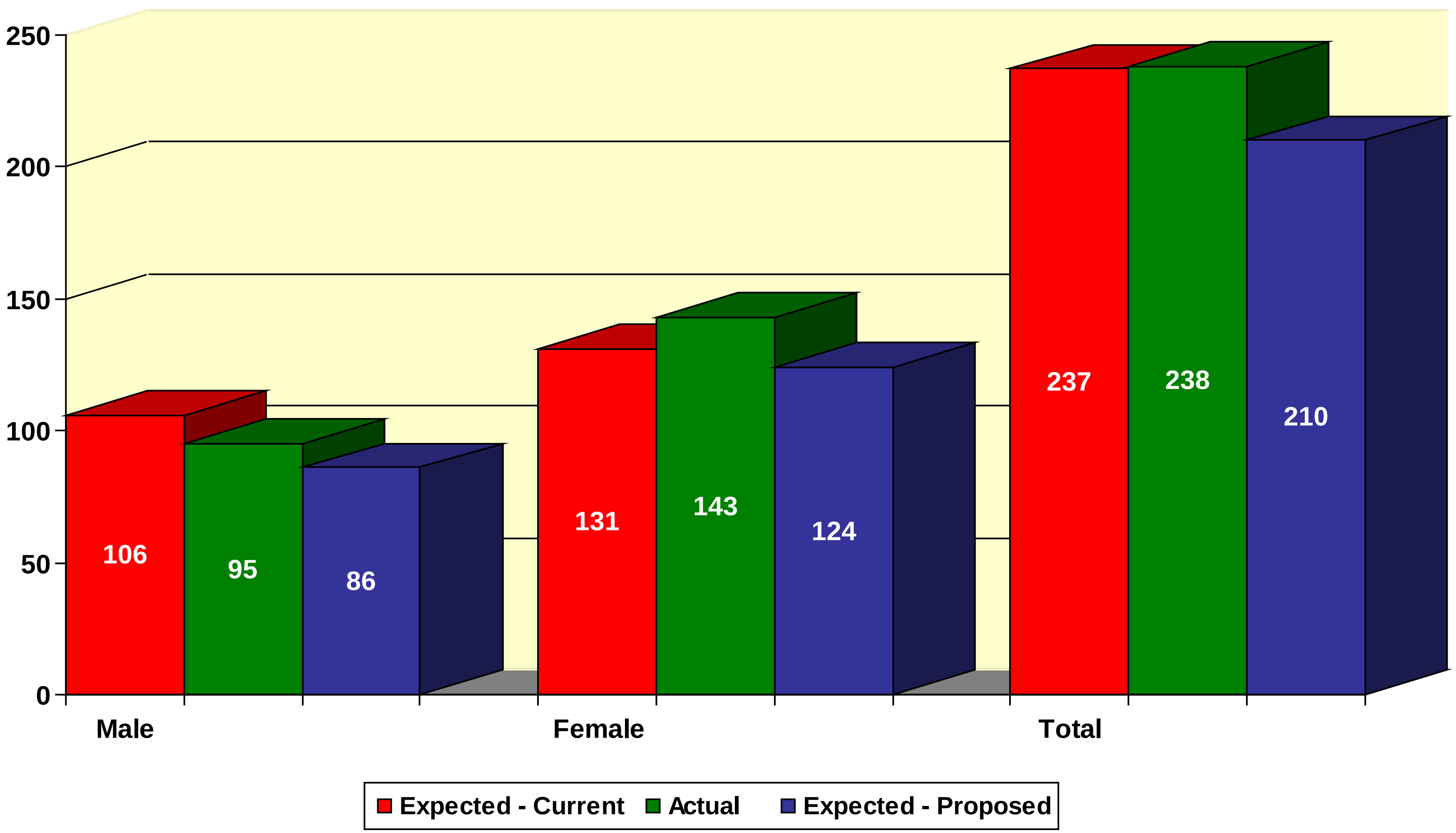


Chart 6
Post - Retirement Deaths
Non - Disabled Safety Members

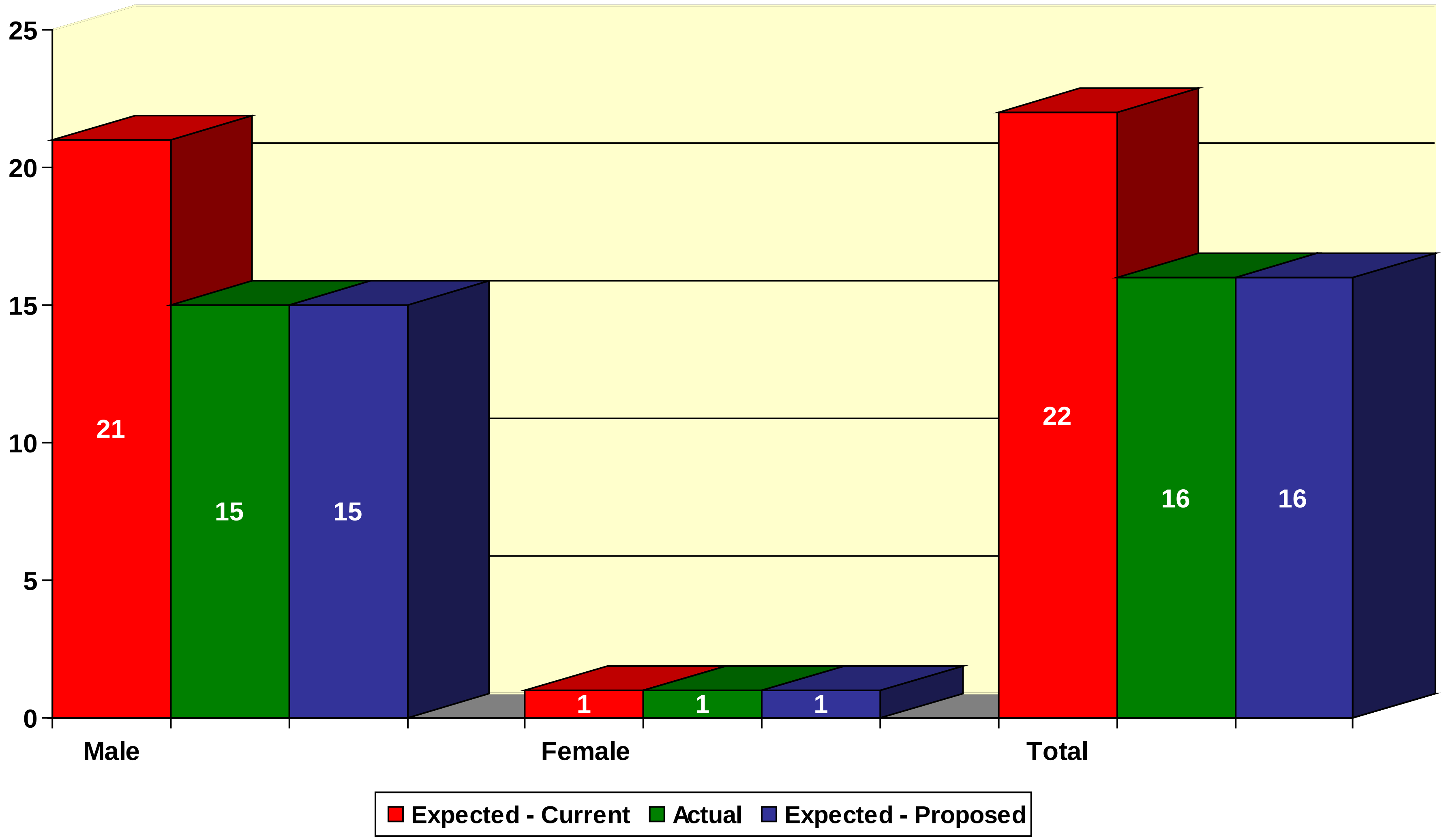


Chart 7
Life Expectancies
Non - Disabled General Members

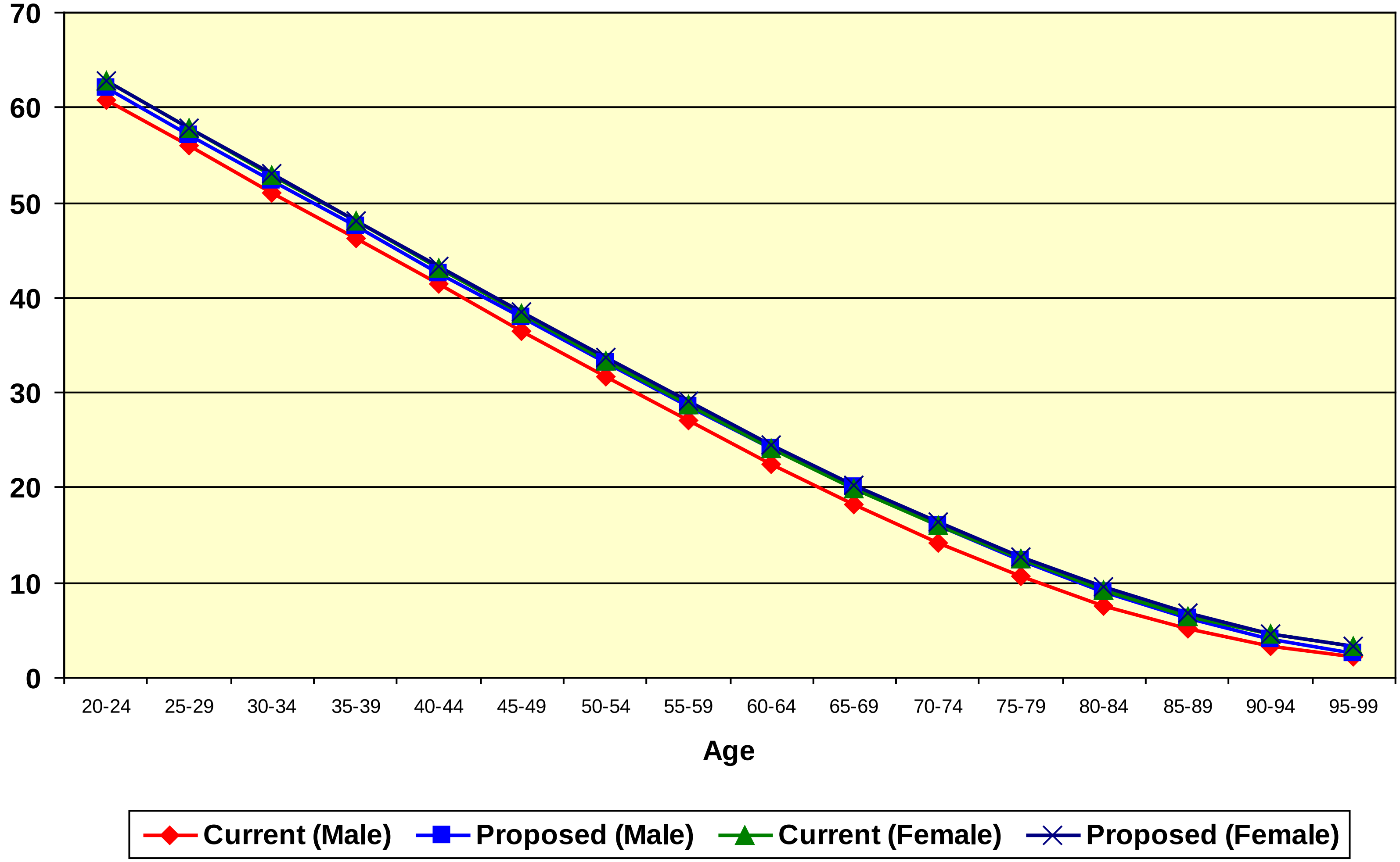
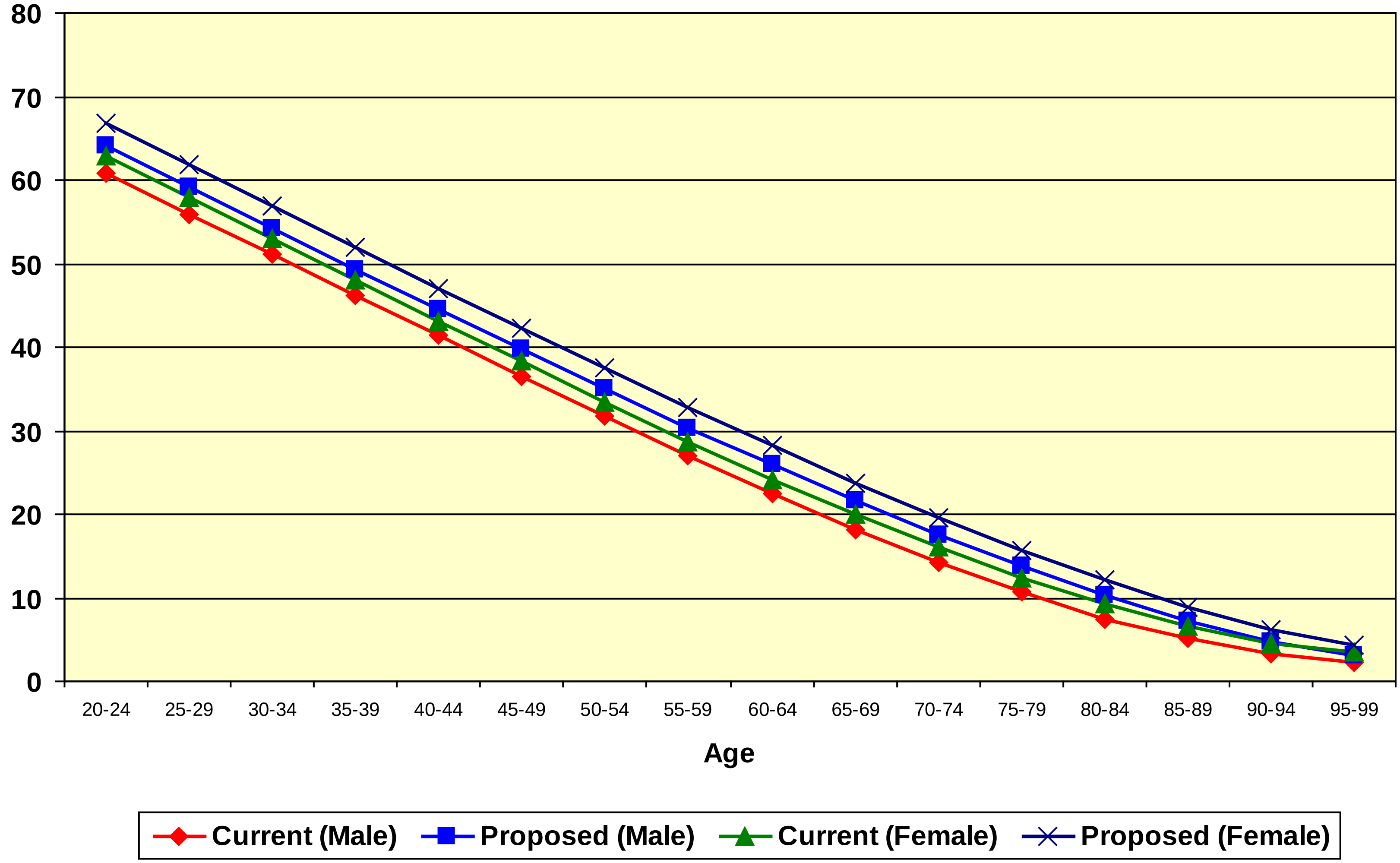


Chart 8
Life Expectancies
Non - Disabled Safety Members



D. MORTALITY RATES - DISABLED

Since mortality rates for disabled members can vary from those of healthy members, a different mortality assumption is often used. For General members, the table currently being used is the RP-2000 Combined Healthy Mortality Table (separate tables for males and females) projected with Scale AA to 2025 with ages set forward five years for males and seven years for females. For Safety members, the table currently being used is the RP-2000 Combined Healthy Mortality Table (separate tables for males and females) projected with Scale AA to 2025 with ages set back one year for both males and females.

The number of actual deaths compared to the number expected for the last three years has been as follows:

	General – Disabled			**Safety – Disabled**		
	Current Expected Deaths	Actual Deaths	Proposed Expected Deaths	Current Expected Deaths	Actual Deaths	Proposed Expected Deaths
Male	17	17	16	13	19	15
Female	26	26	23	1	1	1
Total	43	43	39	14	20	16
Actual / Expected	100%		110%	143%		125%

Based on this experience, we recommend that the mortality table for General members be changed to the RP-2000 Combined Healthy Mortality Table (separate tables for males and females) projected with Scale BB to 2035 with ages set forward six years for males and set forward eight years for females. We recommend that the mortality table for Safety members be changed to the RP-2000 Combined Table (separate tables for males and females) projected with Scale BB to 2035 with ages set forward two years.

Chart 9 compares actual to expected deaths under both the current and proposed assumptions for disabled General members over the last three years. Experience shows that there were exactly the same number of deaths as predicted by the current table. Our recommendation for General members incorporates a margin for future mortality improvement.

Chart 10 has the same comparison for Safety members. Although experience shows that there were more deaths than predicted by the current table, our recommendation for Safety members still incorporates a reduced but sufficient margin for future mortality improvement.

Chart 11 shows the life expectancies under both the current and proposed tables for General members.

Chart 12 shows the same information for Safety members.

Chart 9
Post - Retirement Deaths
Disabled General Members

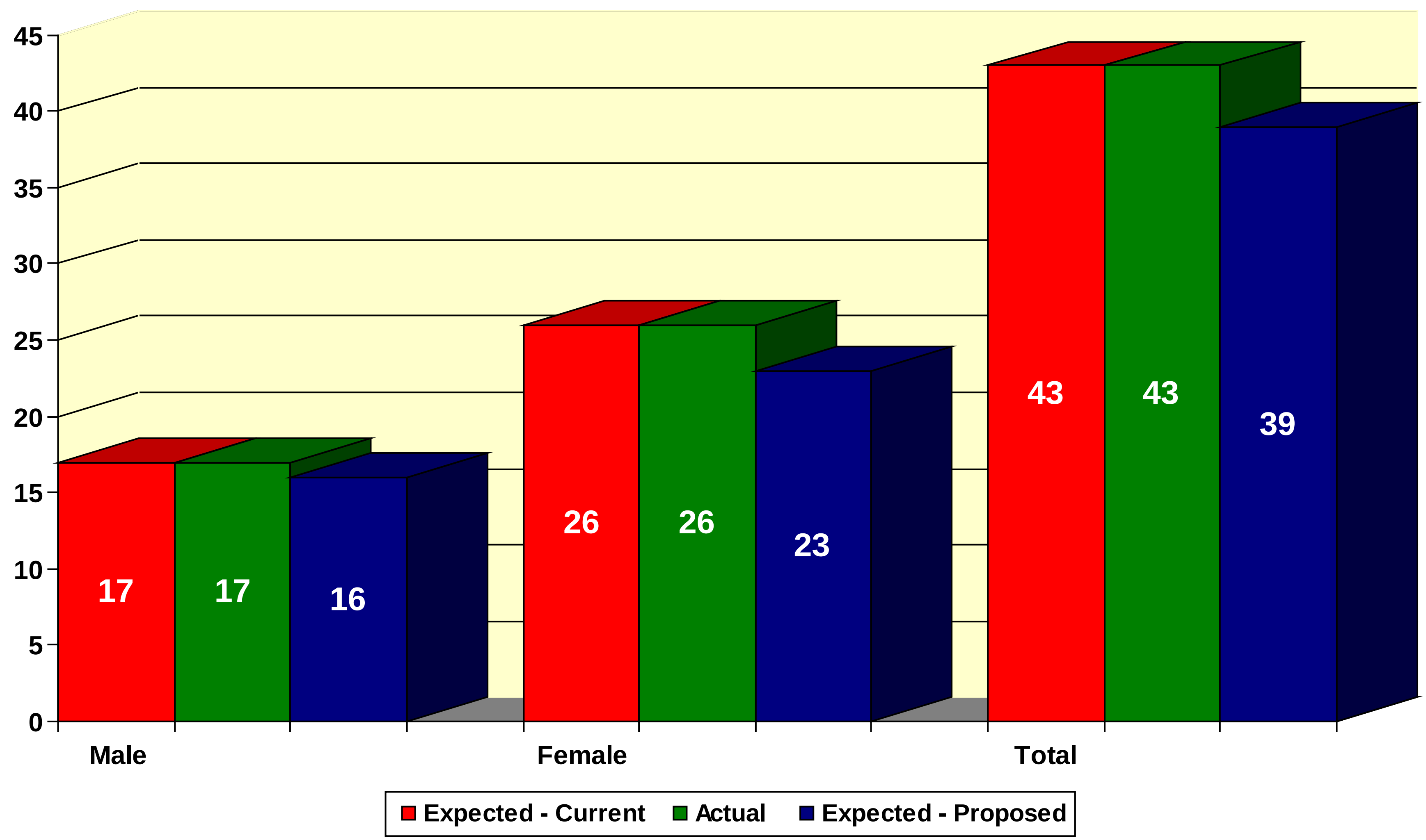


Chart 10
Post - Retirement Deaths
Disabled Safety Members

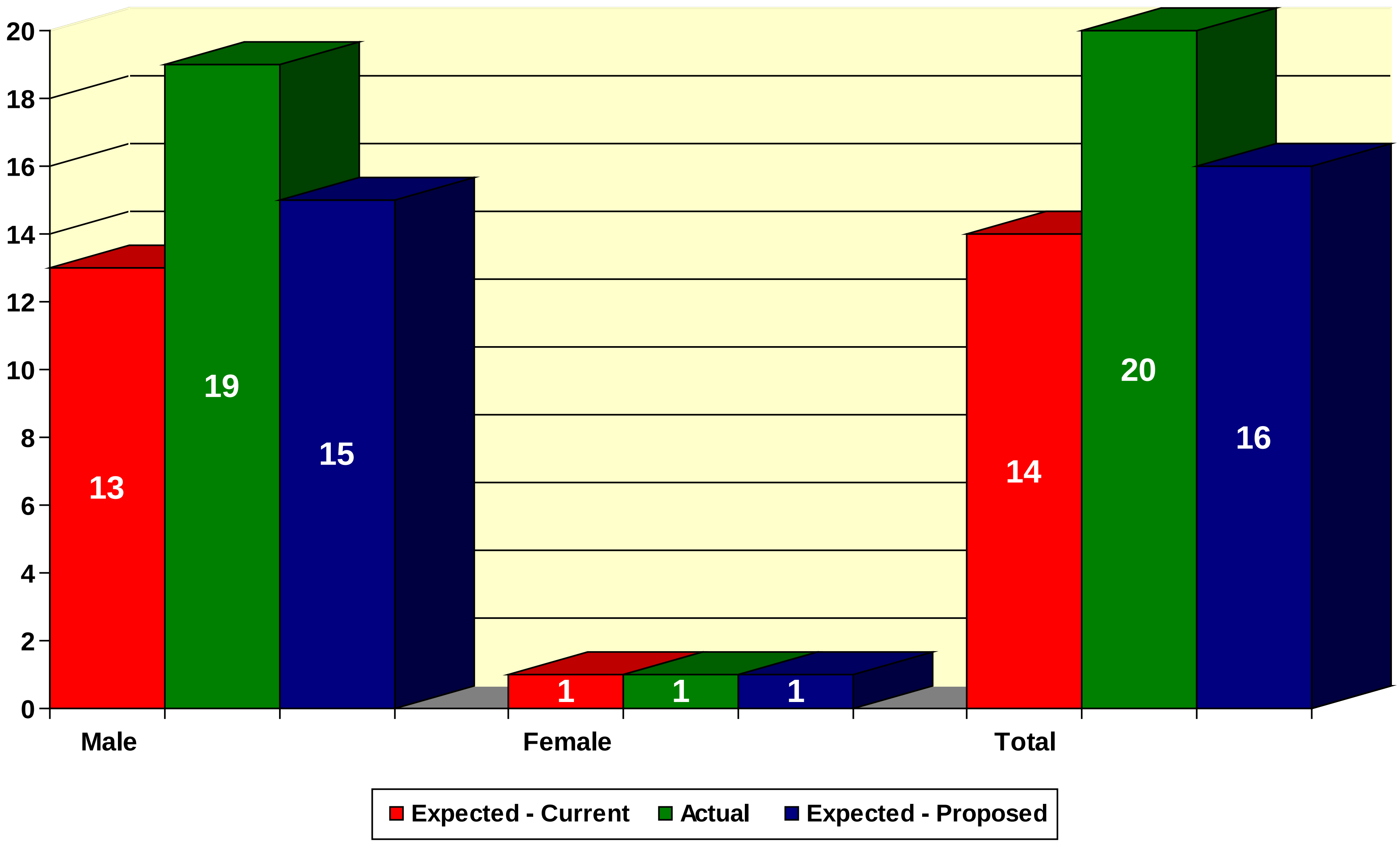


Chart 11
Life Expectancies
Disabled General Members

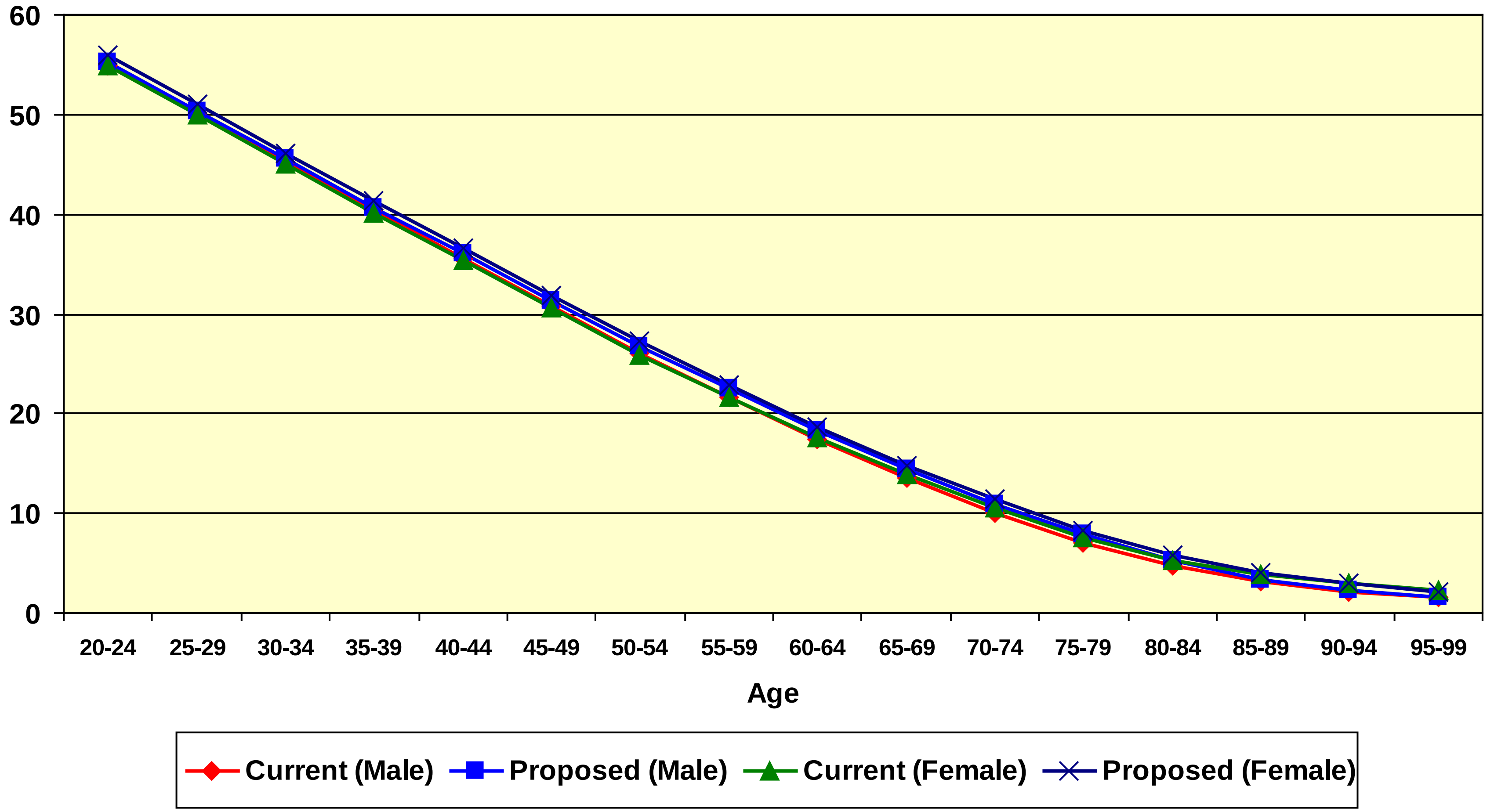
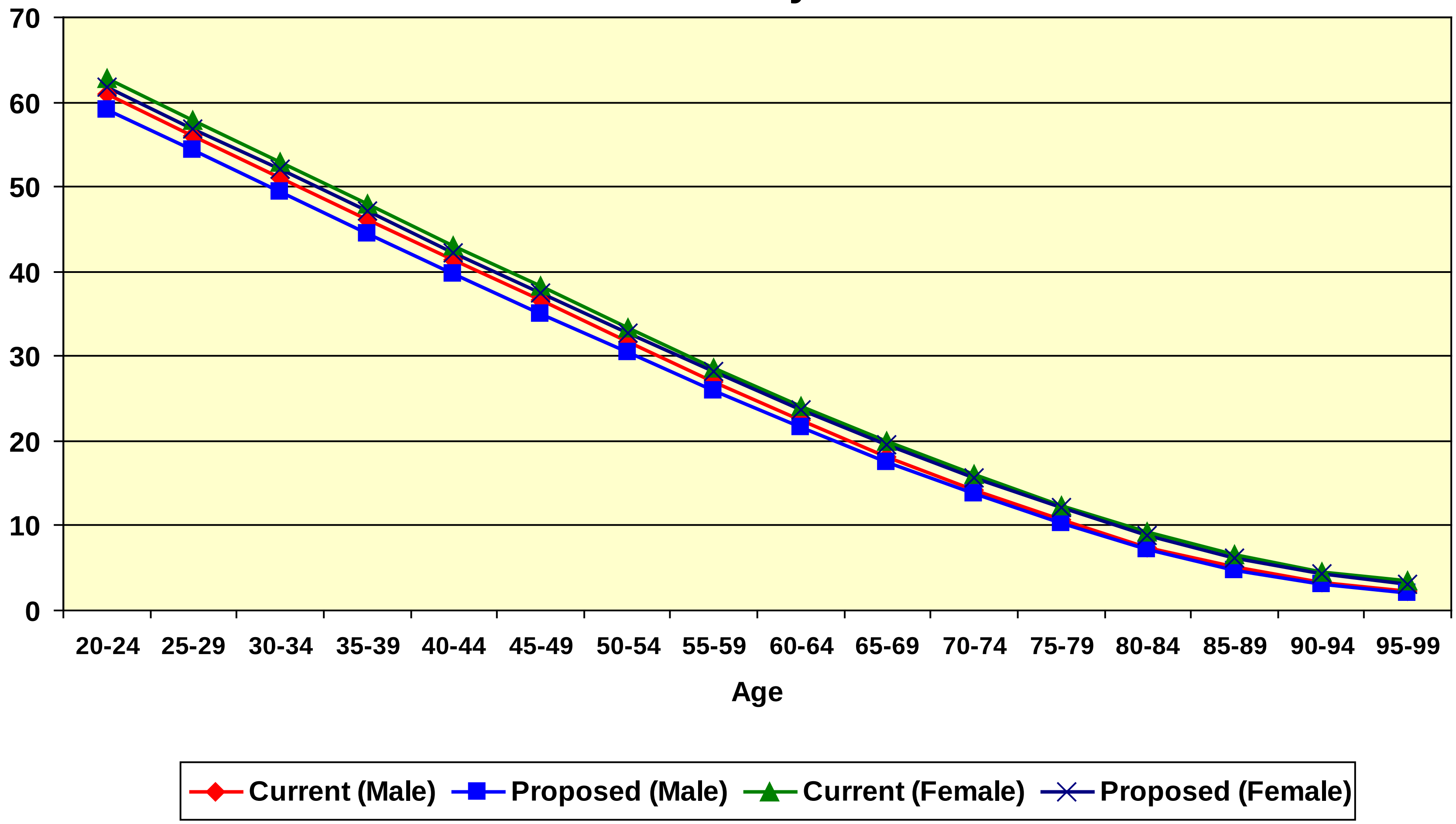


Chart 12
Life Expectancies
Disabled Safety Members



E. TERMINATION RATES

Termination rates include all terminations for reasons other than death, disability, or retirement. Under the current assumptions there is an overall incidence of termination assumed, combined with an assumption that a member will choose between a refund of contributions and a deferred vested benefit based on which option is more valuable. With this study, we continue to recommend that this same assumption structure be used.

Currently, the assumed termination rates are a function of a member's age for members with five or more years of service. Our experience review analyzed terminations both as a function of age and as a function of years of service. Our review found that while termination rates correlate with both years of service and age, we believe there is a stronger correlation with years of service. This is consistent with our experience from other systems.

As a result of this review, we recommend that the termination rate assumption be structured solely as a function of years of service.

The termination experience over the last three years for General and Safety members is shown by years of service in the following tables. Please note that we have excluded any members that were eligible for retirement. We also show the current and proposed assumptions.

Rates of Termination (General)

Years of Service	Current Rate*	Observed Rate	Proposed Rate
Less than 1	15.00%	12.80%	14.00%
1	10.00	9.81	10.00
2	8.00	8.20	8.00
3	7.00	6.16	7.00
4	6.00	6.15	6.00
5	3.56	4.32	4.00
6	3.38	2.76	3.75
7	3.21	4.03	3.50
8	3.07	2.44	3.50
9	3.30	2.28	3.25
10	3.75	3.68	3.25
11	3.65	2.66	3.00
12	3.55	3.21	3.00
13	3.49	1.82	2.75
14	3.38	2.53	2.75
15	3.22	2.89	2.50
16	3.17	3.07	2.50
17	2.99	1.31	2.25
18	2.93	0.76	2.00
19	2.81	0.85	2.00
20 or more	2.71	4.41	2.00

* *The rate shown for five or more years of service is an average rate developed from the current age based assumption for members in that service category.*

Rates of Termination (Safety)

Years of Service	Current Rate*	Observed Rate	Proposed Rate
Less than 1	12.00%	3.42%	10.00%
1	6.00	6.90	6.00
2	5.50	4.83	5.50
3	5.00	4.92	5.00
4	4.00	3.56	4.00
5	2.79	2.61	2.75
6	2.62	1.98	2.50
7	2.48	1.32	2.00
8	2.08	1.47	1.80
9	1.98	0.79	1.60
10	1.81	0.59	1.40
11	1.67	0.61	1.20
12	1.54	0.88	1.00
13	1.42	1.10	0.95
14	1.27	0.61	0.90
15	1.21	0.00	0.85
16	1.11	0.69	0.80
17	1.01	0.00	0.75
18	0.91	0.88	0.70
19	0.92	0.00	0.65
20 or more	0.54	100.00	0.60

* *The rate shown for or more five years of service is an average rate developed from the current age based assumption for members in that service category.*

It is important to note that not every service category has enough exposures and/or decrements such that the results in that category are statistically credible. This is mainly the case at the highest service categories since most members in those categories are eligible to retire and so have been excluded from our review of this experience. It is also the case in the tables that follow due to the even more limited experience regarding actual terminations.

Chart 13 compares actual to expected terminations over the past three years for both the current and proposed assumptions for General members.

Chart 14 graphs the same information as Chart 13, but for Safety members.

Chart 15 shows the actual termination rates over the past three years compared to the current and proposed assumptions for General members.

Chart 16 shows the same information as Chart 15, but for Safety members.

Based upon the recent experience, the termination rates for General members have been increased for those with 5 to 8 years of service and decreased for all other years of service categories. For Safety, we have decreased the termination rates at most years of service categories. Overall, for both General and Safety members, the proposed termination rates are lower than those under the current assumptions.

It is our understanding that General Tier 2 COLA members can elect a refund of all or a portion of their Tier 2 COLA member contributions and forgo the Tier 2 COLA upon retirement. Based on the data, about 97% of General Tier 2 COLA retirees during the three-experience period are receiving a COLA on their Tier 2 benefits. We will continue to assume that all members retiring with the Tier 2 COLA will elect to have the COLA applied to their benefit.

We will also continue to assume that termination rates are zero at any age where members are assumed to retire. In other words, at those ages, members will either retire in accordance with the retirement rate assumptions or continue working, rather than terminate and defer their benefit.

Chart 13
Actual Number of Terminations Compared to Expected - General Members

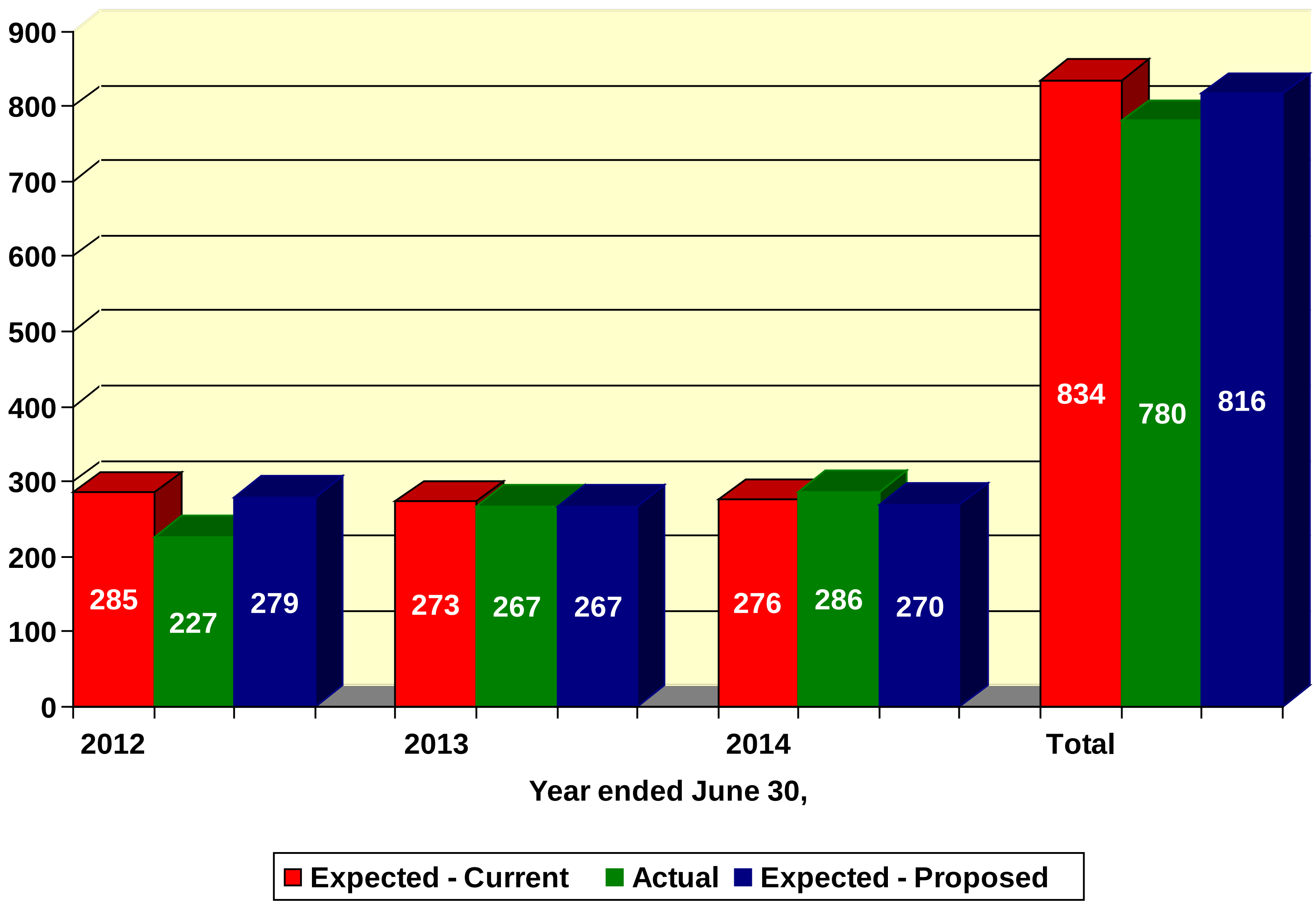


Chart 14
Actual Number of Terminations Compared to Expected - Safety members

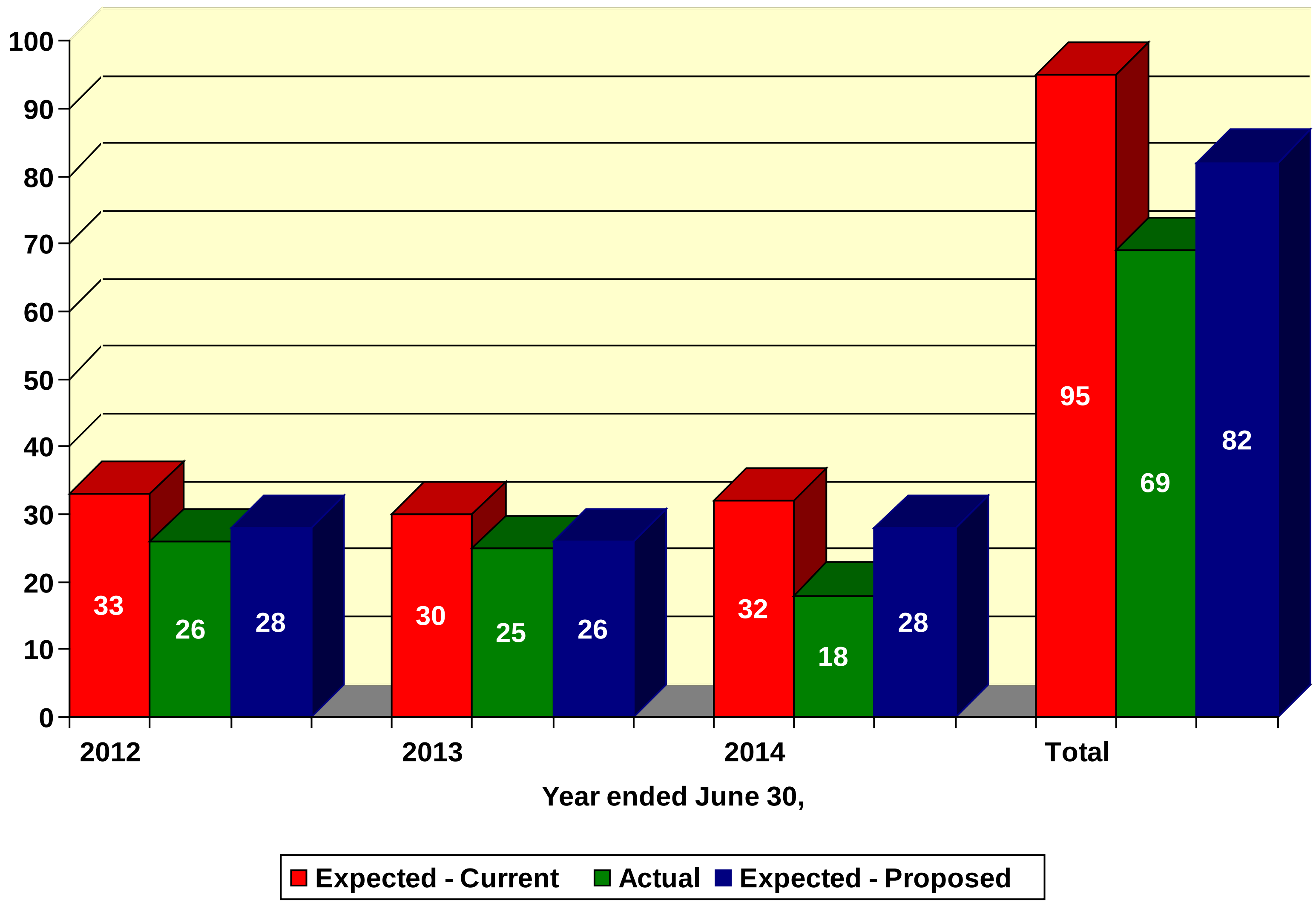


Chart 15
Termination Rates - General Members

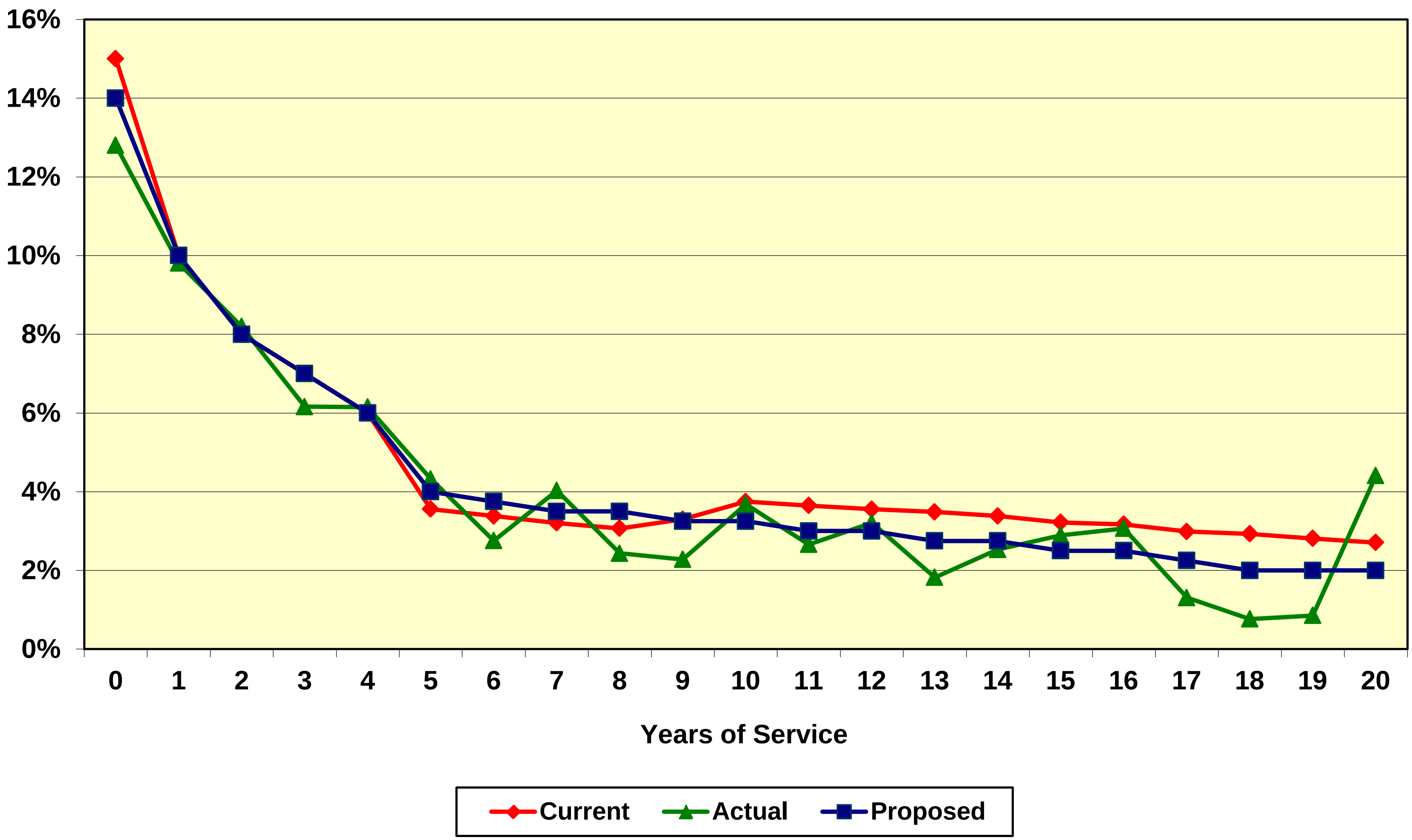
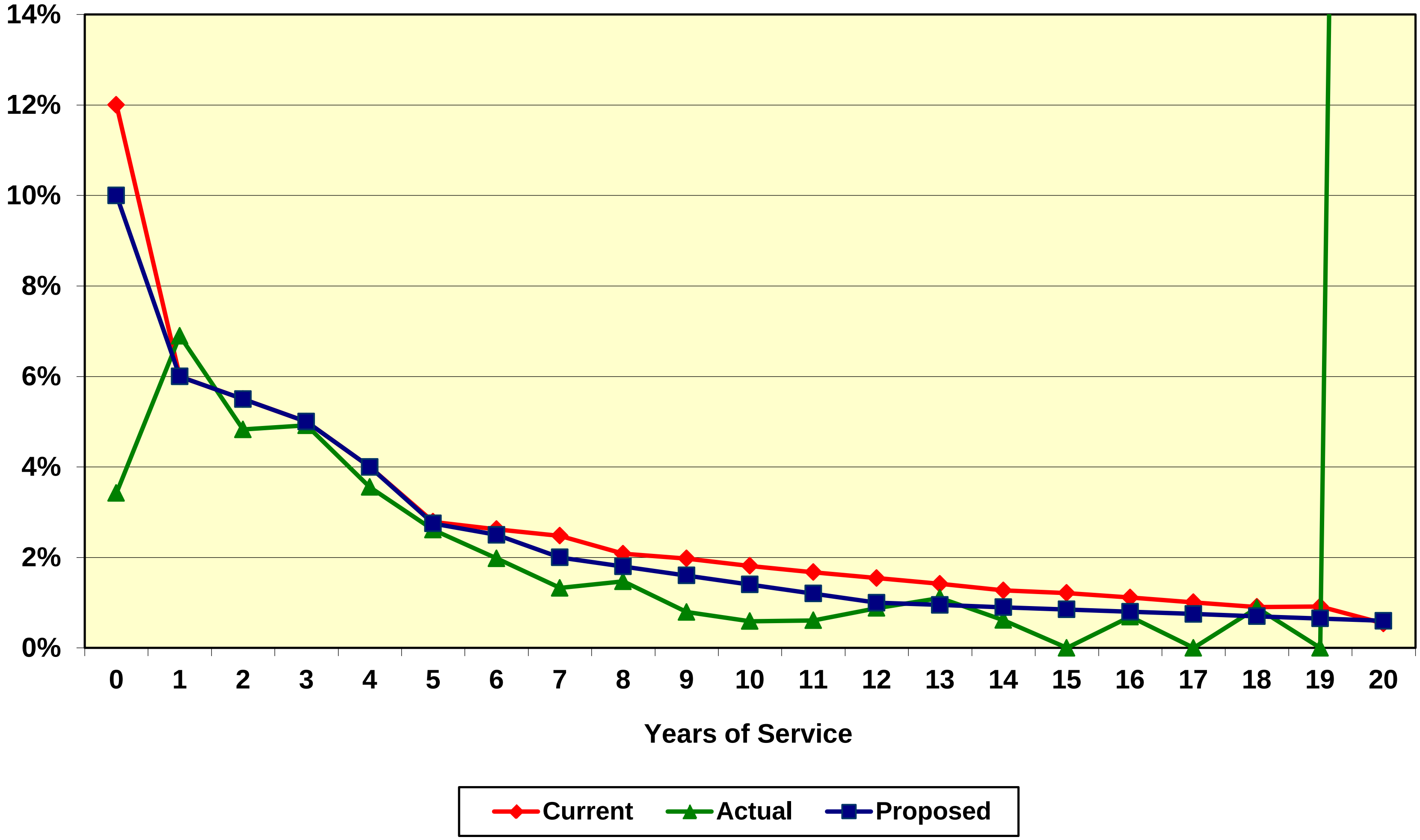


Chart 16
Termination Rates - Safety Members



F. DISABILITY INCIDENCE RATES

When a member becomes disabled, he or she may be entitled to at least a 50% pension (service connected disability), or a pension that depends upon the member's years of service (non-service connected disability). The following summarizes the actual incidence of combined service and non-service connected disabilities over the past three years compared to the current and proposed assumptions for both service connected and non-service connected disability incidence:

Rates of Disability Incidence (General)

Age	Current Rate*	Observed Rate	Proposed Rate
20 – 24	0.01%	0.00%	0.01%
25 – 29	0.02	0.00	0.02
30 – 34	0.05	0.00	0.05
35 – 39	0.10	0.05	0.10
40 – 44	0.15	0.12	0.15
45 – 49	0.25	0.26	0.25
50 – 54	0.50	0.22	0.35
55 – 59	0.60	0.25	0.45
60 – 64	0.75	0.50	0.60
65 – 69	1.00	0.18	0.75
70 – 74	1.00	0.80	1.00

***** *Total current rate for duty and non-duty disabilities.*

Rates of Disability Incidence (Safety)

Age	Current Rate*	Observed Rate	Proposed Rate
20 – 24	0.05%	0.00%	0.05%
25 – 29	0.20	0.00	0.15
30 – 34	0.30	0.29	0.30
35 – 39	0.60	0.13	0.40
40 – 44	1.10	0.23	0.70
45 – 49	1.20	0.90	1.00
50 – 54	2.50	0.51	1.80
55 – 59	4.00	3.51	3.60
60 – 64	5.00	7.89	6.00

***** *Total current rate for duty and non-duty disabilities.*

Chart 17 compares the actual number of duty and ordinary disabilities over the past three years to that expected under both the current and proposed assumptions. The proposed disability rates were adjusted to reflect the past three years experience. Overall, there are decreases in the rates proposed for both General and Safety members.

Chart 18 shows actual disability incidence rates, compared to the assumed and proposed rates for General members. Since 25% of disabled General members received a duty disability, we recommend reducing the current assumption from 40% to 35% of disabilities being entitled to a duty disability retirement. The remaining 65% of disabled General members are assumed to receive an ordinary disability retirement.

Chart 19 graphs the same information as Charts 18, but for Safety members. Since 97% of disabled Safety members received a duty disability, we recommend maintaining the current assumption that 90% of disabilities will receive a duty disability retirement. This recommendation is based partially on the fact that 79% of Safety members received a duty disability in the prior experience study period. The remaining 10% of disabled Safety members are assumed to receive an ordinary disability retirement.

Chart 17
Actual Number of Disabilities Compared to Expected

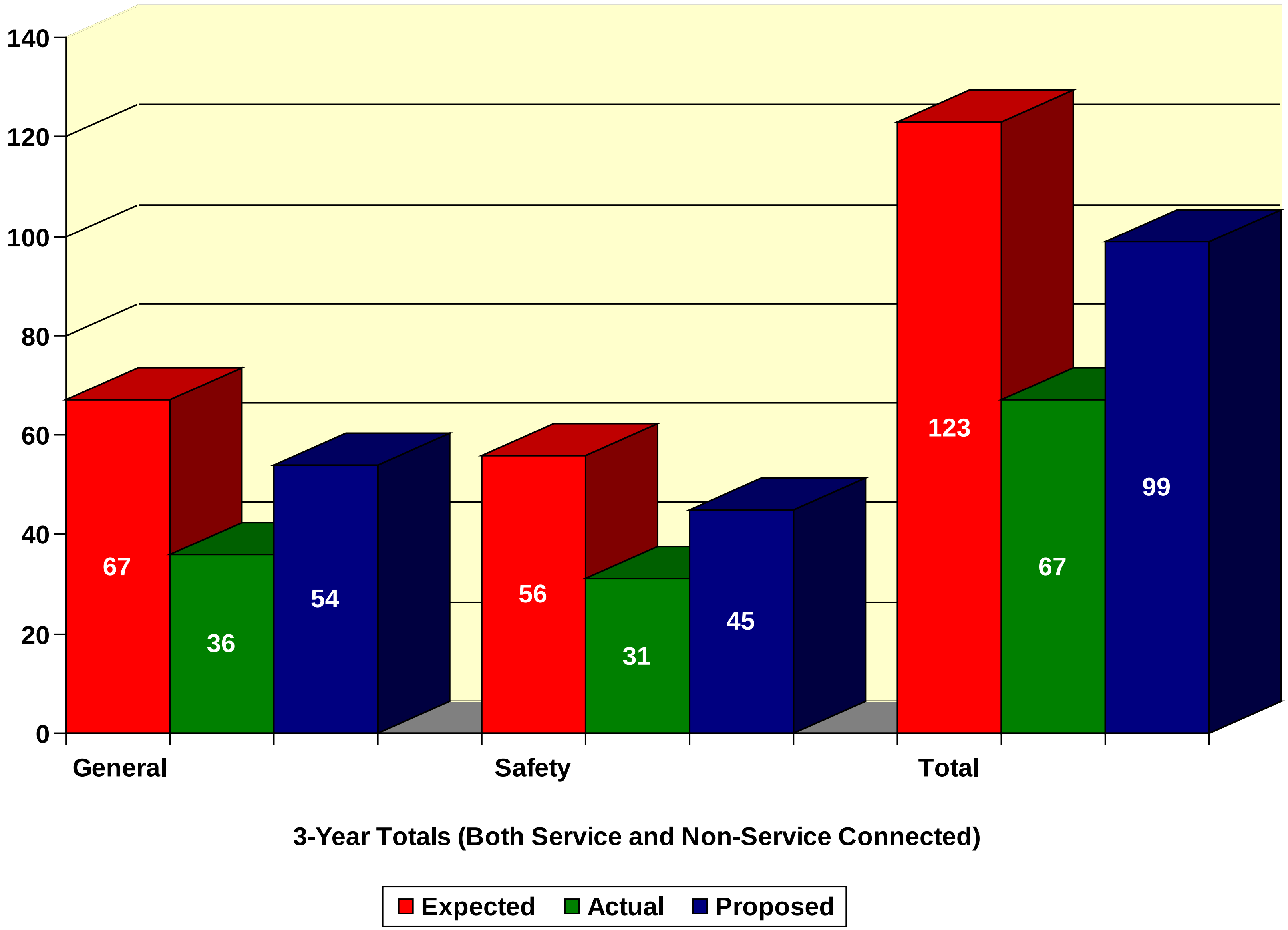


Chart 18
Disability Incidence Rates for General Members

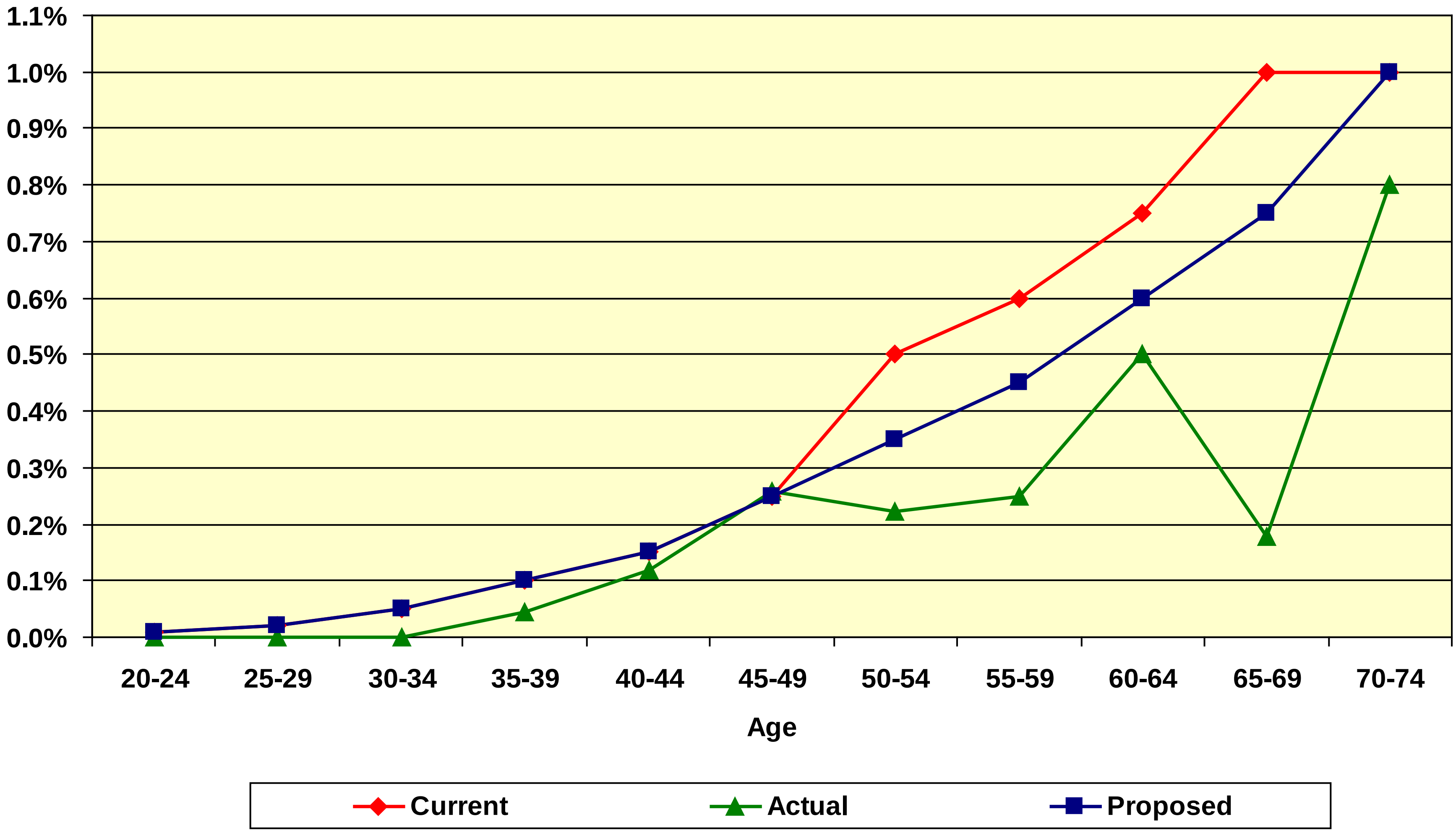
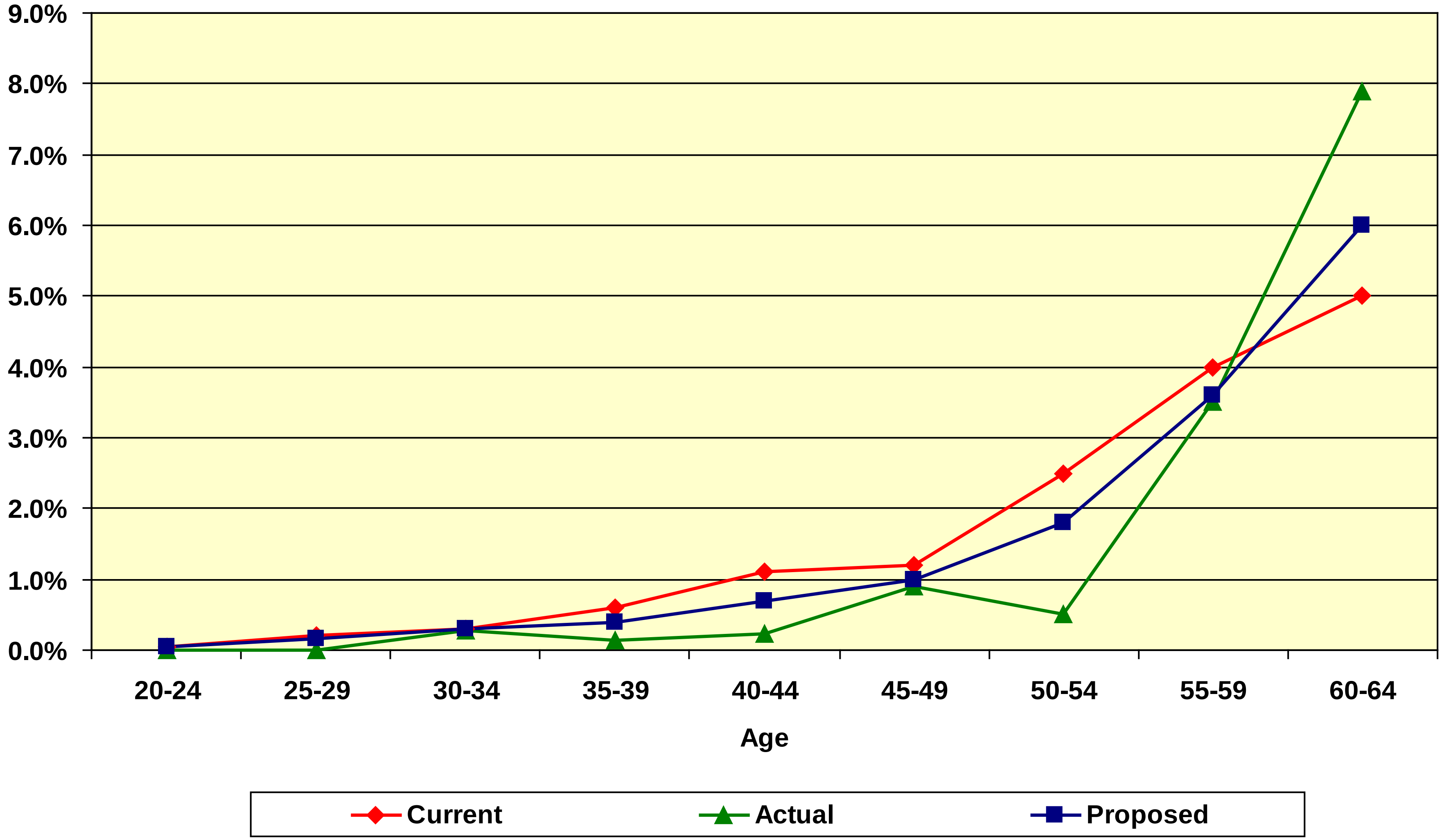


Chart 19
Disability Incidence Rates for Safety Members



G. PROMOTIONAL AND MERIT SALARY INCREASES

The Association's retirement benefits are determined in large part by a member's compensation just prior to retirement. For that reason, it is important to anticipate salary increases that employees will receive over their careers. These salary increases are made up of three components:

- Inflationary increases;
- Real "across the board" increases; and
- Promotional and merit increases.

The inflationary increases are assumed to follow the general annual price inflation assumption discussed in our separate economic assumptions report where we recommended a decrease in the inflation assumption from 3.25% to 3.00%. We also discussed in that report decreasing the annual "across the board" pay increase assumptions from 0.75% to 0.50%. Therefore, the total assumed inflation and real "across the board" pay increase (i.e., wage inflation) decreases from 4.00% to 3.50%. This is the annual rate of payroll growth at which payments to amortize the Unfunded Actuarial Accrued Liability (UAAL) are assumed to increase.

The annual promotional and merit increases are determined by measuring the actual increases received by members over the experience period, net of the inflationary and real "across the board" pay increases. Increases are measured separately for General and Safety members. This is accomplished by:

- Measuring each continuing member's actual salary increase over each year of the experience period;
- Excluding any members with increases of more than 50% or decreases of more than 10% during any particular year;
- Categorizing these increases according to member demographics;
- Removing the wage inflation component from these increases (assumed to be equal to the increase in the members' average salary during the year);
- Averaging these annual increases over the three-year experience period; and
- Modifying current assumptions to reflect some portion of these measured increases reflective of their "credibility."

Note that, to be consistent with other economic assumptions, these merit and promotional assumptions should be used in combination with the proposed 3.50% inflation and real "across the board" increases shown in our economic assumptions report.

The following table shows the General members' actual average promotional and merit increases by years of service over the three-year period from July 1, 2011 through June 30, 2014 along with the actual average increases based on a combination of increases in the current three-year period and those shown in the prior experience study. The current and proposed assumptions are also shown. The actual increases for the most recent three-year period and the prior three-year period were reduced by the actual average inflation plus "across the board" increase (i.e., wage inflation, estimated as the increase in average salaries) for each year over the three-year experience period (0.8% and 3.8% respectively, on average).

General

Years of Service	Current Assumptions	July 1, 2011 Through June 30, 2014 Average Promotional and Merit Increases	Actual Average Increases from Current and Prior Study	Proposed Assumptions
Less than 1	5.00%	7.65%	7.14%	6.00%
1	3.75	5.35	4.82	4.25
2	3.00	3.77	3.38	3.25
3	2.50	2.97	2.92	2.75
4	2.00	2.54	2.35	2.25
5	1.50	2.04	1.90	1.75
6	1.00	2.46	1.77	1.25
7	1.00	1.72	1.35	1.00
8	0.75	1.18	0.79	0.75
9	0.50	0.62	0.43	0.50
10	0.50	0.86	0.31	0.50
11	0.50	0.90	0.77	0.50
12	0.50	0.93	0.70	0.50
13	0.50	1.21	0.34	0.50
14	0.50	1.45	0.67	0.50
15	0.50	1.25	0.60	0.50
16	0.50	0.87	0.42	0.50
17	0.50	0.68	0.42	0.50
18	0.50	1.21	0.43	0.50
19	0.50	0.33	0.14	0.50
20 & over	0.50	0.33	-0.21	0.50

The following table provides the same information for Safety members. The actual average promotional and merit increases for the most recent three-year period and the prior three-year period were determined by reducing the actual average total salary increases by the actual average inflation plus "across the board" increase (i.e., wage inflation, estimated as the increase in average salaries) for each year over the three-year experience period (0.2% and 5.4% respectively, on average).

Safety

Years of Service	Current Assumptions	July 1, 2011 Through June 30, 2014 Average Promotional and Merit Increases	Actual Average Increases from Current and Prior Study	Proposed Assumptions
Less than 1	8.50%	7.29%	7.36%	8.00%
1	6.25	6.31	5.96	6.25
2	4.75	4.91	4.92	4.75
3	4.00	3.83	4.53	4.00
4	3.00	5.06	3.67	3.25
5	2.50	3.99	3.42	3.00
6	2.00	2.68	2.81	2.25
7	1.50	1.38	0.65	1.50
8	1.25	1.86	0.98	1.25
9	1.00	1.65	1.33	1.00
10	0.75	-0.21	0.51	0.75
11	0.75	0.88	0.53	0.75
12	0.75	0.24	0.70	0.75
13	0.75	1.03	1.08	0.75
14	0.75	0.93	0.63	0.75
15	0.75	1.32	1.37	0.75
16	0.50	0.64	0.04	0.50
17	0.50	0.91	0.14	0.50
18	0.50	1.46	0.88	0.50
19	0.50	1.36	0.22	0.50
20 & over	0.50	0.70	-0.29	0.50

Charts 20 and 21 provide a graphical comparison of the actual promotional and merit increases, compared to the proposed and current assumptions. The charts also show the actual promotional and merit increases based on an average of both the current and previous experience periods. This is discussed below. Chart 20 shows this information for General members and Chart 21 for Safety members.

We realize that the most recent three-year experience period may not be typically indicative of future long-term promotional and merit salary increases. This appears to be the case for both General and Safety members as they received virtually no “across the board” salary increases (based on the very low increase in average wages). Note that, in this situation, our model may lead to higher estimated promotional and merit increases. Therefore, we also examined the promotional and merit salary experience used in the prior experience study (which actually consisted of two years of experience). We believe that when the experience from the last two studies are combined into an average result it provides a more reasonable representation of potential future promotional and merit salary increases over the long term. Nevertheless, in our proposed changes to the promotional and merit increases, we have still given relatively less weight to the actual average increases experience during the last two studies.

Based on this experience, we are proposing slight increases in the promotional and merit salary increases for both General and Safety members. Overall, salary increases are lower for General and Safety members due to the lower price inflation and real “across the board” pay increase assumptions.

Chart 20
Promotional and Merit Salary Increase Rates - General Members

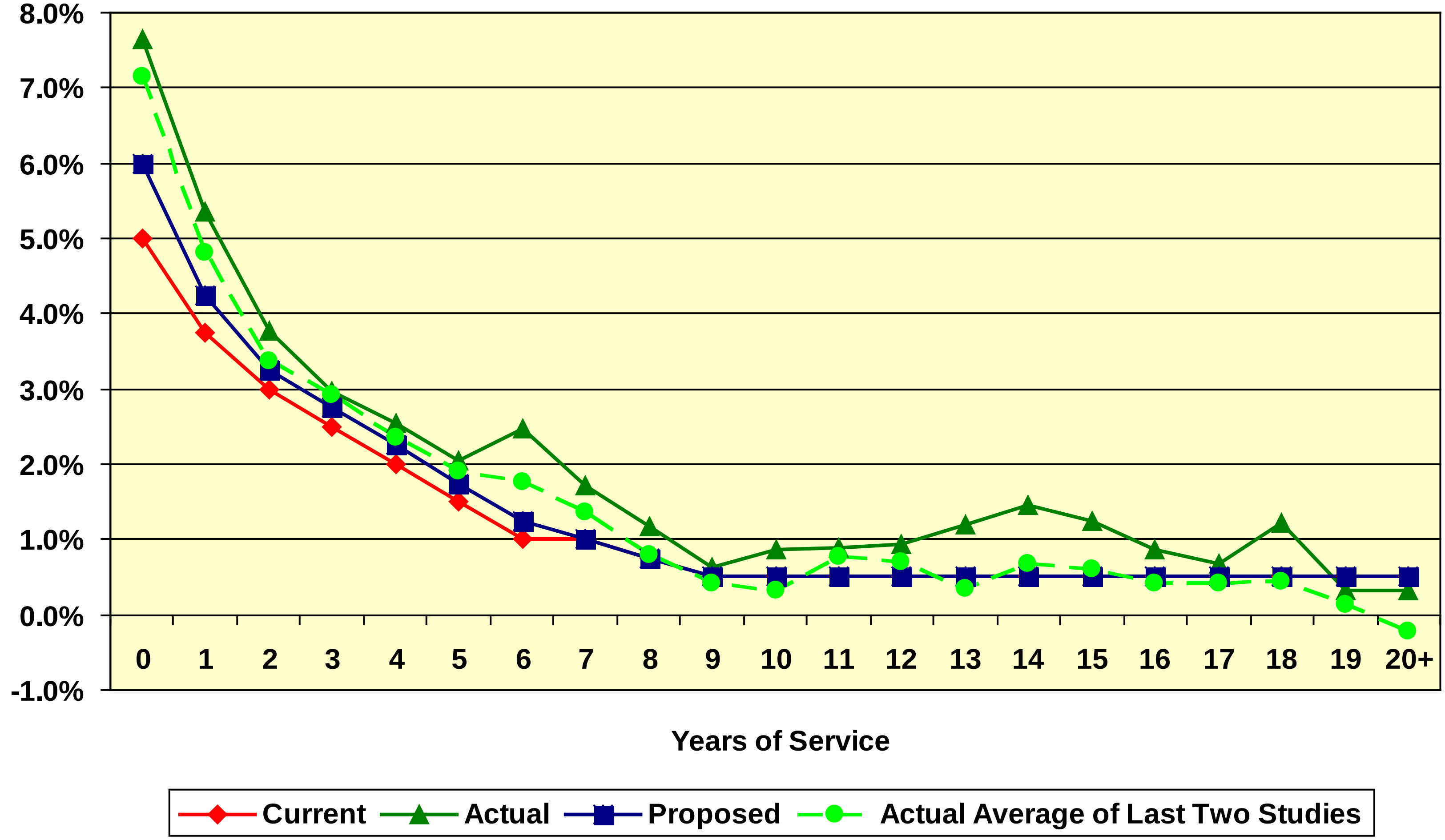
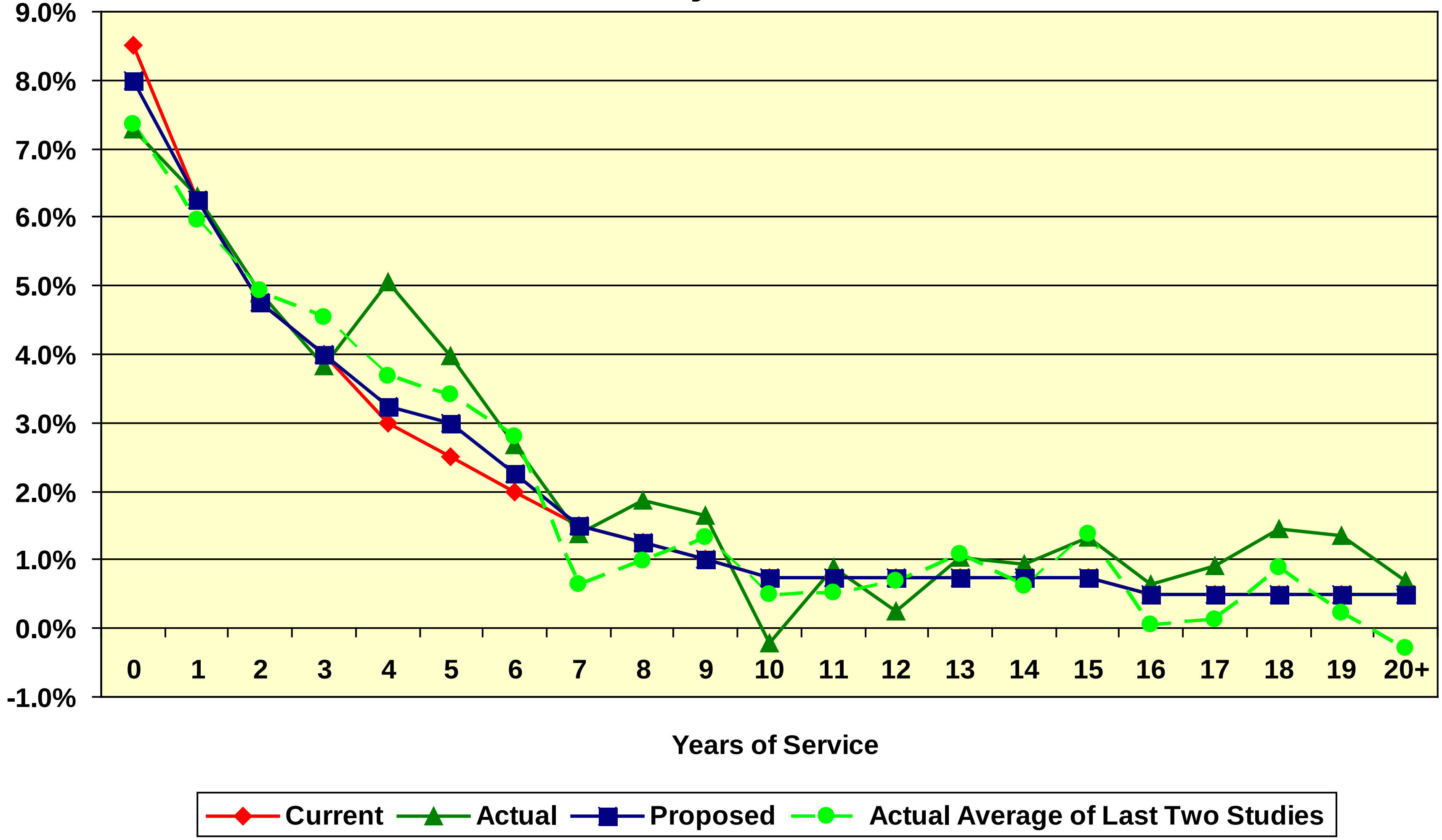


Chart 21
Promotional and Merit Salary Increase Rates - Safety Members



H. IN-SERVICE REDEMPTIONS

In 1998, the Board of Retirement, in the course of actions related to the Ventura Settlement, determined that several additional pay elements should be included as Earnable Compensation. These additional pay elements fall into two categories:

Ongoing Pay Elements – Those that are expected to be received relatively uniformly over a member's employment years; and

In-Service Redemption Elements – Those that are expected to be received only during the member's final average earnings pay period.

The first category is recognized in the actuarial calculations by virtue of being included in the current pay of active members. The second category requires a separate actuarial assumption to anticipate its impact on a member's retirement benefit.

In this study, we have collected data for the last three years to estimate in-service redemptions for non-PEPRA active members as a percentage of final average pay. The results are summarized in the following table:

	Actual Average In-Service Redemptions for Non-PEPRA Members		
Year	**General Tier 1**	**General Tier 2**	**Safety**
2012	9.42%	3.42%	6.92%
2013	6.63%	3.84%	7.73%
2014	5.38%	3.04%	7.63%
Average	7.13%	3.42%	7.38%
Current Assumptions	8.00%	3.50%	7.50%
Proposed Assumption	7.50%	3.50%	7.25%

For determining the cost of the basic benefit (i.e., non-COLA component), the cost of this pay element is currently recognized in the valuation as an employer only cost and does not affect member contribution rates.

Based on the data in the above table, the in-service redemption assumption has been maintained for General Tier 2 members and decreased for General Tier 1 members and Safety members.

I. AVERAGE ENTRY AGE (FOR MEMBER CONTRIBUTIONS)

The assumption for average entry age of active members is used in determining the rate at which members who were hired after November 1974 contribute. The current assumption is age 36 for General members and age 27 for Safety members. The actual average entry ages for all active members as of June 30, 2014 is age 35.2 for General members and age 27.1 for Safety members.

Based on this experience we recommend that the average entry age for General members used for determining member contribution rates be decreased from age 36 to age 35. For Safety members we recommend that the average entry age used for determining member contribution rates be maintained at age 27.

IV. COST IMPACT OF ASSUMPTION CHANGES

The tables below show the changes in the employer and member contribution rates due to the proposed assumption changes as if they were applied in the June 30, 2014 actuarial valuation. Please note that the rates shown below do not reflect the 50/50 sharing of Normal Cost for non-PEPRA Tiers. If all of the proposed assumption changes (both economic and demographic) were implemented, the Plan's average employer rate would have increased by 3.45% of compensation. The average member rate would have increased by 0.20% of compensation. The Plan's UAAL would have increased by $224 million. The results include the impact of the proposed change to an explicit administrative expense load that would increase total costs by 0.7% of payroll or $5 million annually. As discussed in the economic assumptions report, the cost associated with the administrative expense load has been allocated to both the employer and the member based on the components of the total contribution rate (before expenses) for the member and the employer.

Employer Contribution Rate Impact (% of Compensation)

Contributions	General Tier 1	General Tier 2	PEPRA General Tier 2	General Tier 2C	PEPRA General Tier 2C	Safety	PEPRA Safety	Overall
Normal Cost	0.44%	0.30%	0.15%	0.44%	0.27%	-0.30%	0.16%	0.20%
UAAL	2.11%	1.21%	1.21%	2.11%	2.11%	5.66%	5.66%	2.70%
Admin Expense	0.55%	0.55%	0.55%	0.55%	0.55%	0.55%	0.55%	0.55%
Total	3.10%	2.06%	1.91%	3.10%	2.93%	5.91%	6.37%	3.45%

Employer Contribution Rate Impact
(Estimated Annual Dollar Amounts in Thousands)

Contributions	General Tier 1	General Tier 2	PEPRA General Tier 2	General Tier 2C	PEPRA General Tier 2C	Safety	PEPRA Safety	Overall
Total	$305	$4,233	$222	$6,951	$689	$9,225	$237	$21,862

Member Contribution Rate Impact (% of Compensation)

Contributions	General Tier 1	General Tier 2	PEPRA General Tier 2	General Tier 2C	PEPRA General Tier 2C	Safety	PEPRA Safety	Overall
Total	0.16%	0.10%	0.30%	0.10%	0.30%	0.45%	0.31%	0.20%

Member Contribution Rate Impact
(Estimated Annual Dollar Amounts in Thousands)

Contributions	General Tier 1	General Tier 2	PEPRA General Tier 2	General Tier 2C	PEPRA General Tier 2C	Safety	PEPRA Safety	Overall
Total	$16	$209	$36	$228	$72	$719	$12	$1,292

If all of the proposed demographic assumption changes were implemented, the average employer rate would have increased by 1.57% of compensation. The average member rate would have increased by 0.05% of compensation. Of the various demographic assumption changes, the most significant cost impact is from the mortality assumption change.

If all of the proposed economic assumptions (recommended in a separate report) were implemented (including the proposed change to an explicit administrative expense load), the average employer rate would have increased by 1.88% of compensation and the average member rate would have been increased by 0.15%. Of the various economic assumption changes, the most significant cost impact is from the investment return assumption change from 7.75% net of administrative expenses to 7.50% gross of administrative expenses.

Therefore, the estimated cost impact of all proposed assumption changes (both demographic and economic) is 3.45% of compensation for the average employer rate, where the Normal Cost rate increased by 0.20%, the UAAL amortization rate increased by 2.70% and the explicit administrative expense load is 0.55%. The average member rate would have increased by 0.20% of compensation, including the explicit administrative load of 0.15%. The allocation of the explicit administrative expense load between employers and members is discussed in the economic assumptions report.

As noted earlier, the above results do not include 50/50 sharing of Normal Cost for non-PEPRA Tiers. If we include that provision, then the total increase in the Normal Cost of 0.25% would be shared 50/50 between the employers and the members (with the cost of the cessation of member contributions after 30 years of service allocated to the employer) and the allocation of the administrative expense load would be slightly different. This would shift about 0.07% of the average cost increase from the employers to the members.

APPENDIX A

CURRENT ACTUARIAL ASSUMPTIONS

Mortality Rates

Healthy:	For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set back one year.
	For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set back one year.
Disabled:	For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set forward five years for males and seven years for females.
	For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set back one year.
Beneficiaries:	Beneficiaries are assumed to have the same mortality as a General Member of the opposite sex who has taken a service (non-disability) retirement.
Member Contribution Rates:	For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set back one year weighted 35% male and 65% female.
	For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale AA to 2025 set back one year weighted 80% male and 20% female.

Termination Rates Before Retirement:

Rate (%)

Mortality

	General		Safety	
Age	**Male**	**Female**	**Male**	**Female**
25	0.03	0.01	0.03	0.01
30	0.04	0.02	0.04	0.02
35	0.06	0.03	0.06	0.03
40	0.09	0.04	0.09	0.04
45	0.10	0.07	0.10	0.07
50	0.13	0.10	0.13	0.10
55	0.19	0.19	0.19	0.19
60	0.40	0.39	0.40	0.39
65	0.79	0.76	0.79	0.76

All pre-retirement deaths are assumed to be non-duty related.

Termination Rates Before Retirement (continued):

	Rate (%)	
	Disability	
Age	General[1]	Safety[2]
25	0.02	0.14
30	0.04	0.26
35	0.08	0.48
40	0.13	0.90
45	0.21	1.16
50	0.40	1.98
55	0.56	3.40
60	0.69	4.60
65	0.90	0.00
70	1.00	0.00

(1) 40% of General disabilities are assumed to be duty disabilities and the other 60% are assumed to be ordinary disabilities.

(2) 90% of Safety disabilities are assumed to be duty disabilities and the other 10% are assumed to be ordinary disabilities.

Termination Rates Before Retirement (continued):

Rate (%)

Withdrawal (< 5 Years of Service) *

Years of Service	General	Safety
0	15.00	12.00
1	10.00	6.00
2	8.00	5.50
3	7.00	5.00
4	6.00	4.00

Withdrawal (5+ Years of Service) *

Age	General	Safety
20	6.00	4.00
25	6.00	4.00
30	5.70	3.40
35	4.90	2.40
40	3.90	1.40
45	2.90	0.70
50	2.20	0.20
55	1.70	0.00
60	1.20	0.00
65	1.00	0.00
70	0.00	0.00

* The greater of a refund of member contributions and a deferred annuity is valued when a member withdraws.

No withdrawal is assumed after a member is first assumed to retire.

Retirement Rates:

	Rate (%)			
Age	General Tier 1 and 2	PEPRA General Tier 1 and 2	Safety	PEPRA Safety
40	0.00	0.00	1.00	0.00
41	0.00	0.00	1.00	0.00
42	0.00	0.00	1.00	0.00
43	0.00	0.00	1.00	0.00
44	0.00	0.00	1.00	0.00
45	0.00	0.00	1.00	0.00
46	0.00	0.00	1.00	0.00
47	0.00	0.00	1.00	0.00
48	0.00	0.00	1.00	0.00
49	0.00	0.00	1.00	0.00
50	3.00	0.00	2.00	4.00
51	3.00	0.00	2.00	2.00
52	4.00	2.00	4.00	5.00
53	4.00	2.00	6.00	8.00
54	6.00	3.00	18.00	18.00
55	6.00	5.00	25.00	20.00
56	7.00	5.00	20.00	20.00
57	8.00	6.00	20.00	18.00
58	10.00	7.00	18.00	18.00
59	10.00	8.00	25.00	30.00
60	14.00	10.00	25.00	30.00
61	18.00	12.50	30.00	30.00
62	22.00	20.00	40.00	50.00
63	20.00	20.00	50.00	50.00
64	25.00	20.00	50.00	50.00
65	35.00	25.00	100.00	100.00
66	35.00	30.00	100.00	100.00
67	35.00	30.00	100.00	100.00
68	25.00	30.00	100.00	100.00
69	20.00	30.00	100.00	100.00
70	20.00	50.00	100.00	100.00
71	20.00	50.00	100.00	100.00
72	20.00	50.00	100.00	100.00
73	20.00	50.00	100.00	100.00
74	40.00	50.00	100.00	100.00
75	100.00	100.00	100.00	100.00

Retirement Age and Benefit for Deferred Vested Members: For deferred vested members, we make the following retirement assumption:

General Age:	58
Safety Age:	54

We assume that 50% and 65% of future General and Safety deferred vested members, respectively, will continue to work for a reciprocal employer. For reciprocals, we assume 4.50% compensation increases per annum.

Future Benefit Accruals: 1.0 year of service per year.

Unknown Data for Members: Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.

Definition of Active Members: All active members of VCERA as of the valuation date.

Percent Married: 70% of male members and 50% of female members are assumed to be married at pre-retirement death or retirement. There is no explicit assumption for children's benefits.

Age of Spouse: Female (or male) spouses are 3 years younger (or older) than their spouses.

Net Investment Return: 7.75%, net of investment and administration expenses.

Member Contribution Crediting Rate: 3.25% (actual increase is based on projected long term ten-year Treasury rate).

Consumer Price Index: Increase of 3.25% per year; retiree COLA increases due to CPI are subject to a 3.0% maximum change per year for General Tier 1 and Safety. For General Tier 2, SEIU members receive a fixed 2% cost-of-living adjustment, not subject to changes in the CPI, that applies to future service after March 2003.

In-Service Redemptions:

Non-PEPRA Formulas The following assumptions for in-service redemptions pay as a percentage of final average pay are used:

General Tier 1	8.00%
General Tier 2	3.50%
Safety	7.50%

For determining the cost of the basic benefit (i.e., non-COLA component), the cost of this pay element is currently recognized in the valuation as an employer only cost and does not affect member contribution rates.

PEPRA Formulas None

Salary Increases:

Annual Rate of Compensation Increase

Inflation: 3.25% per year; plus "across the board" salary increases of 0.75% per year; plus the following promotional and merit increases:

Years of Service	General	Safety
Less than 1	5.00%	8.50%
1	3.75	6.25
2	3.00	4.75
3	2.50	4.00
4	2.00	3.00
5	1.50	2.50
6	1.00	2.00
7	1.00	1.50
8	0.75	1.25
9	0.50	1.00
10	0.50	0.75
11	0.50	0.75
12	0.50	0.75
13	0.50	0.75
14	0.50	0.75
15	0.50	0.75
16	0.50	0.50
17	0.50	0.50
18	0.50	0.50
19	0.50	0.50
20 and Over	0.50	0.50

Increase in the Internal Revenue

Code Section 401(a)(17)
Compensation Limit: Increase of 3.25% per year from the valuation date.

Increase in Section 7522.10
Compensation Limit: Increase of 3.25% per year from the valuation date.

Average Entry Age for
Member Contribution Rates: For non-PEPRA members hired after November 1974, they will pay a contribution corresponding to a General and Safety member hired at entry age 36 and 27, respectively.

APPENDIX B

PROPOSED ACTUARIAL ASSUMPTIONS

Mortality Rates

Healthy: For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set back one year for males and set forward one year for females.

For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set back three years.

Disabled: For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set forward six years for males and eight years for females.

For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set forward two years.

Beneficiaries: Beneficiaries are assumed to have the same mortality as a General Member of the opposite sex who has taken a service (non-disability) retirement.

Member Contribution Rates: For General Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set back one year for males and set forward one year for female weighted one-third male and two-third female.

For Safety Members: RP-2000 Combined Healthy Mortality Table projected with Scale BB to 2035 set back three years weighted 80% male and 20% female.

Termination Rates Before Retirement:

Rate (%)

Mortality

	General		Safety	
Age	Male	Female	Male	Female
25	0.03	0.02	0.03	0.02
30	0.04	0.03	0.03	0.02
35	0.06	0.05	0.05	0.03
40	0.09	0.07	0.08	0.05
45	0.13	0.11	0.11	0.08
50	0.18	0.17	0.16	0.12
55	0.29	0.25	0.24	0.18
60	0.48	0.39	0.41	0.27
65	0.77	0.72	0.64	0.44

All pre-retirement deaths are assumed to be non-duty related.

Termination Rates Before Retirement (continued):

	Rate (%)	
	Disability	
Age	General[1]	Safety[2]
25	0.02	0.11
30	0.04	0.24
35	0.08	0.36
40	0.13	0.58
45	0.21	0.88
50	0.31	1.48
55	0.41	2.88
60	0.54	5.04
65	0.69	0.00
70	0.90	0.00

(1) 35% of General disabilities are assumed to be duty disabilities and the other 65% are assumed to be ordinary disabilities.

(2) 90% of Safety disabilities are assumed to be duty disabilities and the other 10% are assumed to be ordinary disabilities.

Termination Rates Before Retirement (continued):

Rate (%)		
Withdrawal *		
Years of Service	**General**	**Safety**
Less than 1	14.00	10.00
1	10.00	6.00
2	8.00	5.50
3	7.00	5.00
4	6.00	4.00
5	4.00	2.75
6	3.75	2.50
7	3.50	2.00
8	3.50	1.80
9	3.25	1.60
10	3.25	1.40
11	3.00	1.20
12	3.00	1.00
13	2.75	0.95
14	2.75	0.90
15	2.50	0.85
16	2.50	0.80
17	2.25	0.75
18	2.00	0.70
19	2.00	0.65
20 or more	2.00	0.60

* The greater of a refund of member contributions and a deferred annuity is valued when a member withdraws.

No withdrawal is assumed after a member is first assumed to retire.

Retirement Rates:

	Rate (%)			
Age	General Tier 1 and 2	PEPRA General Tier 1 and 2	Safety	PEPRA Safety
40	0.00	0.00	1.00	0.00
41	0.00	0.00	1.00	0.00
42	0.00	0.00	1.00	0.00
43	0.00	0.00	1.00	0.00
44	0.00	0.00	1.00	0.00
45	0.00	0.00	1.00	0.00
46	0.00	0.00	1.00	0.00
47	0.00	0.00	1.00	0.00
48	0.00	0.00	1.00	0.00
49	0.00	0.00	1.50	0.00
50	2.50	0.00	2.50	5.00
51	2.50	0.00	2.00	2.00
52	3.00	2.00	3.00	4.00
53	3.50	2.00	4.00	6.00
54	4.00	2.50	17.00	16.00
55	4.50	4.00	22.00	20.00
56	5.00	4.50	22.00	20.00
57	6.00	5.00	20.00	18.00
58	8.00	6.00	19.00	18.00
59	8.00	7.00	22.00	25.00
60	12.00	9.00	22.00	25.00
61	15.00	11.00	25.00	25.00
62	22.00	20.00	35.00	40.00
63	20.00	20.00	40.00	40.00
64	22.00	18.00	40.00	40.00
65	30.00	20.00	100.00	100.00
66	35.00	30.00	100.00	100.00
67	35.00	30.00	100.00	100.00
68	35.00	30.00	100.00	100.00
69	20.00	30.00	100.00	100.00
70	20.00	50.00	100.00	100.00
71	20.00	50.00	100.00	100.00
72	20.00	50.00	100.00	100.00
73	20.00	50.00	100.00	100.00
74	30.00	50.00	100.00	100.00
75	100.00	100.00	100.00	100.00

Retirement Age and Benefit for Deferred Vested Members:

For deferred vested members, we make the following retirement assumption:

General Age:	59
Safety Age:	54

We assume that 50% and 60% of future General and Safety deferred vested members, respectively, will continue to work for a reciprocal employer. For reciprocals, we assume 4.00% compensation increases per annum.

Future Benefit Accruals: 1.0 year of service per year.

Unknown Data for Members: Same as those exhibited by members with similar known characteristics. If not specified, members are assumed to be male.

Definition of Active Members: All active members of VCERA as of the valuation date.

Percent Married: 70% of male members and 55% of female members are assumed to be married at pre-retirement death or retirement. There is no explicit assumption for children's benefits.

Age of Spouse: Female (or male) spouses are 3 years younger (or older) than their spouses.

Net Investment Return: 7.50%, net of investment expenses.

Administrative Expenses: 0.70% of payroll allocated to both employer and member based on the components of the total contribution rate (before expenses) for the employer and member.

Member Contribution Crediting Rate: 3.00% (actual increase is based on projected long term ten-year Treasury rate).

Consumer Price Index: Increase of 3.00% per year; retiree COLA increases due to CPI are subject to a 3.0% maximum change per year for General Tier 1 and Safety. For General Tier 2, SEIU members receive a fixed 2% cost-of-living adjustment, not subject to changes in the CPI, that applies to future service after March 2003.

In-Service Redemptions:

Non-PEPRA Formulas

The following assumptions for in-service redemptions pay as a percentage of final average pay are used:

General Tier 1	7.50%
General Tier 2	3.50%
Safety	7.25%

For determining the cost of the basic benefit (i.e., non-COLA component), the cost of this pay element is currently recognized in the valuation as an employer only cost and does not affect member contribution rates.

PEPRA Formulas None

Salary Increases:

Annual Rate of Compensation Increase

Inflation: 3.00% per year; plus "across the board" salary increases of 0.50% per year; plus the following promotional and merit increases:

Years of Service	General	Safety
Less than 1	6.00%	8.00%
1	4.25	6.25
2	3.25	4.75
3	2.75	4.00
4	2.25	3.25
5	1.75	3.00
6	1.25	2.25
7	1.00	1.50
8	0.75	1.25
9	0.50	1.00
10	0.50	0.75
11	0.50	0.75
12	0.50	0.75
13	0.50	0.75
14	0.50	0.75
15	0.50	0.75
16	0.50	0.50
17	0.50	0.50
18	0.50	0.50
19	0.50	0.50
20 and Over	0.50	0.50

Increase in the Internal Revenue

Code Section 401(a)(17)
Compensation Limit: Increase of 3.00% per year from the valuation date.

Increase in Section 7522.10
Compensation Limit: Increase of 3.00% per year from the valuation date.

Average Entry Age for
Member Contribution Rates: For non-PEPRA members hired after November 1974, they will pay a contribution corresponding to a General and Safety member hired at entry age 35 and 27, respectively.

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

Review of Economic Actuarial Assumptions for the June 30, 2015 Actuarial Valuation

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MARCH 2015

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April 14, 2015

Board of Retirement
Ventura County Employees' Retirement Association
1190 South Victoria Avenue, Suite 200
Ventura, CA 93003-6572

**Re: Review of Economic Actuarial Assumptions
For the June 30, 2015 Actuarial Valuation**

Dear Members of the Board:

We are pleased to submit this report of our review of the June 30, 2015 economic actuarial assumptions for the Ventura County Employees' Retirement Association. This report includes our recommendations and the analysis supporting their development.

Please note that we have also reviewed the non-economic actuarial experience for the three-year period from July 1, 2011 to June 30, 2014. The non-economic actuarial assumption recommendations are provided in a separate report.

We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

We look forward to reviewing this report with you and answering any questions you may have.

Sincerely,

Paul Angelo, FSA, EA, MAAA, FCA
Senior Vice President and Actuary

John Monroe, ASA, EA, MAAA
Vice President and Actuary

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I. INTRODUCTION, SUMMARY, AND RECOMMENDATIONS

To project the cost and liabilities of the pension fund, assumptions are made about all future events that could affect the amount and timing of the benefits to be paid and the assets to be accumulated. Each year actual experience is compared against the projected experience, and to the extent there are differences, the future contribution requirement is adjusted.

If assumptions are changed, contribution requirements are adjusted to take into account a change in the projected experience in all future years. There is a great difference in both philosophy and cost impact between recognizing the actuarial deviations as they occur annually and changing the actuarial assumptions. Taking into account one year's gains or losses without making a change in the assumptions in effect assumes that the experience is treated as temporary and that, over the long run, experience is expected to return to what was originally assumed. Changing assumptions reflects a basic change in thinking about the future, and it has a much greater effect on the current contribution requirements than the gain or loss for a single year.

The use of realistic actuarial assumptions is important to maintain adequate funding, while fulfilling benefit commitments to participants already retired and to those near retirement. The actuarial assumptions do not determine the "actual cost" of the plan. The actual cost is determined solely by the benefits and administrative expenses paid out, offset by investment income received. However, it is desirable to estimate as closely as possible what the actual cost will be so as to permit an orderly method for setting aside contributions today to provide benefits in the future, and to maintain equity among generations of participants and taxpayers.

This study was undertaken in order to review the economic actuarial assumptions. The study was performed in accordance with Actuarial Standard of Practice (ASOP) No. 27,[1] "Selection of Economic Assumptions for Measuring Pension Obligations." This Standard of Practice puts forth guidelines for the selection of the economic actuarial assumptions utilized in a pension plan actuarial valuation.

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1 ASOP No. 27 was revised in September 2013 effective for measurement dates on or after September 30, 2014. Since the recommendations developed herein are intended for use starting with the June 30, 2015 valuation, this study was performed in accordance with ASOP 27 as constituted after the 2013 revisions to the ASOP.

We are recommending changes in the investment return, inflation and "across the board" salary increase assumptions. Our recommendations for the economic actuarial assumptions for the June 30, 2015 Actuarial Valuation are as follows:

Inflation – Future increases in the Consumer Price Index (CPI) which drives investment returns and active member salary increases, as well as cost-of-living adjustments (COLAs) for retirees.
Recommendation: Reduce the assumed rate of price inflation from 3.25% to 3.00% per annum.

Investment Return – The estimated average future net rate of return on current and future assets of the Association as of the valuation date. This rate is used to discount liabilities.
Recommendation: Reduce the current investment return assumption from 7.75% per annum to 7.50% per annum. The 7.50% recommendation would be consistent with the Board's past practice of having a margin for adverse deviation under the risk adjusted model used by Segal. We further recommend changing to an explicit treatment of administrative expenses in the selection of an investment return assumption for use both in funding and in financial reporting required by the Governmental Accounting Standards Board (GASB).

Individual Salary Increases – Increases in the salary of a member between the date of the valuation to the date of separation from active service. This assumption has three components:

- Inflationary salary increases,
- Real "across the board" salary increases, and
- Promotional and merit increases.

Recommendation: Reduce the current inflationary salary increase assumption from 3.25% to 3.00% and reduce the current real "across the board" salary increase assumption from 0.75% to 0.50%. This means that the combined inflationary and real "across the board" salary increases will decrease from 4.00% to 3.50%. Please note that the promotional and merit increase assumption currently ranges from 0.50% to 8.00% and is a function of a member's years of service. The proposed promotional and merit increase assumptions are provided as part of our triennial experience study of non-economic assumptions, along with the other recommended non-economic assumptions for the June 30, 2015 valuation.

Section II provides some background on basic principles and the methodology used for the review of the economic actuarial assumptions. A detailed discussion of each of the economic assumptions and reasons behind the recommendations is found in Section III. The cost impact of these proposed changes is included in our separate analysis of the "non-economic" assumptions for the June 30, 2015 valuation.

II. BACKGROUND AND METHODOLOGY

For this study, we analyzed “economic” assumptions only. Our analysis of the “non-economic” assumptions for the June 30, 2015 valuation is provided in a separate report. The primary economic assumptions are inflation, investment return and salary increases.

Economic Assumptions

Economic assumptions consist of:

Inflation – Increases in the price of goods and services. The inflation assumption reflects the basic return that investors expect from securities markets. It also reflects the expected basic salary increase for active employees and drives increases in the allowances of retired members.

Investment Return – Expected long term rate of return on the Association’s investments after expenses. This assumption has a significant impact on contribution rates.

Salary Increases – In addition to inflationary increases, it is assumed that salaries will also grow by “across the board” real pay increases in excess of price inflation. It is also assumed that employees will receive raises above these average increases as they advance in their careers. These are commonly referred to as promotional and merit increases. Payments to amortize any Unfunded Actuarial Accrued Liability (UAAL) are assumed to increase each year by the price inflation rate plus any “across the board” real pay increases that are assumed.

The setting of these assumptions is described in Section III.

III. ECONOMIC ASSUMPTIONS

A. INFLATION

Unless an investment grows at least as fast as prices increase, investors will experience a reduction in the inflation-adjusted value of their investment. There may be times when "riskless" investments return more or less than inflation, but over the long term, investment market forces will generally require an issuer of fixed income securities to maintain a minimum return which protects investors from inflation.

The inflation assumption is long term in nature, so it is set using primarily historical information. Following is an analysis of 15 and 30 year moving averages of historical inflation rates:

Historical Consumer Price Index – 1930 to 2014

(U.S. City Average - All Urban Consumers)

	25th Percentile	Median	75th Percentile
15-year moving averages	2.6%	3.4%	4.6%
30-year moving averages	3.2%	4.1%	4.9%

The average inflation rates have continued to decline gradually over the last several years due to the relatively low inflationary period over the past two decades. Also, the later of the 15-year averages during the period are lower as they do not include the high inflation years of the mid-1970s and early 1980s.

In the 2013 public fund survey published by the National Association of State Retirement Administrators, the median inflation assumption used by 126 large public retirement funds in their 2012 valuations has decreased to 3.00% from the 3.25% used in the 2011 valuations. In California, CalPERS and LACERA have recently reduced their inflation assumptions to 2.75% and 3.00%, respectively.

VCERA's investment consultant, New England Pension Consultants (NEPC), anticipates an annual inflation rate of 3.25%. Note that, in general, the investment consultants' time horizon for this assumption is shorter than the time horizon we use for the actuarial valuation. We also note that the average inflation rate used by a sample of nine investment advisory firms is 2.53%.

To find a forecast of inflation based on a longer time horizon, we referred to the 2014 report on the financial status of the Social Security program. The projected average increase in the Consumer Price Index (CPI) over the next 75 years under the intermediate cost assumptions used in that report was 2.70%. We also compared the yields on the thirty-year inflation indexed U.S. Treasury bonds to comparable traditional U.S. Treasury bonds. As of January 2015, the difference in yields is 1.92%, which provides a measure of market expectations of inflation.

Based on all of the above information, we recommend that the current 3.25% annual inflation assumption be reduced to 3.00% for the June 30, 2015 actuarial valuation.

Retiree Cost-of-Living Increases

We also recommend maintaining the current assumptions to value the post-retirement COLA benefit at 3.00% per year for all General Tier 1 and Safety members. Note that General Tier 2 members with COLA provision are entitled to receive a fixed 2% COLA, not limited to actual changes in the CPI, that applies to future service after March 2003. The current and proposed COLA assumptions are shown below:

Maximum COLA for all General Tier 1 and Safety Members	Current Assumption	Proposed Assumption
3.00%	3.00%	3.00%

Note that in developing the COLA assumption, we also considered the results of a stochastic approach that would attempt to account for the possible impact of low inflation that could occur before COLA banks are able to be established for the member. Although the results of this type of analysis might justify the use of a lower COLA assumption, we are not recommending that at this time. The reasons for this conclusion include the following:

- The results of the stochastic modeling are significantly dependent on assuming that lower levels of inflation will persist in the early years of the projections. If this is not assumed, then the stochastic modeling will produce results similar to our proposed COLA assumptions.
- Using a lower long-term COLA assumption based on a stochastic analysis would mean that an actuarial loss would occur even when the inflation assumption of 3.00% is met in a year. We question the reasonableness of this result.

We do not see the stochastic possibility of COLAs averaging less than those predicted by the assumed rate of inflation as a reliable source of cost savings that should be anticipated in our COLA assumptions. Therefore, we continue to recommend setting the COLA assumptions based on the long-term annual inflation assumption, as we have in prior years.

B. INVESTMENT RETURN

The investment return assumption is comprised of two primary components, inflation and real rate of investment return, with adjustments for expenses and risk.

Real Rate of Investment Return

This component represents the portfolio's incremental investment market returns over inflation. Theory has it that, as an investor takes a greater investment risk, the return on the investment is expected to also be greater, at least in the long run. This additional return is expected to vary by asset class and empirical data supports that expectation. For that reason, the real rate of return assumptions are developed by asset class. Therefore, the real rate of return assumption for a retirement system's portfolio will vary with the Board's asset allocation among asset classes.

The following is the Association's current target asset allocation and the assumed real rate of return assumptions by asset class. The first column of real rate of return assumptions are determined by reducing NEPC's total return assumptions by their assumed 3.25% for inflation. The second column of returns (except for Private Debt/Credit Strategies, Absolute Return, Real Assets and Private Equity) represents the average of a sample of real rate of return assumptions. The sample includes the expected annual real rate of returns provided to us by NEPC and by eight other investment advisory firms retained by Segal's California public sector clients. We believe these assumptions reasonably reflect a consensus forecast of long term future real market returns.[2]

[2] Note that, just as for the inflation assumption, in general the time horizon used by the investment consultants in determining the real rate of return assumption is shorter than the time horizon encompassed by the actuarial valuation.

VCERA's Target Asset Allocation and Assumed Arithmetic Real Rate of Return Assumptions by Asset Class and for the Portfolio

Asset Class	Percentage of Portfolio	NEPC's Assumed Real Rate of Return[1]	Average Real Rate of Return from a Sample of Consultants to Segal's California Public Sector Clients[2]
Large Cap U.S. Equity	27.74%	5.58%	5.90%
Small Cap U.S. Equity	3.41%	6.39%	6.60%
Developed International Equity	14.73%	6.60%	6.95%
Emerging Market Equity	3.12%	8.80%	8.44%
U.S. Core Fixed Income	14.00%	0.97%	0.71%
Real Estate	7.00%	4.25%	4.65%
Private Debt/Credit Strategies	5.00%	6.01%	6.01%[3]
Absolute Return (Risk Parity)[4]	16.00%	4.13%	4.13%[3]
Real Assets (Master Limited Partnerships)[4]	4.00%	6.51%	6.51%[3]
Private Equity	5.00%	9.25%	9.25%[3]
Total Portfolio	100.00%	5.13%	5.26%

(1) *Derived by reducing NEPC's nominal rate of return assumptions by their assumed 3.25% inflation rate.*

(2) *These are based on the projected arithmetic real returns provided by the investment advisory firms serving the county retirement systems of Ventura, Alameda, Contra Costa, Sonoma, Mendocino, Kern, the LA City Employees' Retirement System, LA Department of Water and Power and the LA Fire & Police Pensions. These return assumptions are gross of any applicable investment expenses.*

(3) *For these asset classes, NEPC's assumption is applied in lieu of the average because there is a larger disparity in returns for these asset classes among the firms surveyed and using NEPC's assumption should more closely reflect the underlying investments made specifically for VCERA.*

(4) *These are categorized as "Liquid Alternatives" when reported to VCERA by NEPC.*

Please note that the above are representative of "indexed" returns and do not include any additional returns ("alpha") from active management. This is consistent with the revised Actuarial Standard of Practice No. 27, Section 3.8.3.d, which states:

> "Investment Manager Performance – Anticipating superior (or inferior) investment manager performance may be unduly optimistic (or pessimistic). The actuary should not assume that superior or inferior returns will be achieved, net of investment expenses, from an active investment management strategy compared to a passive investment management strategy unless the actuary

believes, based on relevant supporting data, that such superior or inferior returns represent a reasonable expectation over the measurement period."

The following are some observations about the returns provided above:

1. The investment consultants to our California public sector clients have each provided us with their expected real rates of return for each asset class, over various future periods of time. However, in general, the returns available from investment consultants are projected over time periods shorter than the durations of a retirement plan's liabilities.

2. Using a sample average of expected real rate of returns allows the Association's investment return assumption to reflect a broader range of capital market information and should help reduce year to year volatility in the investment return assumption.

3. Therefore, we recommend that the 5.26% portfolio real rate of return be used to determine the Association's investment return assumption. This is 0.05% lower than the return we used in 2012 to prepare the recommended investment return assumption. This difference is due to changes in the Association's target asset allocation (+0.33%) and changes in the real rate of return assumptions provided to us by the investment advisory firms (-0.38%).

Association Expenses

For funding purposes, the real rate of return assumption for the portfolio needs to be adjusted for investment expenses expected to be paid from investment income. As further discussed later in this report, current practice for VCERA also adjusts for expected administrative expenses. The following table provides these expenses in relation to the actuarial value of assets for the five years ending June 30, 2014.

Administrative and Investment Expenses as a Percentage of Actuarial Value of Assets
(All dollars in 000's)

FYE	Actuarial Value of Assets[1]	Administrative Expenses	Investment Expenses[2]	Administrative %	Investment %	Total %
2010	$3,134,978	$4,081	$6,256	0.13%	0.20%	0.33%
2011	3,236,217	4,387	7,404	0.14	0.23	0.36
2012	3,411,149	3,505	9,103	0.10	0.27	0.37
2013	3,633,626	3,944	9,901	0.11	0.27	0.38
2014	3,964,814	4,045	12,877	0.10	0.32	0.43
Average				0.12%	0.26%	0.37%

(1) *As of end of plan year.*

(2) *Excludes securities lending expenses. Because we do not assume any additional net return for this program, we effectively assume that any securities lending expenses will be offset by related income.*

The average expense percentage over this five-year period is 0.37%. Based on this experience, we have maintained the future expense assumption component at 0.40%. This assumption will be re-examined in subsequent assumption reviews as new data becomes available.

Note related to investment expenses paid to active managers – As cited in footnote 3, the 2014 revision to ASOP No. 27 indicates that the effect of an active investment management strategy should be considered "net of investment expenses".

We have not performed a detailed analysis to measure how much of the investment expenses paid to active managers might have been offset by additional returns ("alpha") earned by that active management. We do not believe that such a review would have a significant impact on the recommended investment return assumption developed using the above expense assumption. For now, we propose that any alpha that may be identified would be treated as an increase in the risk adjustment and corresponding confidence level. For example, 0.25% of alpha would increase the confidence level by 3% (see discussions that follow on definitions of risk adjustment and confidence level).

Adjustment to Exclude Administrative Expenses in Developing Investment Return Assumption for use in GASB Financial Reporting

In 2012, GASB adopted Statements 67 and 68 that replace Statements 25 and 27 for financial reporting purposes. GASB Statements 67 and 68 are effective for plan year 2013/2014 for the Retirement Association and fiscal year 2014/2015 for the employer.[3]

According to GASB, the investment return assumption for use in financial reporting purposes should be based on the long-term expected rate of return on a retirement system's investments and should be net of investment expenses but not of administrative expenses (i.e., without reduction for administrative expenses). As can be observed from the above development of the expense assumption, if the Board wishes to develop a single investment return assumption for both funding and financial reporting purposes, then it would be necessary to exclude the roughly 0.12% administrative expense from the above development and to develop a separate treatment of administrative expenses.

The issues associated with eliminating the consideration of administrative expenses when developing the investment return assumption used for funding, and the alternatives that are available to the Board in developing the investment return assumption for use in GASB financial reporting purposes are provided at the end of this Section. While we do recommend that the Board adopt an investment return for funding that is gross of administrative expenses (as discussed in the end of this Section), the preliminary discussion that follows has first been completed on a net of administrative expenses basis, to allow an "apples to apples" comparison with the current assumption.

Risk Adjustment

The real rate of return assumption for the portfolio generally is adjusted to reflect the potential risk of shortfalls in the return assumptions. The Association's asset allocation also determines this portfolio risk, since risk levels are driven by the variability of returns for the various asset classes and the correlation of returns among those asset classes. This portfolio risk is incorporated into the real rate of return assumption through a risk adjustment.

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3 The new Statements (67 and 68) will require more rapid recognition for investment gains or losses and much shorter amortization for actuarial gains or losses. Because of the more rapid recognition of those changes, retirement systems that have generally utilized the previous Statements (25 and 27) as a guideline to establish the employer's contribution amounts for both funding and financial reporting purposes would now have to prepare two sets of cost results, one for contributions and one for financial reporting under the new Statements.

The purpose of the risk adjustment (as measured by the corresponding confidence level) is to increase the likelihood of achieving the actuarial investment return assumption in the long term.[4] The 5.26% expected real rate of return developed earlier in this report was based on expected mean or average arithmetic returns. This means there is a 50% chance of the actual return in each year being at least as great as the average (assuming a symmetrical distribution of future returns). The risk adjustment is intended to increase that probability. This is consistent with our experience that retirement plan fiduciaries would generally prefer that returns exceed the assumed rate more often than not.

Three years ago, the Board adopted an investment return assumption of 7.75%. That return implied a risk adjustment of 0.41%, reflecting a confidence level of 54% that the actual average return over 15 years would not fall below the assumed return, assuming that the distribution of returns over that period follows the normal statistical distribution.[5]

In our model, the confidence level associated with a particular risk adjustment represents the likelihood that the actual average return would equal or exceed the assumed value over a 15-year period. For example, if we set our real rate of return assumption using a risk adjustment that produces a confidence level of 60%, then there would be a 60% chance (6 out of 10) that the average return over 15 years will be equal to or greater than the assumed value. The 15-year time horizon represents an approximation of the "duration" of the fund's liabilities, where the duration of a liability represents the sensitivity of that liability to interest rate variations.

If we use the same confidence level of 54% to set this year's risk adjustment, based on the current long-term portfolio standard deviation of 12.69% provided by NEPC, the corresponding risk adjustment would be 0.34%. Together with the other investment return components, this produces a net investment return assumption of 7.52%, which is lower than the current assumption of 7.75%.

Based on the general practice of using one-quarter percentage point increments for economic assumptions, we evaluated the effect on the confidence level of an alternative investment return assumption. In particular, a net investment return assumption of 7.50%, together with the other investment return components, would produce a risk adjustment of 0.36%, which corresponds to a confidence level of 54%.

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4 This type of risk adjustment is sometimes referred to as a "margin for adverse deviation".

5 Based on an annual portfolio return standard deviation of 13.50% provided by Hewitt Ennis Knupp in 2012. Strictly speaking, future compounded long-term investment returns will tend to follow a log-normal distribution. However, we believe the Normal distribution assumption is reasonable for purposes of setting this type of risk adjustment.

As we have discussed in prior years, the risk adjustment model and associated confidence level is most useful as a means for comparing how the Association has positioned itself relative to risk over periods of time.[6] The use of a 54% confidence level should be considered in context with other factors, including:

- As noted above, the confidence level is more of a relative measure than an absolute measure, and so can be reevaluated and reset for future comparisons.

- The confidence level is based on the standard deviation of the portfolio that is determined and provided to us by NEPC. The standard deviation is a statistical measure of the future volatility of the portfolio and so is itself based on assumptions about future portfolio volatility and can be considered somewhat of a "soft" number.

- A lower assumed level of inflation should reduce the overall risk of failing to meet the investment return assumption. Maintaining or even lowering the confidence level to some extent could be justified as consistent with the change in the inflation assumption.

- As with any model, the results of the risk adjustment model should be evaluated for reasonableness and consistency. This is discussed in the later section on "Comparison with Other Public Retirement Systems".

Taking into account the factors above, our preliminary recommendation is to reduce the net investment return assumption from 7.75% to 7.50%. As noted above, this return implies a 0.36% risk adjustment, reflecting a confidence level of 54% that the actual average return over 15 years would not fall below the assumed return.

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6 In particular, it would not be appropriate to use this type of risk adjustment as a measure of determining an investment return rate that is "risk-free."

Preliminary Recommended Investment Return Assumption

The following table summarizes the components of the preliminary investment return assumption developed in the previous discussion. For comparison purposes, we have also included similar values from the last study.

Calculation of Net Investment Return Assumption

Assumption Component	June 30, 2015 Preliminary Recommended Value	June 30, 2012 Adopted Value
Inflation	3.00%	3.25%
Plus Portfolio Real Rate of Return	5.26%	5.31%
Minus Expense Adjustment	(0.40%)	(0.40%)
Minus Risk Adjustment	(0.36%)	(0.41%)
Total	7.50%	7.75%
Confidence Level	54%	54%

Based on this analysis, our preliminary recommendation is that the investment return assumption be reduced from 7.75% per annum to 7.50% per annum. Our final recommendation follows later in this section after discussion regarding a change in how expected administration expenses are handled.

Comparison with Other Public Retirement Systems

One final test of the recommended investment return assumption is to compare it against those used by other public retirement systems, both in California and nationwide.

We note that a 7.50% investment return assumption is emerging as the common assumption among those California public sector retirement systems that have studied this assumption recently. In particular two of the largest California systems, CalPERS and LACERA, adopted a 7.50% earnings assumption. Note that CalPERS uses a lower inflation assumption of 2.75% while LACERA uses an inflation assumption of 3.00%. However, five County employees retirement systems (Orange, Contra Costa, Fresno, Mendocino and San Mateo) have recently adopted a 7.25% earnings assumption.

The following table compares the VCERA recommended net investment return assumptions against those of the nationwide public retirement systems that participated in the National Association of State Retirement Administrators (NASRA) 2013 Public Fund Survey:

Assumption	**VCERA**	**NASRA 2013 Public Fund Survey**		
		Low	Median	High
Net Investment Return	7.50%	6.50%	7.90%	8.50%

The detailed survey results show that of the systems that have an investment return assumption in the range of 7.50% to 7.90%, almost half of those systems have used an assumption of 7.50%. The survey also notes that several plans have reduced their investment return assumption during the last year, and others are considering doing so. State systems outside of California tend to change their economic assumptions slowly and so may lag behind emerging practices in this area.

In summary, we believe that both the risk adjustment model and other considerations indicate a lower earnings assumption. The recommended assumption of 7.50% continues to provide for some risk margin within the risk adjustment model as compared to three years ago and is consistent with the Association's current practice relative to other public systems.

Developing an Investment Return Assumption for use in Accounting and Financial Reporting under GASB Statement 67 and 68

The Governmental Accounting Standards Board (GASB) has adopted Statements 67 and 68 that replace Statements 25 and 27 for financial reporting purposes. We now discuss the issues and policy alternatives available to VCERA in developing its investment return assumptions in a manner that will allow the Plan to maintain consistency in its liability measurements for funding and financial reporting purposes.

Background

GASB Statement 67 governs the Plan's financial reporting and is effective for plan year 2013/2014, while GASB Statement 68 governs the employers' financial reporting and is effective for fiscal year 2014/2015. The new Statements specify requirements for measuring both the pension liability and the annual pension expense incurred by the employers. The new GASB requirements are only for financial reporting and do not affect how the Plan determines funding requirements for its employer. Nonetheless, it is important to understand how the new financial reporting results will compare with the funding requirement results. The comparison between funding and GASB financial reporting results will differ dramatically depending on whether one is considering measures of the accumulated pension liability or measures of the current year annual pension contribution/expense:

- When measuring pension liability GASB will use the same actuarial cost method (Entry Age method) and the same type of discount rate (expected return on assets) as VCERA uses for funding. This means that the GASB "Total Pension Liability" measure for financial reporting will be determined on generally the same basis as VCERA's "Actuarial Accrued Liability" measure for funding. This is a generally favorable feature of the new GASB rules that should largely preclude the need to explain why VCERA has two different measures of pension liability. We note that the same is generally true for the "Normal Cost" component of the annual plan cost for both funding and financial reporting.

- When measuring annual pension expense, GASB will require more rapid recognition of investment gains or losses and much shorter amortization of changes in the pension liability (whether due to actuarial gains or losses, actuarial assumption changes or plan amendments). Because of GASB's more rapid recognition of those changes, retirement systems that have generally used the same "annual required contribution" amount for both funding (contributions) and financial reporting (pension expense) will now have to prepare and disclose two different annual cost results, one for contributions and one for financial reporting under the new GASB Statements.

This situation will facilitate the explanation of why the funding and financial reporting results are different: the liabilities and Normal Costs are generally the same, and the differences in annual costs are due to differences in how changes in liability are recognized. However, there is one other feature that will make the liability and Normal Cost measures different unless action is taken by VCERA.

Treatment of Expected Administrative Expenses when Measuring Liabilities

As noted above, according to GASB, the discount rate used for financial reporting purposes should be based on the long-term expected rate of return on a retirement system's investments, just as it is for funding. However, GASB requires that this assumption should be net of investment expenses but not net of administrative expenses (i.e., without reduction for administrative expenses). Currently, VCERA's investment return assumption used for the annual funding valuation is developed net of both investment and administrative expenses.

While VCERA could continue to develop its funding investment return assumption net of both investment and administrative expenses, that would mean that the Association would then have two slightly different investment return assumptions, one for funding and one for financial reporting. To avoid this apparent discrepancy and to maintain the consistency of liability and Normal Cost measures described above, we believe that it would be preferable to use the same investment return assumption for both funding and financial reporting purposes. This means that the assumption for funding purposes would be developed on a basis that is net of only investment expenses, with an explicit assumption for administrative expenses.

To review, using the same investment return assumption for both purposes would be easier for VCERA's stakeholders to understand and should result in being able to report VCERA's Actuarial Accrued Liability (AAL) for funding purposes as the Total Pension Liability (TPL) for financial reporting purposes.

Development of Investment Return Assumption For Funding on a Gross of Administrative Expenses Basis so the Same Assumption Can Also Be Used for Financial Reporting ("Option A")

If the Board wishes to develop a single investment return assumption for both funding and financial reporting purposes, then it would be necessary to exclude the administrative expense component of about 0.12% from development of the 7.50% investment return preliminary recommendation. Under this approach, because these economic assumptions are generally changed in ¼% increments, there would be no change in the recommended investment return assumption as developed earlier in this report. Instead, there would be an increase in the risk adjustment of 0.12%, with a corresponding increase in the confidence level from 54% to 55%.

Under this approach, there would also be an explicit loading for administrative expenses. There are various ways to set the explicit administrative expense load assumption, but ultimately the method should result in an assumption that is approximately equivalent to about $5 million annually, or 0.7% of payroll.

This approach and our final recommendation for the investment return assumption is presented in the following table.

Calculation of Net Investment Return Assumption

Assumption Component	June 30, 2015 Recommended Values if Used only for Funding (Net of Admin. Expenses)	June 30, 2015 Recommended Values for both Funding and Financial Reporting (Gross of Admin. Expenses)
Inflation	3.00%	3.00%
Plus Portfolio Real Rate of Return	5.26%	5.26%
Minus Expense Adjustment	(0.40%)	(0.28%)
Minus Risk Adjustment	(0.36%)	(0.48%)
Total	7.50%	7.50%
Confidence Level	54%	55%
Increase in combined Employer and Employee Contributions Due to Explicit Load for Administrative Expenses (Cost as % of Payroll)	Not Applicable	0.70% of pay

There is an additional complication associated with eliminating the administrative expenses in developing the investment return assumption used for funding that relates to the allocation of administrative expenses between the employers and employees:

1. Even though GASB requires the exclusion of the administrative expenses from the investment return assumption, such expense would continue to accrue for a retirement system. For private sector retirement plans, where the investment return is developed using an approach similar to that required by GASB (i.e., without deducting administrative expenses), contribution requirements are increased explicitly by the anticipated annual administrative expense. That approach is illustrated in the table above.

2. Under VCERA's current approach of subtracting the administrative expense in the development of the investment return assumption, such annual administrative expense is funded implicitly by effectively deducting it from future expected investment returns. Since an investment return

assumption net of investment and administrative expenses has been used historically to establish both the employer's and the employee's contribution requirements, these administrative expenses have been funded implicitly by both the employer and the employees.

3. A switch from the method described in (2) to the method described in (1) may require a new discussion on how to allocate administrative expenses between employers and employees, including possibly establishing a new method to allocate the anticipated annual administrative expense between them. Under current practice, part of the implicit funding of administrative expenses is in the Normal Cost and so is shared between the employer and the employees. However, the rest of the implicit expense funding is in the (Unfunded) Actuarial Accrued Liability, which is funded solely by the employers.

4. It is not straightforward to quantify precisely the current implicit sharing of administrative expenses between employers and employees. This means that an exact reproduction of that allocation on an explicit basis will be difficult to develop. This in turn means that VCERA would need to develop a new basis for sharing the cost of administrative expenses, one that if desired, approximately reproduces the current allocation. Alternatively, VCERA could decide to treat administrative expenses as a loading applied only to the employer contribution rates, which is the practice followed by private plans, both single employer and multi-employer.

5. As the Board is aware, legislative changes under AB 340 imposed major modifications to both the level of benefits and the cost-sharing of the funding of those benefits for county employees' retirement systems. Included in such modifications is the requirement (for future hires) to fund the Normal Cost on a 50:50 basis between the employer and the employee. As noted in (3) above, under current practice, part of the implicit funding of administrative expenses is in the Normal Cost and so would be shared between the employer and the employees. This would not necessarily continue when the administrative expense loading is developed separate from the Normal Cost.

If, as we recommend, the Board wishes to continue to develop a single investment return assumption for both funding and financial reporting purposes, it is our recommendation that the Board adopt a change in the funding of administrative expenses from the method described in (2) above with an implicit allocation of administrative expenses to the method described in (1) above with an explicit allocation of administrative expenses.

In addition, we recommend that the total explicit administrative expense load assumption be set at 0.70% of payroll, which is approximately equivalent to about 0.12% of assets or $5 million

annually. This assumption would be reviewed with each triennial experience study, along with the other economic assumptions.

The more significant issues mentioned in (3), (4) and (5) above concern whether or not the costs associated with the administrative expenses should continue to be allocated to both the employers and the employees. Unless the Board wishes to charge administrative expenses only to the employers, we propose a method whereby the costs associated with the explicit assumption for administrative expenses continue to be allocated to both employers and employees. We recommend a straightforward way to do that in a manner generally consistent with current practice, which is to allocate expenses based on the components of the total contribution rate (before expenses) for employers and employees. These components would be employee Normal Cost contributions, employer Normal Cost contributions and employer UAAL contributions. **Under this recommended approach, of the total administrative expenses of about $5 million or 0.70% of payroll, about $1.1 million or 0.15% of payroll would be allocated to the employees and $3.9 million or 0.55% of payroll would be allocated to the employers in the aggregate. This allocation would be based on the actual components in each valuation and could change slightly each year.**

Development of Investment Return Assumption for Funding on a Net of Administrative Expenses Basis but use that Same Assumption for Financial Disclosure Development ("Option B")

If the Board decides to leave the recommended investment return assumption of 7.50% on a net of administrative expense basis for funding purposes, we believe there still is a way to use that same 7.50% for financial reporting purposes under GASB. Under this approach, what appears to be the same 7.50% assumption would actually be used as two slightly different assumptions: 7.50% net of administrative expenses for funding, and 7.50% gross of administrative expenses for financial reporting. This would indirectly result in an increase in the margin for adverse deviation or "confidence level" associated with the use of the recommended 7.50% assumption from 54% as used for funding purposes to 55% only as used for financial reporting purposes.

The Board had previously adopted this Option B on an interim basis last year for use in performing the June 30, 2014 actuarial valuation and the June 30, 2014 GASB 67 report.

The following table summarizes the components of the investment return assumption under this approach, using the recommended 7.50% assumption for both funding (net of administration expenses) and financial reporting (gross of administration expenses), but with differing treatment of administrative expenses:

Calculation of Net Investment Return Assumption

Assumption Component	June 30, 2015 Recommended Values if Used only for Funding (Net of Admin. Expenses)	June 30, 2015 Alternative Values for Financial Reporting (Gross of Admin. Expenses)
Inflation	3.00%	3.00%
Plus Portfolio Real Rate of Return	5.26%	5.26%
Minus Expense Adjustment	(0.40%)	(0.28%)
Minus Risk Adjustment	(0.36%)	(0.48%)
Total	7.50%	7.50%
Confidence Level	54%	55%

Note that under both Option A and Option B the confidence level for financial reporting increases from 54% to 55% (because the risk adjustment increases from 0.36% to 0.48%). The difference is that under Option A the same confidence level increase would apply for funding purposes, along with the addition of an explicit loading on the contribution rates for administrative expenses.

C. SALARY INCREASE

Salary increases impact plan costs in two ways: (i) by increasing members' benefits (since benefits are a function of the members' highest average pay) and future normal cost collections; and (ii) by increasing total active member payroll which in turn generates lower UAAL contribution rates. These two impacts are discussed separately below.

As an employee progresses through his or her career, increases in pay are expected to come from three sources:

1. Inflation – Unless pay grows at least as fast as consumer prices grow, employees will experience a reduction in their standard of living. There may be times when pay increases lag or exceed inflation, but over the long term, labor market forces may require an employer to maintain its employees' standards of living.

   As discussed earlier in this report, we are recommending that the assumed rate of inflation be reduced from 3.25% to 3.00%. This inflation component is used as part of the salary increase assumption.

2. Real "Across the Board" Pay Increases – These increases are typically termed productivity increases since they are considered to be derived from the ability of an organization or an economy to produce goods and services in a more efficient manner. As that occurs, at least some portion of the value of these improvements can provide a source for pay increases. These increases are typically assumed to extend to all employees "across the board." The State and Local Government Workers Employment Cost Index produced by the Department of Labor provides evidence that real "across the board" pay increases have averaged about 0.5% - 0.7% annually during the last ten to twenty years.

   We also referred to the annual report on the financial status of the Social Security program published in July 2014. In that report, real "across the board" pay increases are forecast to be 1.1% per year under the intermediate assumptions.

   The real pay increase assumption is generally considered a more "macroeconomic" assumption, that is not necessarily based on individual plan experience. However, recent salary experience with public systems in California as well as anecdotal discussions with plans and plan sponsors indicate lower future real wage growth expectations for public sector employees.

Considering these factors, we recommend reducing the real "across the board" salary increase assumption from 0.75% to 0.50%. This means that the combined inflation and "across the board" salary increase assumption will decrease from 4.00% to 3.50%.

3. Promotional and Merit Increases – As the name implies, these increases come from an employee's career advances. This form of pay increase differs from the previous two, since it is specific to the individual. For VCERA, there are service-specific merit and promotional increases. These assumptions have been reviewed as part of our triennial experience study as of June 30, 2015.

   Recommended promotional and merit assumptions are provided as part of our triennial experience analysis.

All three of these forces will be incorporated into a salary increase assumption which is applied in the actuarial valuation to project future benefits and future normal cost contribution collections.

Active Member Payroll

Projected active member payrolls are used to develop the UAAL contribution rate. Future values are determined as a product of the number of employees in the workforce and the average pay for all employees. The average pay for all employees increases only by inflation and real "across the board" pay increases. The promotional and merit increases are not an influence, because this average pay is not specific to an individual.

We recommend that the active member payroll increase assumption be decreased from 4.00% to 3.50% annually, consistent with the combined inflation plus real "across the board" salary increase assumptions.

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NEPC, LLC

To: Ventura County Employees' Retirement Association

From: Dan LeBeau, Allan Martin, and Tony Ferrara, CAIA

Date: May 11, 2015

Subject: VCERA Securities Lending Program Update

Background

The Ventura County Employees' Retirement Association (the 'Plan') currently participates in a securities lending program offered by the Plan's custodian bank, State Street Corporation, and has since 1997. The Quality D Short Term Investment Fund (STIF) is the pool that is used for investment of the cash collateral received from borrowers. In the wake of the global financial crisis, the Quality D pool was split into two pieces, one of which included securities trading at par with short-term maturities (the Liquidity pool), and a second (the Duration pool) that included longer dated maturities of asset-backed securities not trading at par. To date, more than 90% of the Duration pool investments have matured at par. As of May 7, 2015, the NAV of the Duration pool was $0.9645, which is an increase from the $0.95 valuation seen in the wake of the global financial crisis, but still below the $1.00 NAV that cash collateral pools are required to maintain to provide the liquidity necessary to allow investors to enter and exit without impacting other investors in the pool. The fact that the pool is trading below $1.00 is a direct result of the de-leveraging event that occurred in late 2008 and early 2009, as investors were forced to sell securities at significant discounts to meet cash flow needs. The longer dated securities that remain in the Duration pool are causing a current collateral deficiency of approximately $200,000, or less than one half of 0.01% of the Plan's total assets.

Historically, the Plan's securities lending program generated income that was used to offset Plan expenses, and since 2001, the program has earned approximately $7.2 million for the Plan. Exhibit 1 on the following page shows the annual earnings from 2010 through 2014. Note that the program averaged $240,000 in annual earnings over this five-year period (approximately $1.2 million in total), with the peak coming in 2010. The majority of the $7.2 million in income was earned from 2001 – 2009. The decline in income over the past several years is the result of the Plan migrating away from separately managed accounts into commingled funds, which by their nature are not lendable.

Exhibit 1

VCERA Securities Lending Income History

	Fiscal Year				
	2014	**2013**	**2012**	**2011**	**2010**
Gross Earnings	195,676	352,795	438,569	676,128	713,289
Borrower Rebates	4,968	76,539	75,708	263,158	235,345
Fees Paid to Agent	57,237	82,905	108,885	123,919	143,407
Net Earnings	**133,471**	**193,352**	**253,977**	**289,052**	**334,537**

Source: State Street; current revenue split is 70% to VCERA/30% to State Street

Historically, the Plan had more of its assets invested via separately managed accounts, which provided a significant lendable asset base. Today, the lendable base of assets, or those assets eligible to be lent, is approximately $768 million or ~18% of Plan assets. However, two of the portfolios that are eligible to lend securities (Loomis Sayles Global Fixed Income and PIMCO Global Fixed Income) have been recommended for termination, and after that is complete, the lendable asset base will be approximately $550 million or ~13% of Plan assets.

As of March 31, 2015, there was approximately $76 million in assets out on loan (approximately 10% of the lendable asset base), and the termination of the global fixed income asset class will reduce the amount of assets out on loan by approximately $28 million (37%), resulting in a reduction in income of approximately $36,000/annum, bringing expected annual earnings to approximately $100,000/annum.

Outlook for Securities Lending Program Going Forward

The Plan invested a large portion of its equity and fixed income allocations via separately managed portfolios in the past, which provided a larger asset base for lending. As the Plan has evolved, allocations to traditional equities and fixed income strategies have changed, and the portfolios that currently comprise those areas are now mostly commingled investment vehicles, reducing the asset base for lending and the potential for income generation. It should be noted that several of the Plan's investments via commingled investment vehicles do participate in securities lending within the vehicle itself.

Referring back to Exhibit 1, if one projects the 2015 income to be reduced by approximately $36,000/annum, the expected income for VCERA is approximately $100,000/annum, which is considerably less than the average $240,000 the Plan has earned annually since 2010. Additionally, the low level of assets available for lending going forward eliminates the possibility of exploring a separately managed collateral pool for the Plan. State Street only offers separately managed collateral pool management for significant pools of assets. The only option available to the Plan at the proposed level of assets is a fund managed similar to a 2a-7 money market fund, further reducing the expected income going forward.

Securities lending income is often thought of as an offset to administrative fees for pension plans. Going forward, the Board should consider the level of income that is expected to be earned relative to the time commitment of Staff to administer and monitor the program. It is also important to note that the Plan would have to take its pro-rata share of the Duration pool investments if it wished to exit the securities lending program at this time. These assets could be moved to an existing VCERA fixed income manager or State Street could be instructed to sell the investments. Based on current pricing of the investments, VCERA would need to inject approximately $200,000 (the current collateral deficiency resulting from the $0.9645 NAV of the Duration pool) to pay borrowers back the collateral pledged for loans from the Plan. Going forward, VCERA may elect to reserve securities lending income to offset any potential trading loss associated with the liquidation of Duration pool investments.

Conclusion

While securities lending offers a relatively low risk cash flow, it does represent an investment decision, and as such should be evaluated in a risk and return framework. In the long run, NEPC believes that securities lending is a viable market activity that can provide incremental earnings to clients who have considerable assets invested via separately managed portfolios. The Plan’s securities lending program has earned higher income historically, but going forward, income estimates are much lower due to the Plan’s change in structure and increased investment in commingled investment vehicles. In the near-term, in the absence of another liquidity crisis, the value of the Duration pool will return to $1.00 over time, and the Plan’s on-going participation in the securities lending program would allow the Plan to avoid the need to pay the collateral deficiency to make borrowers whole.

Ventura County Employees' Retirement Association

State Street Securities Finance

Program Review

May 18, 2015

STATE STREET

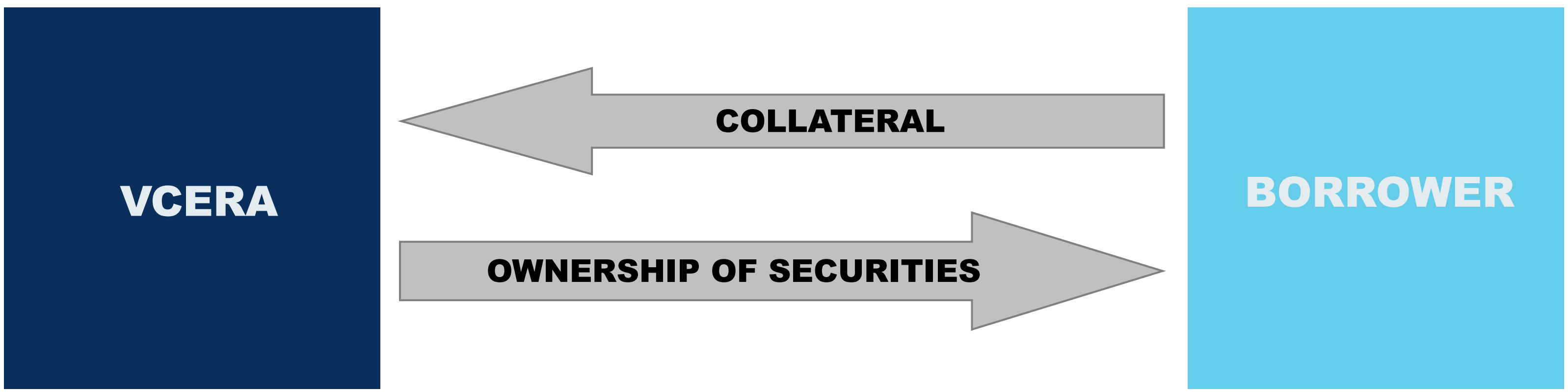
Agenda

- Introduction to Securities Lending
- VCERA Performance
- Collateral Pool Review

STATE STREET.

Securities Lending

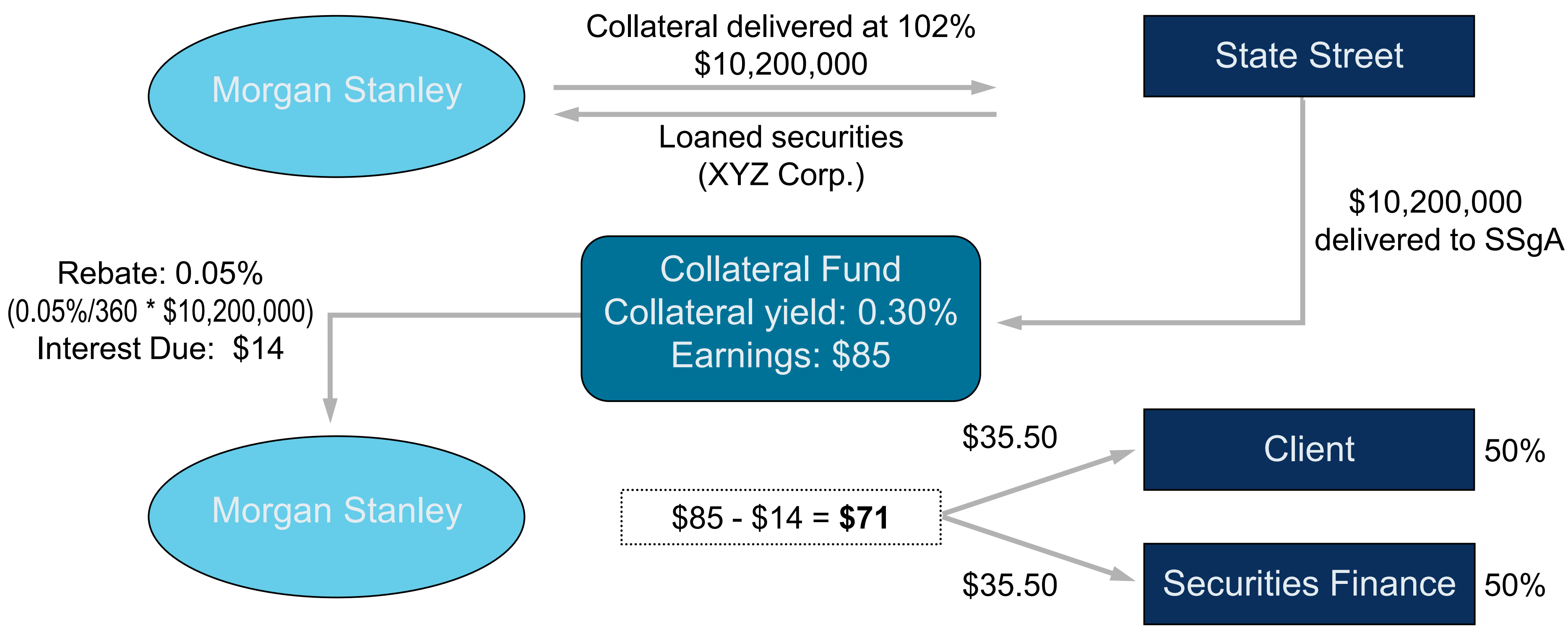
An investment management product where participants generate revenue by temporarily transferring idle securities, in a collateralized transaction, to a borrower.



- Lender transfers legal ownership of securities while retaining rights of beneficial ownership (i.e., entitlements on all dividend distributions and corporate actions)
- Borrower is contractually obligated to return the securities upon recall by the lender

Fundamentals of Securities Finance

One Day Sample Transaction Diagram



Yield – Rebate = **Total Spread**	Yield – Fed Funds Rate = **Investment Spread**	Fed Funds Rate – Rebate = **Demand Spread**
0.30% - 0.05% = 0.25% (25 bps)	0.30% - 0.15% = 0.15% (15 bps)	0.15% - 0.05% = 0.10% (10 bps)

Collateral Yield and Rebate Rate are annualized using a 360 – day basis.

Fundamentals of Securities Lending

How are Earnings Generated?

Cash collateral is posted by the borrower at the inception of the lending transaction

State Street pays interest (the “rebate”) on the cash to the borrower at a rate that reflects the supply/demand characteristics of the loaned security

State Street invests this cash collateral according to the client’s investment guidelines

The difference between the yield on the investment of the cash and the interest paid to the borrower represents the earnings or “spread”

VCERA Performance

Relationship Summary

- Our relationship commenced in May 1997
- VCERA has 5 funds in securities lending
  - 2M1N – Western Asset Management
  - 2M2D – Loomis, Sayles & Co. LP
  - 2M2F – Western Asset Management
  - 2M2P - Pimco
  - 2M2S – Tortoise Captial
- Earnings Summary (calendar year)
  - Since Inception ~ $7.2 million (thru 2014)
  - 2015 YTD ~ $ 50 k (as of 5/10/15)
- Programs
  - U.S. Equity
  - U.S. Corporate Bonds
  - US Government
- Cash Collateral
  - Quality D
- VCERA is indemnified against borrower default

Notes:
(1) Data represents past performance and is not a guarantee of future results
(2) Data Source: Securities Finance Business Intelligence

STATE STREET.

VCERA’s Securities Lending Performance

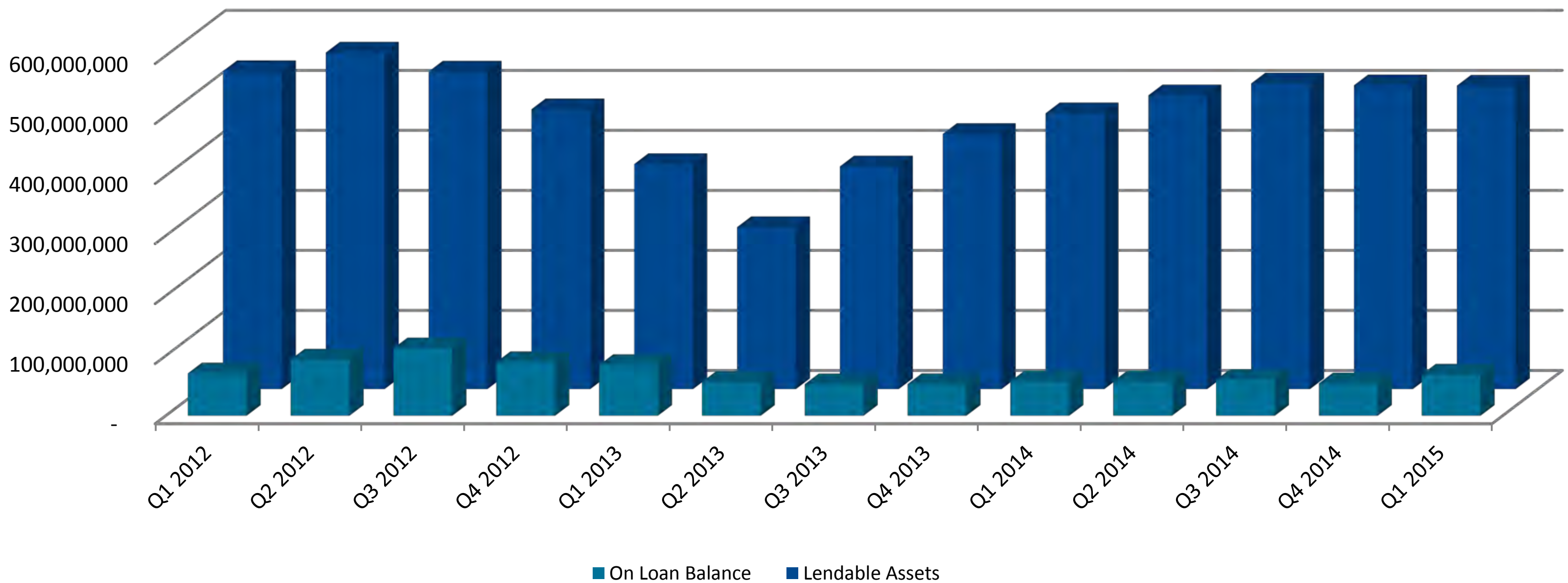
Ventura County Employees' Retirement Association				
	FY 2012	FY 2013	FY 2014	FYTD 2015
Average Lendable ($)	516,751,388	401,002,866	436,258,771	507,012,696
Average On Loan ($)	110,635,811	83,525,670	54,867,910	60,681,649
Utilization	21.4%	20.8%	12.6%	12.0%
Earnings by Program ($)				
US Equity & Corp. Bond	120,568	118,240	93,505	61,182
US Government & Agency	133,404	70,991	32,331	22,280
Non-US Fixed	4	4,121	7,635	3,950
Total Earnings	253,976	193,352	133,471	87,413
Components of Spread (bps)				
Demand Spread	6	10	16	10
Reinvestment Spread	26	22	18	17
Net Spread	32	32	34	27
Return to Lendable (bps)	4.9	4.8	3.1	2.3

Notes:
(1) FYTD 2015 Data includes July 2014 - March 2015
(2) Risk-Free rate used for spread calculations is Fed Funds Open
(3) Data represents past performance and is not a guarantee of future results
(4) Data Source: Securities Finance Business Intelligence

STATE STREET.

Lendable and On Loan Trend

Q1 2012 – Q1 2015



Notes:

(1) Data represents past performance and is not a guarantee of future results

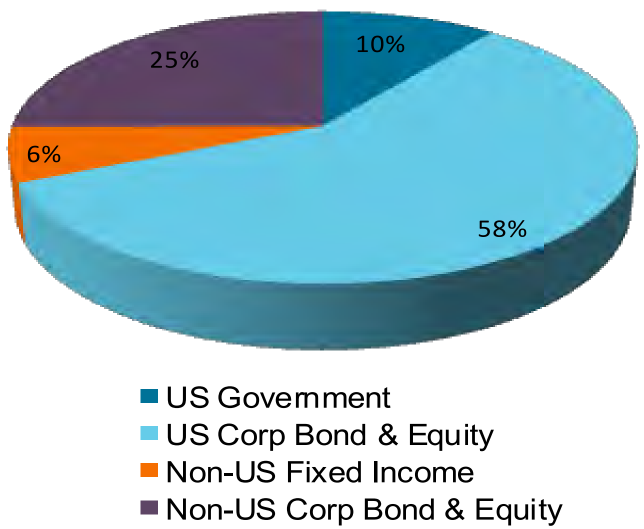
(2) Data Source: Securities Finance Business Intelligence

STATE STREET.

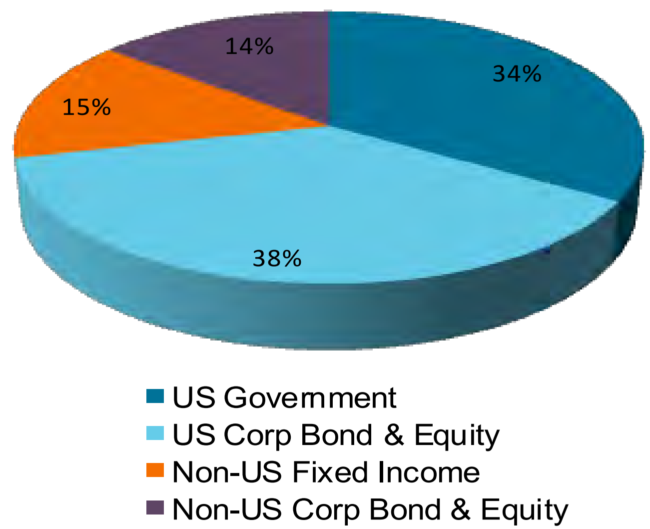
Program Update

Large and Diverse Program

Assets Available for Loan
Approximately $3.3 trillion



On Loan Balances
Approximately $353 billion



 Source: Securities Finance Business Intelligence

Currency reflected in U.S. dollars

STATE STREET.

As of March 31, 2015

Global Presence

- Approximately 314 active agency and principal clients worldwide
- Approximately 126 borrower relationships
- Lending across more than 30 international markets
- 9 regional locations with 5 trading desks and 3 full service operations centers
- Approximately 236 employees dedicated specifically to securities lending activities

The Americas

- **Boston, Massachusetts**
  (World Headquarters)
- Los Angeles, California
- Toronto, Ontario

Europe/Middle-East/Africa

- Dublin, Ireland
- London, England

Asia/Pacific

- Hong Kong, China
- Sydney, Australia
- Tokyo, Japan
- Singapore, Singapore

- **Full Service Center**
- **Relationship Management Office**
- **Relationship Management and Trading Office**
- **Relationship Management and Operations**

As of March 31, 2015

STATE STREET

Collateral Pool

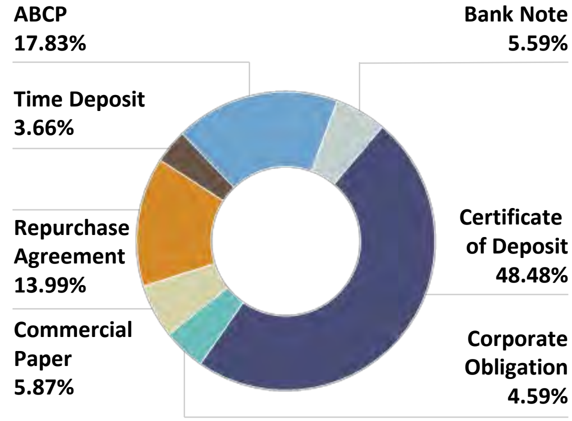
Quality Investment Fund D

FC14 – Quality D

Summary Characteristics

As of March 31, 2015	
1-Day Yield[1]	0.28%
Par Position + Uninvested Cash (in millions)	10,847.94
Floating Rate	48.13
Foreign Issuers[2]	17.92
Weighted Average Maturity (WAM)[3]	38
Weighted Average Life (WAL)[4]	136
Fund Price as of 3/31/15	1.00
Number of Holdings	73
Liquidity Schedule	**% of Fund**
Next Business Day (1 Day)	16.03
2–7 Days Liquidity	1.15
8–14 Days Liquidity	1.43
15–21 Days Liquidity	0.55
22–28 Days Liquidity	3.69
29–35 Days Liquidity	1.85
36–60 Days Liquidity	6.00
61–90 Days Liquidity	15.61
Greater than 90 Days Liquidity	53.67
90 Day Liquidity	**46.33**

Long-term Ratings	% of Fund
AAA	—
AA	11.84
A	26.20
BBB+	—
BBB	—
BBB-	—
BB+	—
BB	—
BB-	—
Short-term Ratings	**% of Fund**
A-1+/P-1	6.24
A-1/P-1	47.51
SPLIT	—
Other	8.22



Source: SSgA, Bloomberg. Ratings are from Bloomberg and are S&P. Past performance is not a guarantee of future results.

[1] 1 Day yield does not include Management Fees

[2] All YCD's and Repo are being reported as Domestic and thus not included in the % Foreign Issuers

[3] Weighted Average Maturity (WAM): aggregation of WAM of underlying securities in fund defined as (1) Floating rate securities: Next Reset Date - Current Date; (2) Fixed Rate: Maturity Date - Current Date defined in days

[4] Weighted Average Life (WAL): aggregation of WAL of underlying securities in fund defined as (1) Floating rate securities: Expected Maturity Date - Current Date; (2) Fixed Rate: Expected Maturity Date - Current Date (defined in days)

STATE STREET GLOBAL ADVISORS

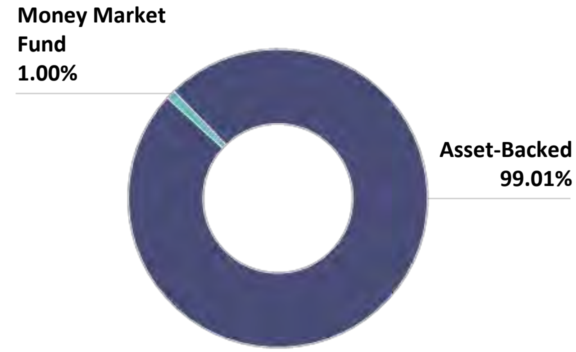
Quality D Duration

FC4J – Quality D Duration

Summary Characteristics

As of March 31, 2015	
1-Day Yield[1]	0.49%
Par Position + Uninvested Cash (in millions)	474.10
Floating Rate	99.01
Foreign Issuers[2]	71.79
Weighted Average Maturity (WAM)[3]	43
Weighted Average Life (WAL)[4]	2,131
Fund Price as of 3/31/15	0.97
Number of Holdings	28
Liquidity Schedule	**% of Fund**
Next Business Day (1 Day)	1.00
2–7 Days Liquidity	0.00
8–14 Days Liquidity	0.00
15–21 Days Liquidity	0.00
22–28 Days Liquidity	0.00
29–35 Days Liquidity	0.00
36–60 Days Liquidity	0.00
61–90 Days Liquidity	1.18
Greater than 90 Days Liquidity	97.82
90 DAY LIQUIDITY	**2.18**

Long-term Ratings	**% of Fund**
AAA	10.92
AA	26.79
A	53.06
BBB+	—
BBB	1.18
BBB-	—
BB+	—
BB	—
BB-	—
Short-term Ratings	**% of Fund**
A-1+/P-1	—
A-1/P-1	—
SPLIT	—
Other	8.06



Source: SSGA, Bloomberg. Ratings are from Bloomberg and are S&P. Past performance is not a guarantee of future results.

[1] 1-Day yield does not include Management Fees

[2] All YCD's and Repo are being reported as Domestic and thus not included in the % Foreign Issuers

[3] Weighted Average Maturity (WAM): aggregation of WAM of underlying securities in fund defined as (1) Floating rate securities: Next Reset Date - Current Date; (2) Fixed Rate: Maturity Date - Current Date defined in days

[4] Weighted Average Life (WAL): aggregation of WAL of underlying securities in fund defined as (1) Floating rate securities: Expected Maturity Date - Current Date; (2) Fixed Rate: Expected Maturity Date - Current Date (defined in days)

STATE STREET GLOBAL ADVISORS.

Quality D Collateral Pool Allocation

- December 31, 2010 collateral pool allocation
  - Liquidity Pool ~ $152.9 (68.9%)
  - Duration Pool ~ $ 69.0 (31.1%)
- December 31, 2011 allocation
  - Liquidity Pool ~ $ 64.7 (73.7%)
  - Duration Pool ~ $ 23.0 (26.3%)
- December 31, 2012 allocation
  - Liquidity Pool ~ $ 58.9 (85.6%)
  - Duration Pool ~$ 9.8 (14.4%)
- December 31, 2013 allocation
  - Liquidity Pool ~ $ 43.5 (84.7%)
  - Duration Pool ~ $ 7.8 (5.36%)
- December 31, 2014 collateral pool allocation
  - Liquidity Pool ~ $ 47.9 (89.3%)
  - Duration Pool ~ $ 5.7 (10.7%)
- April 30, 2014 collateral pool allocation
  - Liquidity Pool ~ $ 64.3 (92.5%)
  - Duration Pool ~ $ 5.2 (7.5%)
- The Quality D duration fund has received over $9.0 b in maturities and pay-downs
- The collateral pools have not experienced any defaults

Important Disclosures

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THANK YOU!

NEPC, LLC

To: Ventura County Employees' Retirement Association ("VCERA") Board

From: Dan LeBeau, Allan Martin, and Tony Ferrara, CAIA

Date: May 14, 2015

Subject: Global Tactical Asset Allocation Manager Search

Recommendation

NEPC recommends the Ventura County Employees' Retirement Association ("VCERA" or the "Plan") give consideration to investing approximately $130 million in the PIMCO All Asset All Authority and Bridgewater Optimal strategies, and approximately $175 million in the Standard Life Global Absolute Return Strategy (GARS), to manage the Plan's recently approved 10% target allocation to global tactical asset allocation ("GTAA") strategies.

Background

At the Board meeting held in February, the Board approved new long-term asset allocation targets that included a 10% allocation to GTAA strategies. As of March 31, 2015, this equates to approximately $435 million. The recommendations detailed on the following pages seek to implement the allocation in the most cost conscious and efficient manner, recognizing current limitations of VCERA staff resources and the desire to implement in a timely manner.

Summary of Managers Profiled

PIMCO All Asset All Authority: NEPC FPL Strategy. The PIMCO All Asset All Authority Fund is focused on capturing opportunities for mean reversion in asset class prices while utilizing Research Affiliate's proprietary fundamental based quantitative asset allocation model. The quantitative asset allocation model identifies mis-pricings in global capital markets and the risk/return potential of underlying PIMCO investment strategies. In addition, Research Affiliate's unique business cycle model informs the Fund's positioning based on expected cyclical economic trends. The cumulative output of these models is a portfolio with a focus on real returns and high expected Sharpe Ratios that historically has mitigated large market downturns.

Standard Life Global Absolute Return Strategy GTAA: NEPC FPL Strategy. Standard Life's Global Absolute Return Strategy (GARS) seeks underlying investment strategies that are highly liquid and scalable to a multi-billion dollar portfolio. The strategy is benchmark agnostic and includes all global assets and instruments that meet their liquidity criteria. Investment themes include but are not limited to market betas such as equity, credit, and interest rates, relative value positions such as alpha overlays, and directional trades which may include currency positions. GARS is a multi-asset strategy with both traditional and non-traditional return sources and targets a return of cash plus 5% with a desired volatility of half to a third of that of public equities.

Bridgewater Optimal Portfolio: Neutral rating for the strategy pending approval from the NEPC Due Diligence Committee. Bridgewater's Optimal Portfolio is a new strategy that combines the beta portfolio of the All Weather strategy and the fundamental-based, systematic alpha models that represent the foundation for the Pure Alpha and Pure Alpha Major Market strategies. The alpha signals for the Optimal Portfolio differ from the signals used for the Pure Alpha strategies and are ideally structured to be negatively correlated to the strategic All Weather beta portfolio. The Optimal Portfolio alpha signals are tailored to complement the beta portfolio of All Weather and generally are initiated as short risk premium trades, which are designed to both increase return and reduce portfolio risk. While both the All Weather and Pure Alpha strategies are rated as preferred strategies by NEPC Research, we are initiating a Neutral rating for the Optimal Portfolio. The neutral rating is largely due to the lack of a live track record for the Optimal Portfolio. The concept of the Optimal Portfolio is intuitively appealing as the benefits of combining negatively correlated or uncorrelated alpha positions with a strategic beta allocation are undeniable. However, we believe it is prudent to assess the intuitive attractiveness of this approach by verifying it through live performance and validating Bridgewater's ability to effectively blend these two return streams as their philosophy historically had been quite strident in preserving the distinct separation of alpha and beta.

Manager Selection Process

The process began with a review of our Focused Placement List for GTAA strategies. NEPC Focused Placement List (FPL) Strategies are those strategies that have been vetted by the respective research analyst/consultant and NEPC's Due Diligence Committee, and subsequently approved for broad application across NEPC's client base. FPL strategies represent the highest conviction managers with whom we have thoroughly reviewed and believe have investment theses that present a competitive advantage in their respective areas of opportunity. Note that NEPC does not receive any compensation from investment managers as a result of their inclusion on our FPL, nor does inclusion on the FPL guarantee that the investment manager will ultimately be awarded a mandate with an NEPC client. FPLs are continuously monitored throughout the year, and officially updated once per year. Currently, NEPC's FPL for GTAA strategies includes 9 managers representing 14 different strategies.

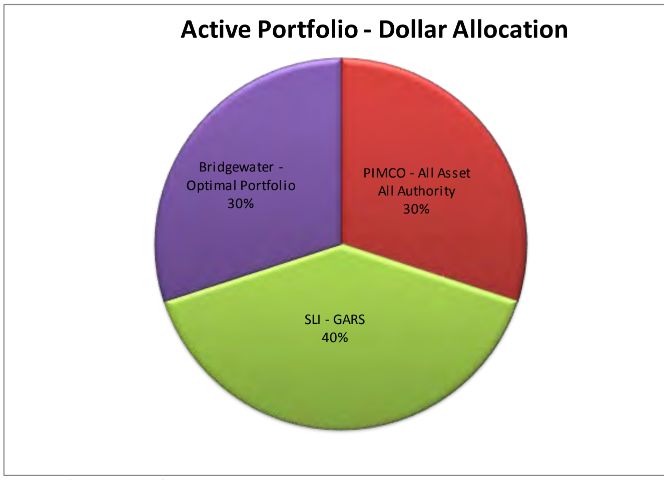
In addition to the list of managers on our FPL, we also evaluated strategies offered by the Plan's existing managers in an effort to limit the number of managers employed by VCERA and explore any potential fee discounts resulting from multiple mandates. The result was the addition of the Bridgewater Optimal Portfolio, which has not been approved for broad distribution across our client base, but has been rated by our research group as neutral. Since the underlying strategies used to construct the Optimal Portfolio (All Weather and Pure Alpha) are rated as preferred strategies by NEPC, we are comfortable recommending the Optimal Portfolio despite the neutral rating by research. Finally, we received a request to consider one additional manager that is not included on our FPL list currently. After considerable analysis, we opted to not move forward with this manager.

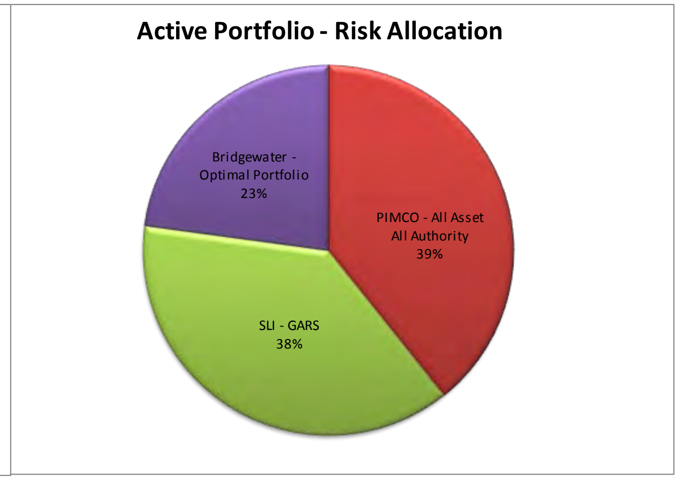
After consideration of the aforementioned strategies, we had several internal discussions with our Director of Asset Allocation and GTAA Research Consultant to consider his view of the GTAA landscape, VCERA's current asset allocation and risk tolerance, and discuss potential manager combinations. During these discussions, we were able to narrow the list of potential managers to four strategies for consideration.

Once the list was narrowed to four strategies, additional analysis was conducted to determine the best "fit", or combination of managers to fill the allocation. We used our proprietary active risk budgeting analysis to analyze each manager's alpha contribution net of beta exposure as we recognize that beta exposure changes over time. Active Risk Budgeting is a tool that helps us understand the alpha structure within an asset class construct (across a group of managers). This helps to understand the contribution to active risk by each manager and the interaction of various manager strategies. We do not believe this analysis should be used on a stand-alone basis, but it is a useful complement to the qualitative analysis conducted on active investment strategies.

The result of the analysis is that a mix of 40% Standard Life, 30% PIMCO, and 30% Bridgewater provides the best diversification from an active risk standpoint, and also results in a more evenly balanced contribution to active risk than the other mixes that were considered. In addition, this mix resulted in the lowest correlation with VCERA's Total Plan returns over the time period examined (Correlation = 0.74).

Alpha Correlations	**PIMCO - All Asset All Authority**	**SLI - GARS**	**Bridgewater - Optimal Portfolio**
PIMCO - All Asset All Authority	1.00	0.13	0.00
SLI - GARS	0.13	1.00	0.00
Bridgewater - Optimal Portfolio	0.00	0.00	1.00





**Using net of fee data from Jan. 2008-Dec. of 2014. Bridgewater results are simulated using returns of the All-Weather strategy and Pure Alpha strategies.*

Finally, we looked at the effect on manager fees that VCERA would pay as a result of funding these three new mandates, considering the source of funding. The overall effect would be an increase of about 7 basis points (0.07%), or approximately $3 million at the Total Plan level. See the respective proposed management fees in the table below.

Firm / Product	Vehicle Proposed	Reported Fee	Reported Fee in (bps)
Global Asset Allocation			
Bridgewater - BOP	Separate Account	1,300,000	100
PIMCO - All Asset All Auth	Mutual Fund	1,599,000	123
SLI Ltd - GARS GTAA	Separate Account	1,260,000	72

Conclusion

NEPC recommends the Plan give consideration to retaining PIMCO, Bridgewater, and Standard Life to manage the Fund's allocation to GTAA strategies. The proposed allocation would be approximately $130 million to PIMCO and Bridgewater, and $175 million to Standard Life, accounting for the entire 10% target allocation, or approximate $435 million.

Appendix – Data as of December 31, 2014

Firm Name	Location	Year Firm Founded	Total Assets Under Mgmt ($MM)	% Employee Owned	% Parent Owned	Parent Company Name	% Publicly Held	% Other Ownership
Global Asset Allocation								
Bridgewater Associates, LP	Westport, Connecticut	1975	160,093	100	0	NA	0	0
PIMCO	Newport Beach, California	1971	1,680,389	0	0	NA	0	0
Standard Life Investments	Edinburgh, Scotland	1998	415,099	0	100	Standard Life plc	0	0

Firm/Product	Inception Date	AUM ($MM)	# of Portfolio Managers	# of Research Analysts	# of Traders
Global Asset Allocation					
Bridgewater - BOP	2015	NA	NA	NA	NA
PIMCO - All Asset All Auth	2003	52,002	1	135	0
SLI Ltd - GARS GTAA	2006	63,716	22	7	25

Net of Fee Performance Data as of 12/31/2014

	Benchmark	Qtr	YTD	1 Year	3 Year	5 Year	7 Year	10 Year
Global Asset Allocation								
Bridgewater - BOP	2	-3.3%	0.6%	0.6%	5.6%	7.7%	7.8%	8.8%
PIMCO - All Asset All Auth	1	-4.5%	-2.4%	-2.4%	2.8%	4.4%	4.7%	5.2%
SLI Ltd - GARS GTAA	2	1.1%	5.2%	5.2%	6.3%	6.1%	5.8%	NA
Actual Index Return								
1 Conservative Blended		0.7%	4.9%	4.9%	4.3%	5.8%	5.4%	5.5%
2 60% MSCI World / 40% Citi WGBI		-1.2%	1.5%	1.5%	8.3%	6.7%	3.4%	5.0%

**Conservative Blended: 40% Barclays Capital Aggregate, 30% Barclays Capital 1-10 Year TIPS, 10% S&P 500, 10% Barclays Capital High Yield and 10% JPM EMBI+*

	Benchmark	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Global Asset Allocation											
Bridgewater - BOP	2	0.6%	3.3%	13.3%	9.7%	12.3%	20.3%	-3.0%	9.4%	5.5%	18.5%
PIMCO - All Asset All Auth	1	-2.4%	-5.5%	17.7%	3.0%	10.7%	19.4%	-6.9%	10.0%	3.1%	6.7%
SLI Ltd - GARS GTAA	2	5.2%	6.5%	7.1%	2.1%	10.0%	18.4%	-7.0%	7.6%	NA	NA
Actual Index Return											
1 Conservative Blended		4.9%	0.2%	8.1%	7.6%	8.5%	16.5%	-6.7%	7.7%	6.0%	3.5%
2 60% MSCI World / 40% Citi WGBI		1.5%	13.6%	10.2%	-0.6%	9.5%	18.7%	-23.0%	10.0%	14.4%	2.7%

**Conservative Blended: 40% Barclays Capital Aggregate, 30% Barclays Capital 1-10 Year TIPS, 10% S&P 500, 10% Barclays Capital High Yield and 10% JPM EMBI+*

	Primary Benchmark	# of Months (Track Record)	% Positive (Mo.)	High (Mo.)	Low (Mo.)	Average (Mo.)	% > 0.5%	Rolling 1 Yr. Rtr. > 0%	Rolling 1 Yr. Rtr. > 3%	Rolling 3 Yr. Rtr. > 0%	Rolling 3 Yr. Rtr. > 3%
Global Asset Allocation											
Bridgewater - BOP	60% MSCI World / 40% Citi WGBI	240	55%	8.8%	(10.4%)	0.4%	46%	69%	61%	87%	67%
PIMCO - All Asset All Auth	Conservative Blended	134	49%	6.0%	(5.4%)	0.1%	38%	56%	37%	71%	2%
SLI Ltd - GARS GTAA	60% MSCI World / 40% Citi WGBI	102	47%	13.0%	(7.1%)	0.1%	40%	41%	32%	54%	42%

Conservative Blended: 40% Barclays Capital Aggregate, 30% Barclays Capital 1-10 Year TIPS, 10% S&P 500, 10% Barclays Capital High Yield and 10% JPM EMBI+

	# of Months (Track Record)	Excess Return 1 Yr.	Excess Return 3 Yrs.	Excess Return 5 Yrs.	Excess Return 7 Yrs.	Excess Return 10 Yrs.	Tracking Error 3 Yrs.	Tracking Error 5 Yrs.	Tracking Error 7 Yrs.	Tracking Error 10 Yrs.	Information Ratio 3 Yrs.	Information Ratio 5 Yrs.	Information Ratio 7 Yrs.	Information Ratio 10 Yrs.	Beta vs. Primary Benchmark
Global Asset Allocation															
Bridgewater - BOP	240	(0.9%)	(2.7%)	1.0%	4.4%	3.7%	5.8%	6.2%	9.9%	8.8%	(0.47)	0.17	0.44	0.42	0.21
PIMCO - All Asset All Auth	134	(7.2%)	(1.6%)	(1.5%)	(0.7%)	(0.2%)	5.1%	5.5%	6.2%	5.5%	(0.31)	(0.27)	(0.12)	(0.04)	1.70
SLI Ltd - GARS GTAA	102	3.7%	(2.0%)	(0.5%)	2.4%	NA	6.3%	9.3%	10.9%	NA	(0.32)	(0.06)	0.22	NA	0.22

Conservative Blended: 40% Barclays Capital Aggregate, 30% Barclays Capital 1-10 Year TIPS, 10% S&P 500, 10% Barclays Capital High Yield and 10% JPM EMBI+

BRIDGEWATER

Presented to:

VCERA
Ventura County Employees' Retirement Association

Optimal Portfolio Strategy

May 18, 2015

One Glendinning Place
Westport, CT 06880
(203) 226-3030
www.bwater.com

BRIDGEWATER OVERVIEW

- Institutional investment manager, founded in 1975
- Deep fundamental understanding of markets
- Consistency of people, process, and risk controls
- Focused approach to constructing portfolios
  - Managing Pure Alpha for 24 years
  - Managing All Weather for 19 years
  - Launched Optimal Portfolio in 2015

SAME PHILOSOPHY FOR ALL STRATEGIES

Fundamental Understand the timeless and universal, cause and effect linkages that make up the economic and markets machine.

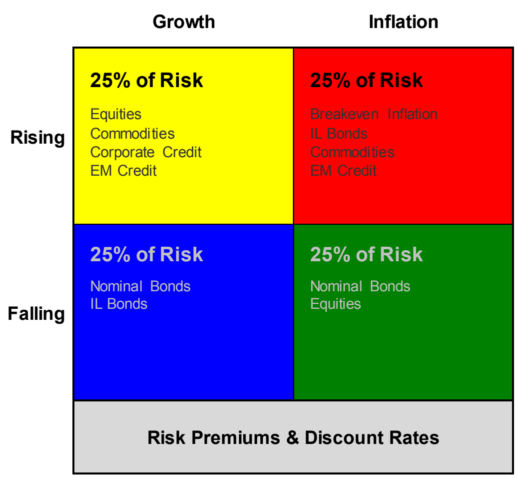
Systematic Apply that fundamental understanding to create explicit rules that can be debated and stress-tested across time, countries, and environments.

Diversified Balance risk across good, unrelated return streams to raise return-to-risk ratios and minimize dependency on any one thing.

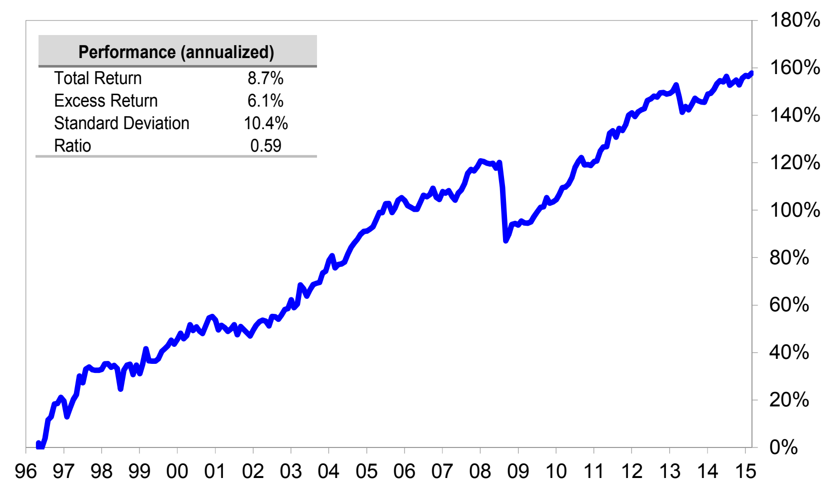
ALL WEATHER HAS A LONG AND CONSISTENT TRACK RECORD

- Strategic asset allocation (“beta”).
- Balances asset classes with opposing sensitivities to surprises in the economic environment (growth and inflation).
- That creates an efficiency that allows for better than equity-like returns for about 1/3 less risk.

Environmentally Balanced Portfolio



All Weather Strategy Cumulative Total Return (Net of Fees, In)

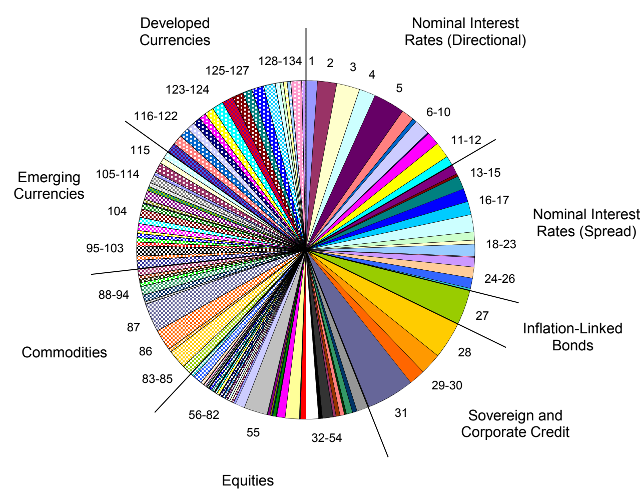


Performance shown through April 2015.
Past performance is not indicative of future results. Please review the “Important Disclosures and Other Information” located at the end of this presentation.

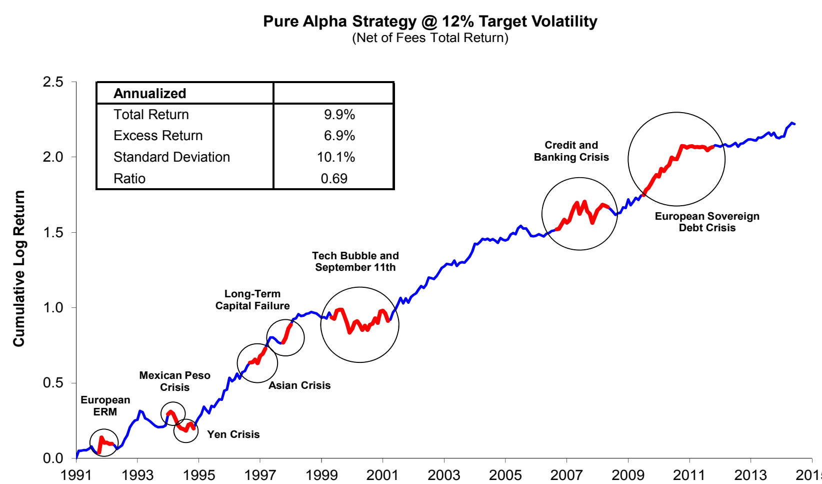
BRIDGEWATER HAS A LONG TRACK RECORD OF BEATING THE MARKETS WITH TACTICAL VIEWS ("ALPHA")

- Using a time tested collection of tactical views to generate high, consistent, and very diversifying returns.
- Proven risk management through multiple crises.

Diversification of Active Opportunities



Pure Alpha Performance



Performance is net of fees and estimated through Apr 2015. Standard deviation is calculated using gross of fees performance. Information ratio is calculated using the annualized standard deviation of gross of fees performance.
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OPTIMAL PORTFOLIO COMBINES BRIDGEWATER'S ALL WEATHER WITH TAILORED TACTICAL VIEWS

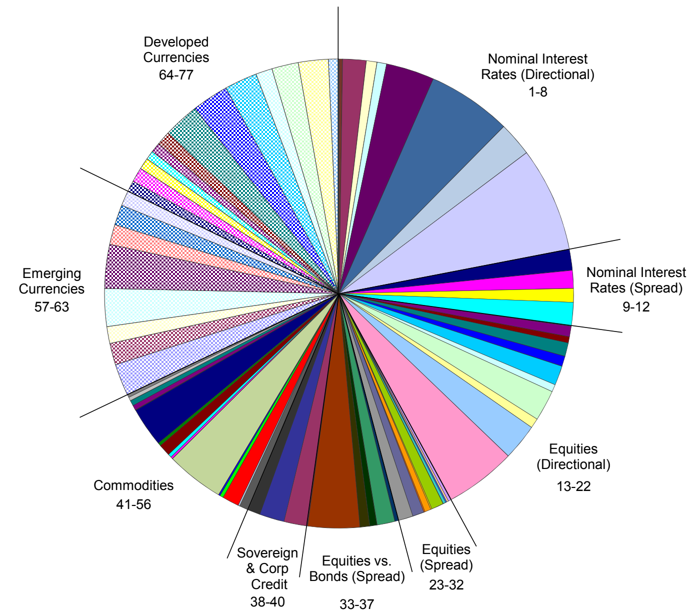
- We expect over time that about half of the portfolio's risk will come from All Weather and about half will come from the tailored tactical views.

- Over the long term, we expect the portfolio to produce roughly an 8% net of fees total return and to be very diversifying to markets and managers.

All Weather

	Growth	Inflation
Rising	**25% of Risk** Equities Commodities Corporate Credit EM Credit	**25% of Risk** Breakeven Inflation IL Bonds Commodities EM Credit
Falling	**25% of Risk** Nominal Bonds IL Bonds	**25% of Risk** Nominal Bonds Equities
	Risk Premiums & Discount Rates	

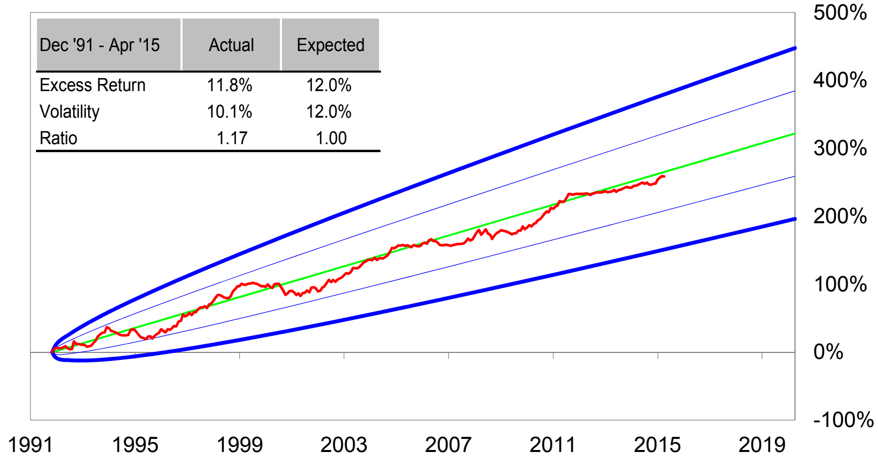
Tailored Alphas



BRIDGEWATER

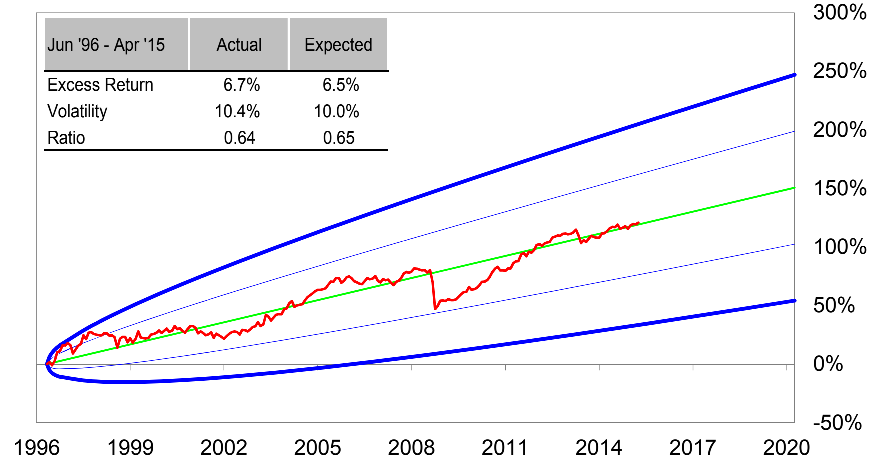
HISTORY OF DELIVERING ON EXPECTATIONS

Bridgewater Pure Alpha Strategy 12% Volatility
Gross Cumulative Alpha vs. Expectations (ln)



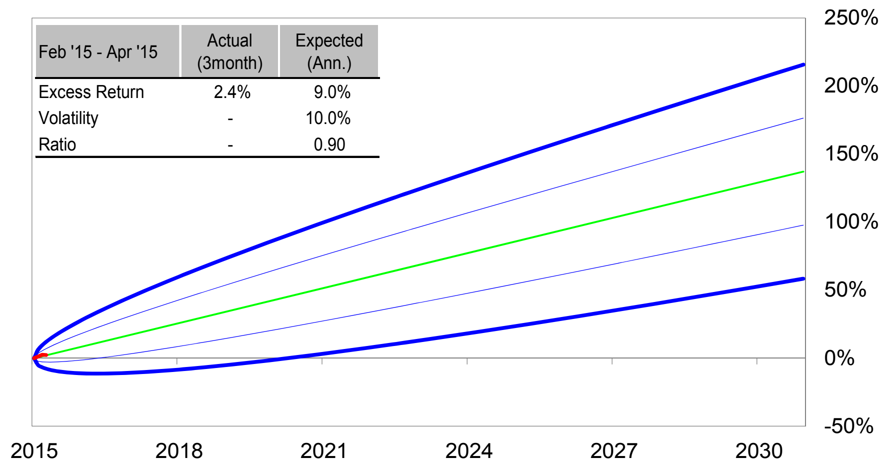
Dec '91 - Apr '15	Actual	Expected
Excess Return	11.8%	12.0%
Volatility	10.1%	12.0%
Ratio	1.17	1.00

Bridgewater All Weather Strategy 10% Volatility
Gross Cumulative Excess Return vs. Expectations (ln)



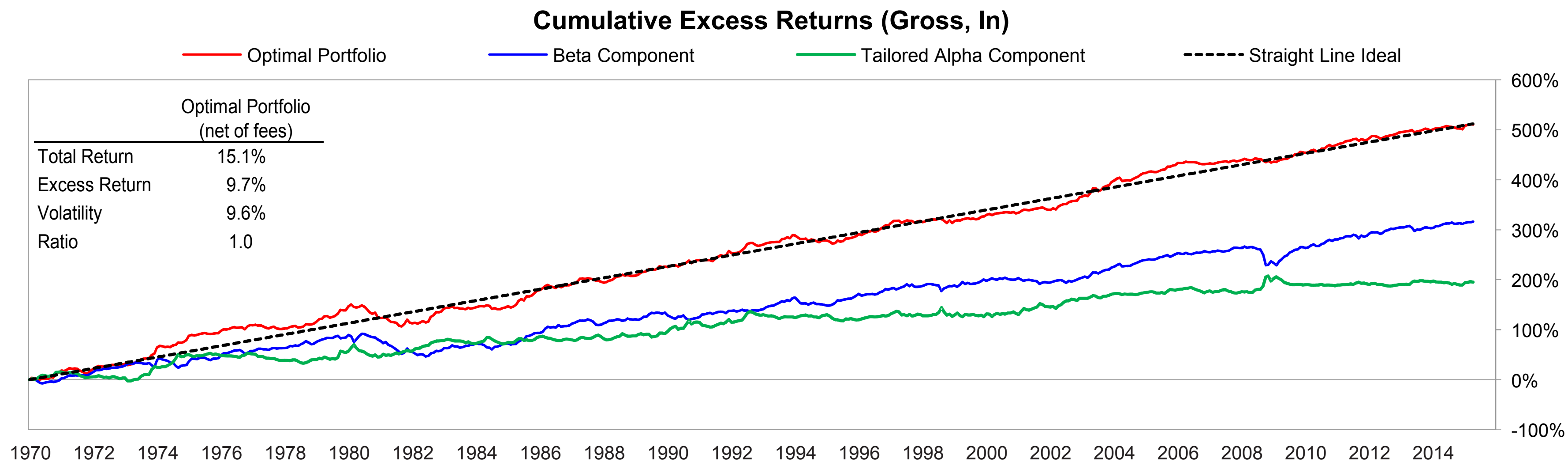
Jun '96 - Apr '15	Actual	Expected
Excess Return	6.7%	6.5%
Volatility	10.4%	10.0%
Ratio	0.64	0.65

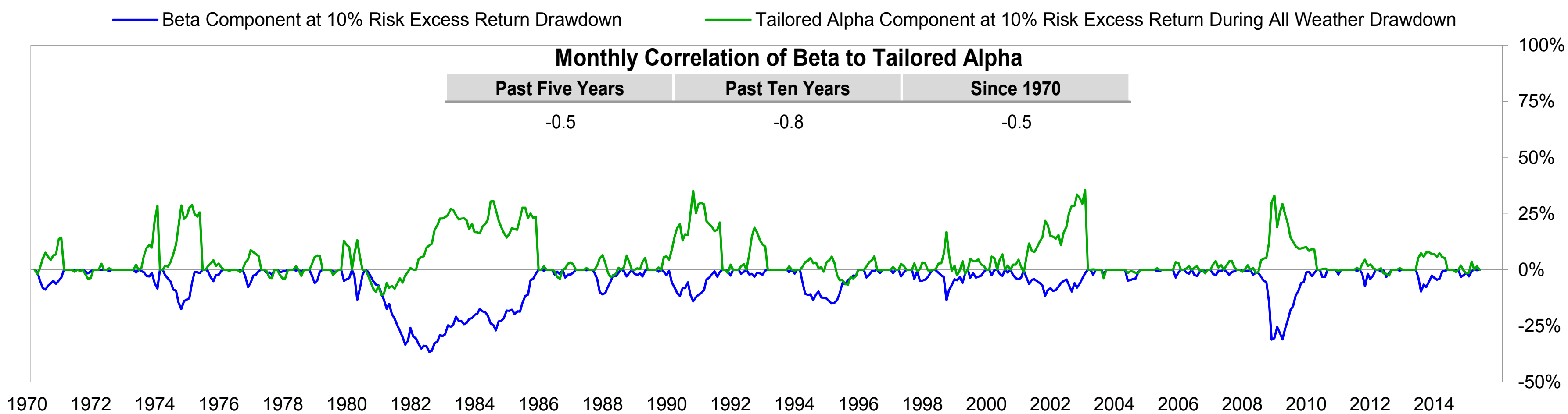
Bridgewater Optimal Portfolio Strategy 10% Volatility
Gross Cumulative Excess Return vs. Expectations (ln)



Feb '15 - Apr '15	Actual (3month)	Expected (Ann.)
Excess Return	2.4%	9.0%
Volatility	-	10.0%
Ratio	-	0.90

ADDING TAILORED ALPHA CREATES A STRAIGHTER LINE





Performance shown through April 2015. Please note the returns shown for the Beta Component prior to February 2015 are simulated using the All Weather Asset Mix (see All Weather Asset Mix Disclosure). Please note the returns shown for Optimal Portfolio are simulated prior to February 2015 using the Optimal Portfolio Simulation (see Optimal Portfolio Simulation Disclosure). It is expected that the simulated performance will periodically change as a function of both refinements to our simulation methodology and the underlying market data. HYPOTHETICAL OR SIMULATED PERFORMANCE RESULTS HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE AN ACTUAL PERFORMANCE RECORD, SIMULATED RESULTS DO NOT REPRESENT ACTUAL TRADING OR THE COSTS OF MANAGING THE PORTFOLIO. ALSO, SINCE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER OR OVER COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY. SIMULATED TRADING PROGRAMS IN GENERAL ARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN. Past performance is not indicative of future results. Please review the “Important Disclosures and Other Information” located at the end of this presentation.

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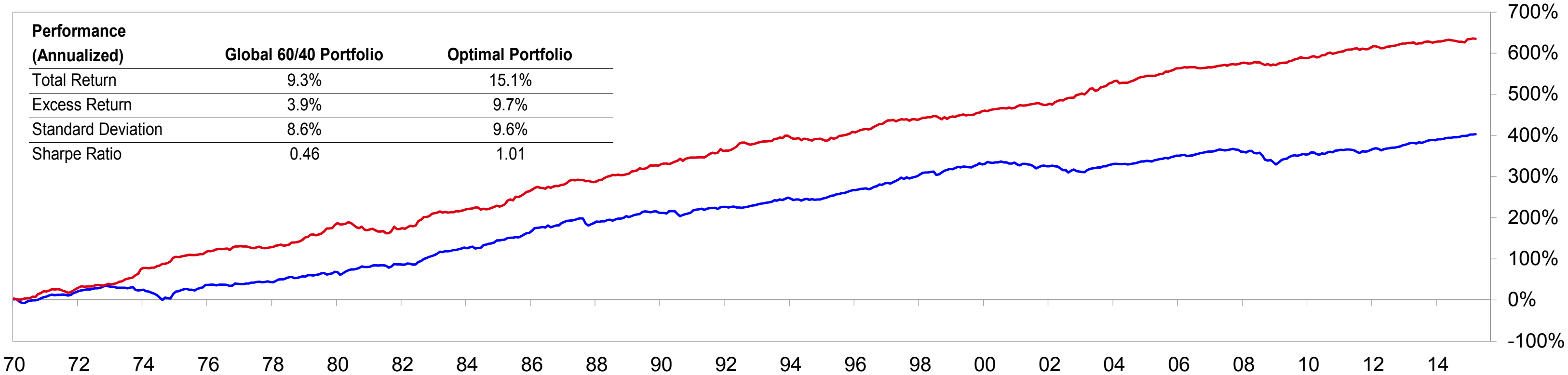
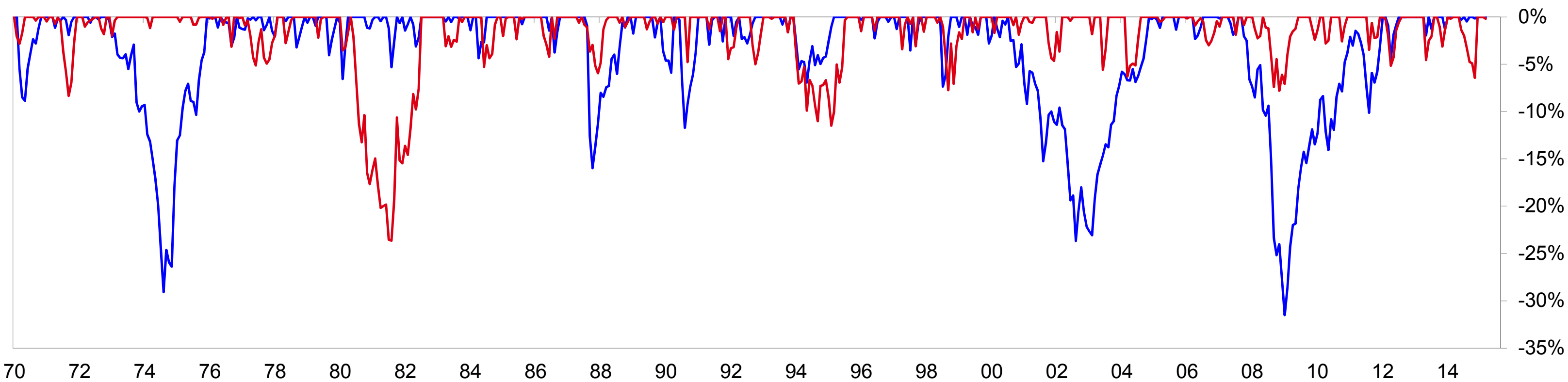
OPTIMAL PORTFOLIO VS. GLOBAL 60/40 PORTFOLIO

Cumulative Net of Fees Total Return (ln)

Performance (Annualized)	Global 60/40 Portfolio	Optimal Portfolio
Total Return	9.3%	15.1%
Excess Return	3.9%	9.7%
Standard Deviation	8.6%	9.6%
Sharpe Ratio	0.46	1.01



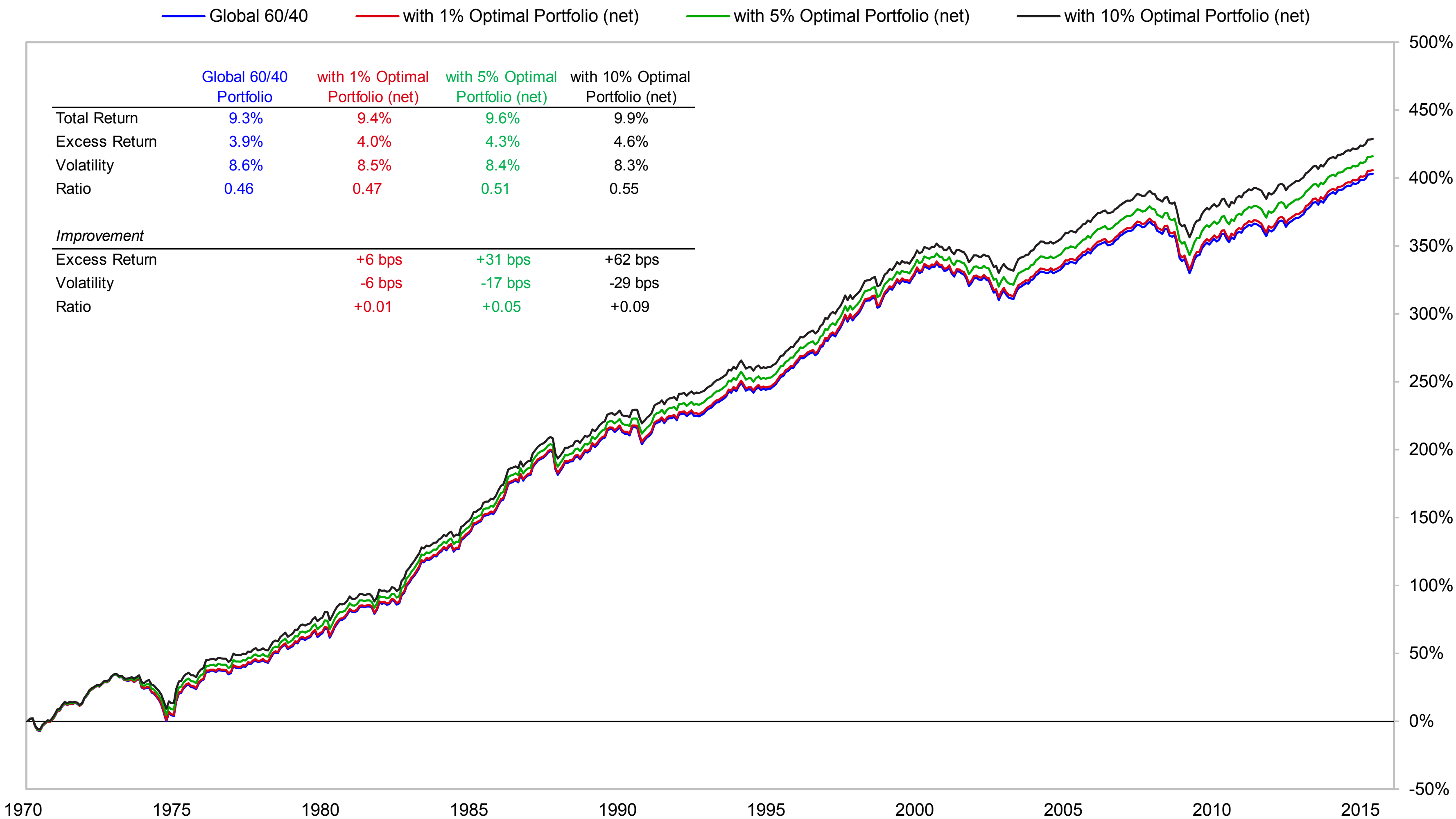
Drawdowns (Net of Fees Total Return)



Performance shown through 4/30/2015. Please note the returns shown for Optimal Portfolio are simulated prior to February 2015 using the Optimal Portfolio Simulation (see Optimal Portfolio Simulation Disclosure). The global 60/40 is comprised of 60% global equities and 40% global nominal government bonds. It is expected that the simulated performance will periodically change as a function of both refinements to our simulation methodology and the underlying market data. HYPOTHETICAL OR SIMULATED PERFORMANCE RESULTS HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE AN ACTUAL PERFORMANCE RECORD, SIMULATED RESULTS DO NOT REPRESENT ACTUAL TRADING OR THE COSTS OF MANAGING THE PORTFOLIO. ALSO, SINCE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER OR OVER COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY. SIMULATED TRADING PROGRAMS IN GENERALARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN. Past performance is not indicative of future results. Please review the “Important Disclosures and Other Information” located at the end of this presentation.

IMPACT OF INCREMENTALLY SHIFTING TO OPTIMAL PORTFOLIO

Cumulative Total Returns (ln)



	Global 60/40 Portfolio	with 1% Optimal Portfolio (net)	with 5% Optimal Portfolio (net)	with 10% Optimal Portfolio (net)
Total Return	9.3%	9.4%	9.6%	9.9%
Excess Return	3.9%	4.0%	4.3%	4.6%
Volatility	8.6%	8.5%	8.4%	8.3%
Ratio	0.46	0.47	0.51	0.55
Improvement				
Excess Return		+6 bps	+31 bps	+62 bps
Volatility		-6 bps	-17 bps	-29 bps
Ratio		+0.01	+0.05	+0.09

Performance shown through April 2015. Please note the returns shown for Optimal Portfolio are simulated prior to March 2015 using the Optimal Portfolio Simulation (see Optimal Portfolio Simulation Disclosure).The global 60/40 is comprised of 60% global equities and 40% global nominal government bonds. It is expected that the simulated performance will periodically change as a function of both refinements to our simulation methodology and the underlying market data. HYPOTHETICAL OR SIMULATED PERFORMANCE RESULTS HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE AN ACTUAL PERFORMANCE RECORD, SIMULATED RESULTS DO NOT REPRESENT ACTUAL TRADING OR THE COSTS OF MANAGING THE PORTFOLIO. ALSO, SINCE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER OR OVER COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY. SIMULATED TRADING PROGRAMS IN GENERALARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN. Past performance is not indicative of future results. Please review the “Important Disclosures and Other Information” located at the end of this presentation.

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Appendix

OPTIMAL PORTFOLIO FEES AND TERMS

- The Optimal Portfolio fee is 1% fixed + 10% of profits.
  - In addition, we expect that Administration, Middle and Back office expenses will fall in between the current negotiated rate levels for our other strategies, at approximately 7-9bps. Other expenses (e.g., custodian, professional, miscellaneous) will also be similar to our other funds, at approximately 1-2 bps.
- There is a 90 day notice period on redemptions. Consistent with the long-term nature of the strategy, Bridgewater will pay at least 1/3 of the total client holdings on the dealing day after the notice period (ie, three months), another 1/3 after six months, and the balance after nine months.

**Professional fees include legal, audit, tax, and financial statement preparation fees.*

All Weather Account Review

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ALL WEATHER MANDATE SUMMARY

Strategy Overview: Bridgewater's optimal beta portfolio, risk-balanced across economic environments.

Objective: Earn the highest return-to-risk ratio for a strategic asset mix.

Approach: Collect the market risk premium embedded across assets as consistently as possible by:

- Adjusting assets to a common level of risk.
- Combining assets with opposing sensitivities to shifts in the environment (growth and inflation).

Size: $288 million.

	Growth	Inflation
Rising	**25% of Risk** Equities Commodities Corporate Credit EM Credit	**25% of Risk** Breakeven Inflation IL Bonds Commodities EM Credit
Falling	**25% of Risk** Nominal Bonds IL Bonds	**25% of Risk** Nominal Bonds Equities
	Risk Premiums & Discount Rates	

Note: AUM is estimated as of May 1, 2015.
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PERFORMANCE SUMMARY

Net of Fees Performance Summary

	Excess	+ Return on Cash	= Total Return
1996	17.2 %	3.1 %	20.4 %
1997	9.4 %	5.6 %	15.0 %
1998	-7.3 %	5.5 %	-1.8 %
1999	10.5 %	5.1 %	15.6 %
2000	3.6 %	6.3 %	9.9 %
2001	-9.8 %	3.8 %	-6.0 %
2002	8.5 %	1.7 %	10.2 %
2003	15.6 %	1.1 %	16.7 %
2004	16.3 %	1.4 %	17.7 %
2005	12.2 %	3.3 %	15.5 %
2006	-3.9 %	5.0 %	1.2 %
2007	6.8 %	5.0 %	11.8 %
2008	-22.0 %	1.9 %	-20.2 %
2009	9.2 %	0.2 %	9.4 %
2010	17.5 %	0.1 %	17.6 %
2011	18.0 %	0.1 %	18.1 %
2012	14.5 %	0.2 %	14.7 %
2013	-4.0 % / **1.9 %***	0.1 % / **0.0 %***	-3.9 % / **2.0 %***
2014	**7.5 %**	**0.1 %**	**7.6 %**
2015 YTD	**5.1 %**	**0.0 %**	**5.2 %**

Bridgewater All Weather Strategy

Jun 1996 - Apr 2015	
Cumulative Return	384.6%
Annual Return	8.7%
Annual StDev	10.4%

Ventura County Employees' Retirement Association

Aug 2013 - Apr 2015	
Cumulative Return	**15.4%**
Annual Return	**8.5%**
Annual StDev	**6.2%**

Performance is estimated through April 30, 2015. Standard deviation is calculated using gross of fees performance.
Inception of the mandate was August 2013. Inception of the strategy was June 1996.

*Performance is shown for the full year for the All Weather Strategy (black text), and for the partial year for the client's specific account (bold red text). Summary statistics for the All Weather Strategy are based on the full history of the strategy, and may differ from the performance of your specific account or investment. PAST RESULTS ARE NOT NECESSARILY INDICATIVE OF FUTURE RESULTS.
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OPTIMAL PORTFOLIO SIMULATION DISCLOSURE

Optimal Portfolio Simulation Performance (Net of Fees)

	Optimal Portfolio Simulation Total Return in USD
Last 1 Year	6.2%
Last 3 Years	6.9%
Last 5 Years	9.6%
Last 10 Years	9.5%

Annualized Returns (Feb-70 through Jan-15)

Net Since Inception Feb-70 through Jan-15

Annualized Total Return	15.1%
Standard Deviation	9.7%
Ratio	1.0

Past results are not necessarily indicative of future results. It is expected that the simulated performance will periodically change as a function of both refinements to our simulation methodology and the underlying market data. HYPOTHETICAL OR SIMULATED PERFORMANCE RESULTS HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE AN ACTUAL PERFORMANCE RECORD, SIMULATED RESULTS DO NOT REPRESENT ACTUAL TRADING OR THE COSTS OF MANAGING THE PORTFOLIO. ALSO, SINCE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER OR OVER COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY. SIMULATED TRADING PROGRAMS IN GENERAL ARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN.

Optimal Portfolio Simulation Performance Disclosure:
The simulated performance for Optimal Portfolio Strategy was derived by applying Bridgewater's current active investment systems and portfolio construction logic to historical market returns across the sub strategies and markets selected for Optimal Portfolio Strategy and using the relative weightings selected for Optimal Portfolio Strategy. We use actual market returns when available and otherwise use Bridgewater Associates' proprietary estimates, based on other available data and our fundamental understanding of asset classes. In certain cases, market data for an exposure which otherwise would exist in the simulation may be omitted if the relevant data is unavailable, deemed unreliable, immaterial or accounted for using proxies. Examples of markets omitted or accounted for using proxies for part of the simulation period include, but are not limited to, emerging market equities, emerging market debt, and certain commodities. There is no guarantee that the mix and weightings of markets traded for Optimal Portfolio Strategy will not change in the future.

Simulated asset returns are subject to considerable uncertainty and potential error, as there is a great deal that cannot be known about how assets would have performed in the absence of actual market returns. The Optimal Portfolio Strategy simulation is an approximation of our actual process but not an exact replication, and may have differences including but not limited to the precise mix of markets used and the weights applied to those markets. It is expected that the simulated performance will periodically change as a function of changes to our simulation methodology, investment systems, portfolio construction logic, and the underlying market data. Transaction costs are accounted for and are estimates themselves based on historical measured costs and or modeled costs. Actual transaction costs experienced could have been higher or lower than those reflected in the simulation. For total returns shown a proxy for the return on US dollar cash is added to the simulation. Where noted, the Optimal Portfolio Strategy Net of Fees returns have been calculated using the expected standard fee schedule for a minimum size account, which are the highest fees we would charge an account.

No claim is being made of the Optimal Portfolio Strategy's ability to perform in absolute terms or relative to any market return in the future, during market events not represented or during market events occurring in the future. Market conditions and events vary considerably, are unpredictable and can have unforeseen impacts resulting in materially adverse performance results.

BRIDGEWATER OPTIMAL PORTFOLIO STRATEGY 10% VOLATILITY PERFORMANCE DISCLOSURE

Optimal Portfolio Strategy Performance (Net of Fees)

	Optimal Portfolio Strategy Total Return in USD
Last 1 Year	1.9%
Last 3 Years	--
Last 5 Years	--
Last 10 Years	--

Returns (Feb-15 through Apr-15)

Past results are not necessarily indicative of future results.

Bridgewater Optimal Portfolio Strategy 10% Volatility Performance Disclosure:
Performance from February 2015 to present is the actual returns of the Optimal Portfolio account.

Gross of fees performance is gross of management fees and performance fees only and includes reinvestment of interest, gains and losses.

Net of fees performance has been calculated by applying our standard Optimal Portfolio strategy fee schedule, which are the highest fees charged. Investment advisory fees are described in Bridgewater's ADV Part 2A.

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ALL WEATHER STRATEGY DISCLOSURE

All Weather Strategy Performance (Net of Fees)

	All Weather Total Return in USD
Last 1 Year	7.1%
Last 3 Years	5.6%
Last 5 Years	10.1%
Last 10 Years	6.7%

Annualized Returns (Jun-96 through Apr-15)

Net Since Inception Jun-96 through Apr-15

Annualized Return	8.7%
Standard Deviation	10.4%
Sharpe Ratio	0.59

Past results are not necessarily indicative of future results.

Bridgewater All Weather Strategy Performance Disclosure:

For the period June 1996 (the inception of the strategy) through August 2001 the performance is based on the total return of the Bridgewater All Weather strategy as implemented for Bridgewater's principals and their affiliates and was not fully hedged to the US Dollar. The All Weather strategy is structured to be fully hedged, and the performance reflected after August 2001 includes these hedging transactions. For the period of August 2001 through present the performance shown is the actual total returns of the longest running fully funded All Weather account. For the entire history excess returns are calculated by subtracting an approximation of a U.S. cash rate from the total returns described above. Of note, the All Weather strategy's target leverage, volatility and return, as well as the asset mix varied from June 1996 to July 2005. From August 2005 through the present the strategy has targeted 10% volatility. Bridgewater manages additional All Weather portfolios not included in this performance history.

Gross of fees performance is gross of management fees and includes the reinvestment of interest, gains, and losses. Returns will be reduced by the investment advisory fees and any other expenses that may be incurred in the management of the account.

Net of fees performance has been calculated using our standard fee schedule for a minimum size account, which are the highest fees we have or would currently charge an account. Investment advisory fees are described in Bridgewater's ADV Part 2A.

No representation is being made that any account will or is likely to achieve returns similar to those shown. Trading in futures is risky and can result in losses as well as profits. PAST RESULTS ARE NOT NECESSARILY INDICATIVE OF FUTURE RESULTS. Performance as of the current month is estimated and subject to change.

ALL WEATHER ASSET MIX DISCLOSURE

All Weather Asset Mix Performance (Net of Fees)

	All Weather Total Return in USD
Last 1 Year	6.9%
Last 3 Years	6.6%
Last 5 Years	8.5%
Last 10 Years	8.5%

Annualized Returns (Jun-96 through Apr-15)

Net Since Inception Jun-96 through Apr-15

Annualized Return	9.7%
Standard Deviation	9.5%
Sharpe Ratio	0.75

Past results are not necessarily indicative of future results. It is expected that the simulated performance will periodically change as a function of both refinements to our simulation methodology and the underlying market data. WHERE SHOWN, HYPOTHETICAL OR SIMULATED PERFORMANCE RESULTS HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE AN ACTUAL PERFORMANCE RECORD, SIMULATED RESULTS DO NOT REPRESENT ACTUAL TRADING OR THE COSTS OF MANAGING THE PORTFOLIO. ALSO, SINCE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER OR OVER COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY. SIMULATED TRADING PROGRAMS IN GENERAL ARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN.

All Weather Asset Mix Disclosure:

Where shown, simulated returns for All Weather are created using the All Weather asset mix. The All Weather asset mix performance is simulated by applying All Weather asset mix weights, which are determined by Bridgewater's proprietary process for building an environmentally balanced portfolio, to historical market returns. We use actual market returns when available and otherwise use Bridgewater Associates' proprietary estimates, based on other available data and our fundamental understanding of asset classes. In certain cases, market data for an exposure which otherwise would exist in the simulation may be omitted if the relevant data is unavailable, deemed unreliable, immaterial or accounted for using proxies. In the case of mitted markets, other markets in the same asset class, which represent the vast majority of our positions in each asset class, are scaled to represent the full asset class position. Examples of omitted markets include, but are not limited to, non-U.S. markets prior to 1970, emerging market equities, some inflation-linked bond markets and certain commodities.

Simulated asset returns are subject to considerable uncertainty and potential error, as there is a great deal that cannot be known about how assets would have performed in the absence of actual market returns. The All Weather asset mix simulation is an approximation of our actual process but not an exact replication, and may have differences including but not limited to the precise mix of markets used and the weights applied to those markets. It is expected that the simulated performance will periodically change as a function of both refinements to our simulation methodology (including the addition/removal of asset classes) and the underlying market data. There is no guarantee that previous results would not be materially different. Future strategy changes could materially change previous simulated return in order to reflect the changes accurately across time.

Transaction costs are accounted for and are estimates themselves based on historical measured costs and/or modeled costs. Actual transaction costs experienced could have been higher or lower than those reflected in the simulation. Where noted, the All Weather Asset Mix Net of Fees returns have been calculated using our standard fee schedule for a minimum size account, which are the highest fees we have or would currently charge an account. Investment advisory fees are described in Bridgewater's ADV Part 2A. No claim is being made of the All Weather Asset Mix's ability to perform in absolute terms or relative to any market return in the future, during market events not represented or during market events occurring in the future. Market conditions and events vary considerably, are unpredictable and can have unforeseen impacts resulting in materially adverse performance results.

PURE ALPHA STRATEGY PERFORMANCE DISCLOSURES

Pure Alpha Strategy Performance (Net of Fees)

	Pure Alpha Total Return in USD
Last 1 Year	8.4%
Last 3 Years	5.1%
Last 5 Years	10.0%
Last 10 Years	7.9%

Annualized Returns (Dec-91 through Apr-15)

Net Since Inception Dec-91 through Apr-15

Annualized Total Return	9.9%
Standard Deviation	10.1%
Information Ratio	0.69

Past results are not necessarily indicative of future results. Standard deviation is calculated using gross of fees performance. Information ratio is calculated using the annualized standard deviation of gross of fees performance. HYPOTHETICAL OR SIMULATED PERFORMANCE RESULTS HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE AN ACTUAL PERFORMANCE RECORD, SIMULATED RESULTS DO NOT REPRESENT ACTUAL TRADING OR THE COSTS OF MANAGING THE PORTFOLIO. ALSO, SINCE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER OR OVER COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY. SIMULATED TRADING PROGRAMS IN GENERAL ARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN.

Bridgewater Pure Alpha Strategy 12% Volatility Performance Disclosure:

The performance history provided is based on actual Bridgewater Pure Alpha accounts. Returns since the strategy's inception in December 1991 through April 1999 are based on the actual performance of a partially funded account (where interest income has been removed to arrive at the excess returns), and are adjusted to include the imputed interest return on the full notional value using the US repo rate. Returns from May 1999 through present are the actual returns of the longest running fully funded Pure Alpha account with a target tracking error of 12%, an approximation of an United States cash benchmark, and fully unconstrained active management guidelines. Bridgewater manages additional Pure Alpha portfolios not included in this performance history.

Gross of fees performance is gross of management and performance fees only and includes the reinvestment of interest, gains, and losses.

Where shown, from December 1991 through April 1999, net of fees returns have been calculated using the cumulative gross return of the Strategy starting in December 1991 and applying our standard Pure Alpha fee schedule, which are the highest fees charged. From December 1991 through April 1999, using a monthly high water concept (and after April 1999 a quarterly high water concept) deduction of incentive fees may vary and may be higher or lower than the fees actually charged to the account for the same time period. These returns reflect all fees (which are at our Pure Alpha standard rates), expenses and interest actually charged or credited to the account. Investment advisory fees are described in Bridgewater's ADV Part 2A.

No representation is being made that any account will or is likely to achieve returns similar to those shown. Trading in futures is risky and can result in losses as well as profits. PAST RESULTS ARE NOT NECESSARILY INDICATIVE OF FUTURE RESULTS. Performance as of the current month is estimated and subject to change.

PIMCO

Your Global Investment Authority

An Introduction to PIMCO's All Asset All Authority Fund

Ventura County Employees Retirement Association

18 May 2015

For institutional investor use only

Disclosures

Investors should consider the investment objectives, risks, charges and expenses of the funds carefully before investing. This and other information are contained in the fund's prospectus and summary prospectus, if available, which may be obtained by contacting your investment professional or PIMCO representative or by visiting www.pimco.com/investments. Please read them carefully before you invest or send money.

PIMCO Investments LLC

Biographical information

Robert Arnott

Mr. Arnott is the founder and chairman of Research Affiliates, a subadvisor to PIMCO. In 2002, he established Research Affiliates as a research-intensive asset management firm that focuses on innovative asset allocation and alternative indexation products. He previously served as chairman of First Quadrant, as president of TSA Capital Management (now part of Analytic Investors), and as vice president at The Boston Company. He also was global equity strategist at Salomon Brothers. He has published more than 100 articles in journals such as the Journal of Portfolio Management, the Harvard Business Review and the Financial Analysts Journal, where he also served as editor in chief from 2002 through 2006. He graduated summa cum laude from the University of California, Santa Barbara, in 1977 in economics, applied mathematics and computer science.

David J. Blair, CFA

Mr. Blair is a senior vice president and account manager in the Newport Beach office. He was a member of PIMCO's municipal portfolio management team from 2006-2010 and was previously a credit analyst for 10 years at Nuveen Investments, focusing on high yield California bonds, primarily in the land-secured sector, as well as utilities, multi-family housing and toll road bonds. Mr. Blair was also an auditor and certified public accountant at Arthur Andersen for three years. He has 21 years of investment experience and holds an MBA from the University of Chicago Graduate School of Business. He holds an undergraduate degree from the University of California, Santa Barbara.

Mark A. Romano, CFA

Mr. Romano is an executive vice president and an account manager in the Newport Beach office focusing on investment consulting firms, clients and developing new client relationships. Prior to joining PIMCO in 1997, he was with Wells Fargo’s institutional money management group. Prior to that, Mr. Romano was director of fixed income and a portfolio manager for the Pacifica family of mutual funds; he also invested assets for pension plans, foundations, financial institutions, corporations and trust accounts. In addition, Mr. Romano reported the daily business news for the San Diego ABC-TV affiliate. He has 33 years of investment experience and holds an MBA from San Diego State University. He earned an undergraduate degree in accounting from Shippensburg University, Pennsylvania.

Agenda

1. PIMCO All Asset All Authority Fund philosophy and process

2. Performance and risk

3. Additional information

   – Understanding recent performance

   – Historical and current allocations

   – Attractive return potential with low equity risk

   – Comparison to PIMCO All Asset Fund

   – PIMCO AUM by strategy

PIMCO All Asset All Authority Fund: A compelling asset allocation strategy

The PIMCO All Asset All Authority Fund seeks to deliver multiple concurrent benefits to investors:

- Attractive level of total returns
- Explicit orientation towards inflation hedging
- Diversification away from equity risk
- Modest volatility
- Daily liquidity

Refer to Appendix for additional investment strategy and risk information

Review of All Asset All Authority's role in an investor's portfolio

Issue

Original 2002 rationale is now more relevant than ever:

- Conventional stock/bond allocations may not provide adequate returns
- High equity allocations drive need for risk diversification
- Institutions and individuals alike must earn returns **that exceed** future inflation
- Conventional balanced strategies would be devastated by renewed inflation

Response

PIMCO All Asset All Authority Fund
Inception: 31 October 2003
Size: $17.5 billion

Fund structure

PIMCO	RESEARCH AFFILIATES
▪ A global leader in active investment management across liquid asset classes ▪ 260+ portfolio managers, 60+ analysts ▪ AUM $1.6 trillion[1], founded 1971 ▪ Role: Active manager of suite of underlying funds	▪ A global leader in research-driven asset allocation investment strategies ▪ 33 investment professionals (3 portfolio managers, 30 researchers, 2 product specialists) ▪ AUM $171.4 billion, founded by Rob Arnott in 2002 ▪ Role: Sub-advisor on tactical asset allocation decisions

As of 31 March 2015

[1] Effective 31 March 2012, PIMCO began reporting the assets managed on behalf of its parent's affiliated companies as part of its assets under management. PIMCO manages $1.59 trillion in assets, including $1.19 trillion in third-party client assets as of 31 March 2015.

Refer to Appendix for additional risk information.

Tactically managing to multiple long-term investment characteristics

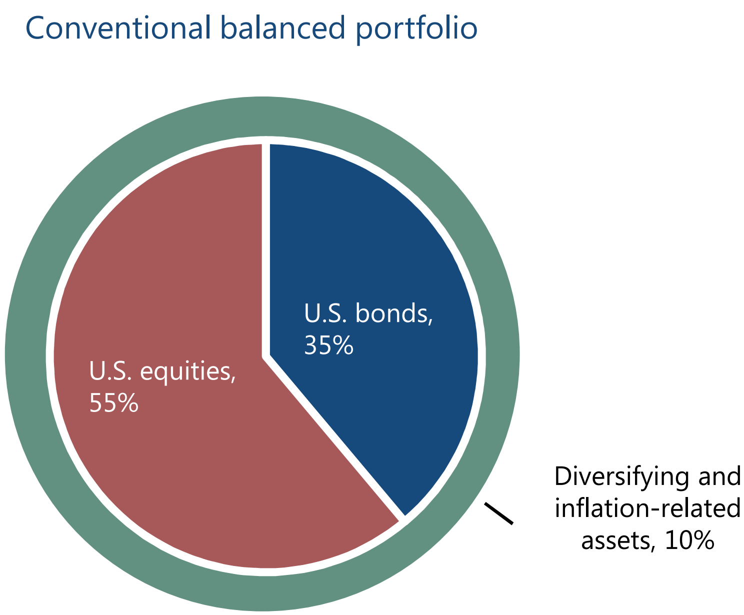
CPI + 6.5% annualized* (over a business cycle)	Modest volatility (volatility in between that of stocks and bonds)	3rd Pillar Focus (Diversification & Real Return Orientation)

The PIMCO All Asset All Authority investment process seeks to achieve these long-term characteristics by:

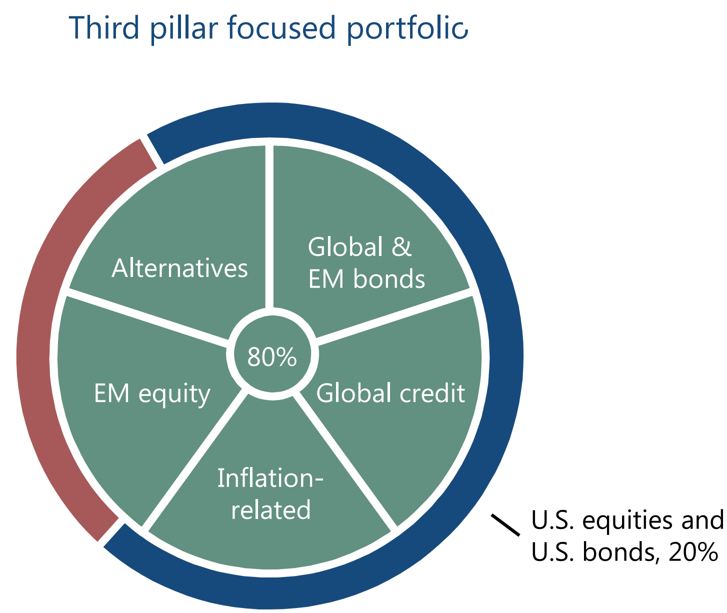
- Considering a very broad and globally diversified opportunity set
- Incorporating excess return potential from active PIMCO management
- Tactically allocating using a value-oriented, contrarian investment process

* Consumer Price Index (CPI) + 6.5% represents the long-term secondary benchmark of the strategy through a full business cycle
Refer to Appendix for additional risk and secondary benchmark information.

Understanding All Authority's "3rd Pillar" focus



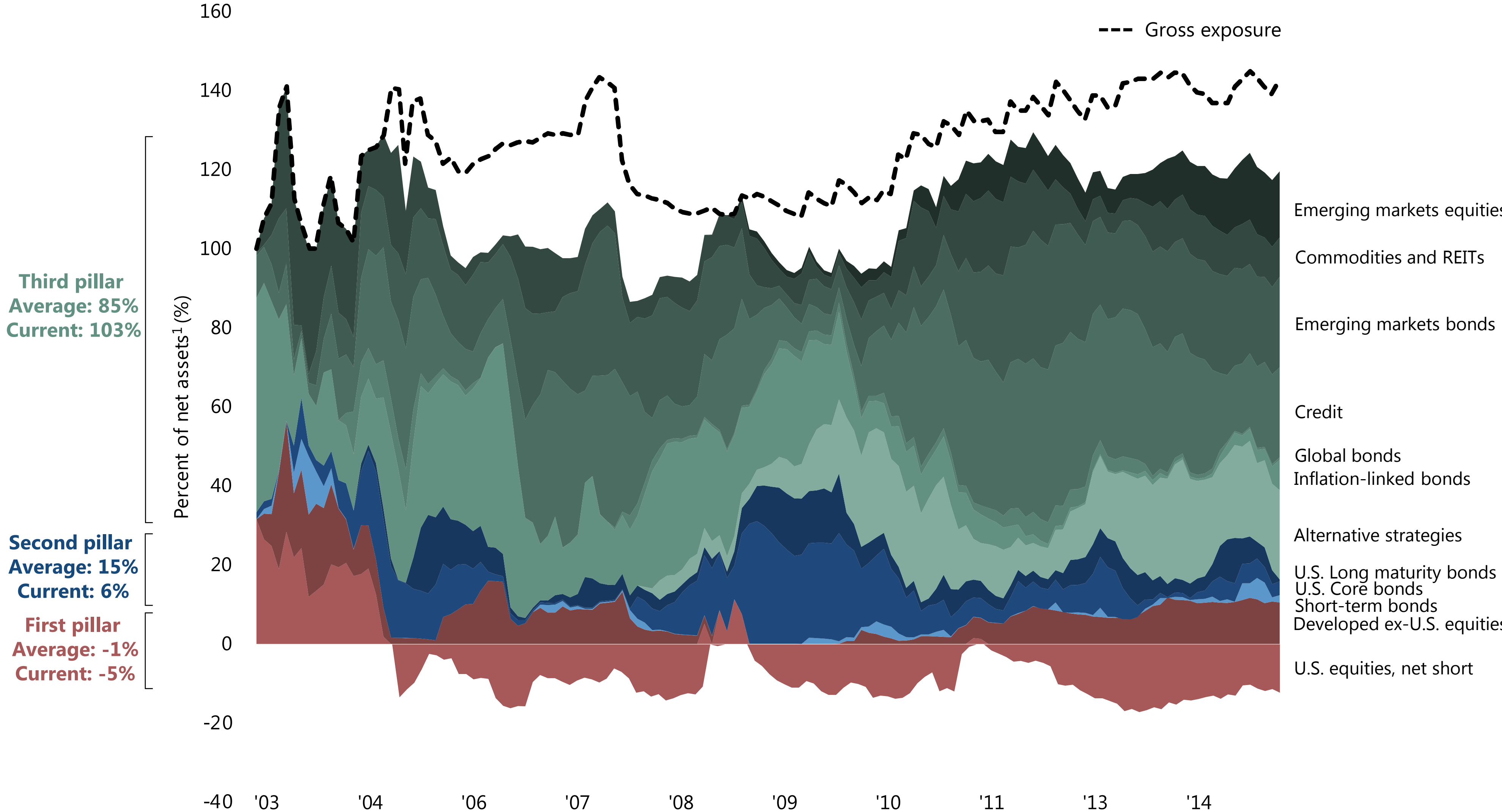
- Nominal return focused
- Rigid benchmark orientation
- Risk concentrated in equities



- **Real** return focus
- Tactical flexibility
- Risk diversified across multiple sectors

As of 31 March 2015
For Illustrative Purposes Only.
Refer to Appendix for additional portfolio structure and risk information.

PIMCO All Asset All Authority's historical allocations: Third Pillar assets are the "core"



As of 31 March 2015

* TIPS: Treasury Inflation Protected Securities; REITs: Real Estate Investment Trusts

[1] Allocations are shown based on net assets (assets net of leverage) in order to better visually illustrate the use of tactical leverage and inverse S&P 500 exposure. Prospectus allocation limits are based on percent of Gross Assets. For historical allocations as a percent of Gross Assets refer to the "All Asset All Authority Fund: Historical Allocations" table within this presentation. Refer to Appendix for additional portfolio structure and risk information.

All Asset All Authority provides access to a broad opportunity set

Short-term Bond Strategies:

- Government Money Market
- Low Duration
- Short Term
- Low Duration ETF

Alternative Strategies:

- RAE Fundamental Advantage PLUS
- RAE Worldwide Fundamental Advantage PLUS
- RAE Worldwide Long/Short PLUS
- Unconstrained Bond
- Credit Absolute Return
- EqS® Long/Short
- Mortgage Opportunities
- TRENDS Managed Futures Strategy

Credit Strategies:

- Floating Income
- High Yield
- High Yield Spectrum
- Income Fund
- Senior Floating Rate
- Diversified Income

U.S. Equity Strategies:

- RAE Fundamental PLUS
- RAE Fundamental PLUS Small
- RAE Low Volatility PLUS
- StocksPLUS®
- StocksPLUS® Absolute Return
- StocksPLUS® Small
- StocksPLUS® Short (AAAAF Only)

U.S. Core Bond Strategies

- Total Return Fund
- Investment Grade Corporate Bond Fund

Inflation Related Strategies:

- CommoditiesPLUS® Strategy
- CommodityRealReturn Strategy
- RealEstateRealReturn Strategy
- Real Return
- Real Return Asset
- Global Advantage® Inflation-Linked Bond Strategy

Developed ex- U.S. Equity Strategies:

- RAE Fundamental PLUS Int'l
- RAE Low Volatility PLUS Int'l
- EqS® Dividend
- EqS Pathfinder®
- StocksPLUS® Int'l (Unhedged)
- StocksPLUS® Int'l (Hedged)

U.S. Long Maturity Bond Strategies

- Long-Term U.S. Government
- Long Duration Total Return
- Long-Term Credit

Global Bond Strategies:

- Foreign Bond (Unhedged)
- Global Advantage® Strategy
- Global Bond (Unhedged)

Emerging Market Bond Strategies:

- Emerging Markets Currency
- Emerging Local Bond
- Emerging Markets Bond
- Emerging Markets Corporate Bond

Emerging Market Equity Strategies:

- RAE Fundamental PLUS EMG
- RAE Low Volatility PLUS EMG
- EqS Emerging Markets

As of 31 March 2015
Key guidelines:
Exposure to Inflation Related Strategies normally will not exceed 75%
Exposure to U.S. Equity Strategies normally will not exceed 50%
Exposure to Non-U.S. Equity Strategies normally will not exceed 33 1/3%
Exposure to U.S. and Non-U.S. Equity Strategies normally will not exceed 66 2/3%. (Less allocation to StocksPLUS® AR Short Strategy Fund)
Exposure to Short Strategies, which seek to gain a negative exposure to an asset class , normally will not exceed 20%
May employ leverage up to 1/3 of total assets. Max guidelines are as a percentage of gross assets.
Refer to Appendix for additional risk information.

PIMCO All Asset All Authority investment process: Value-oriented, contrarian and real return focused

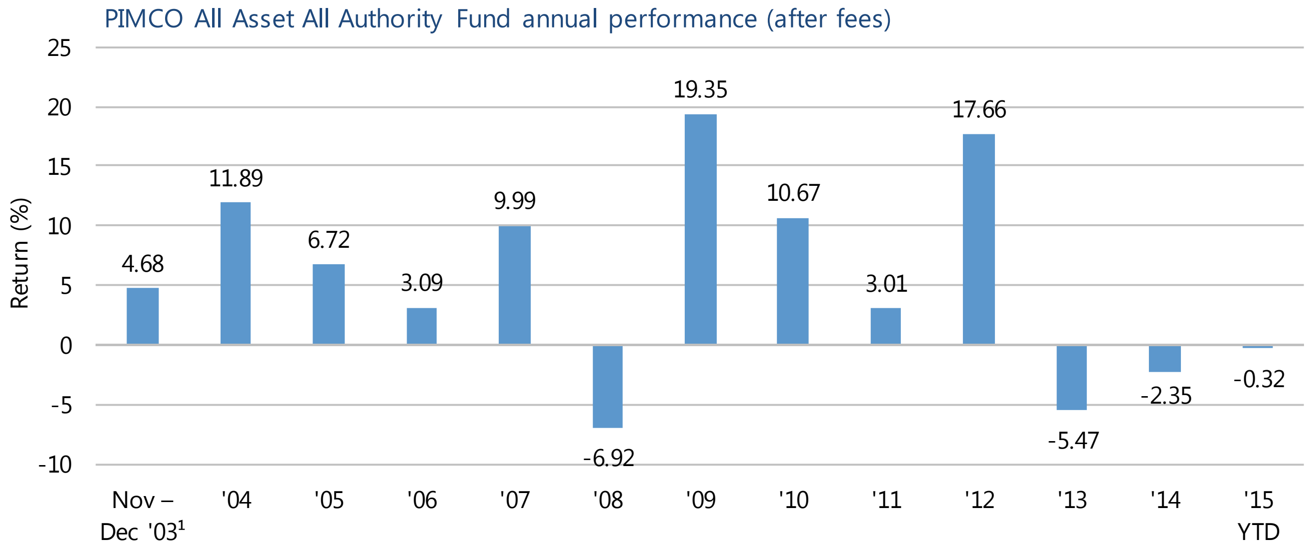
Inputs	Procedure	Importance	
▪ Current return stats ▪ Economic growth data ▪ Inflation expectations ▪ Sector-specific data	**THE "BUILDING BLOCKS MODEL"** Long-term real return = yield + income growth – inflation (valuation change held constant)	30–40%	Long-term What to own
▪ Returns vs. benchmarks for underlying funds	**PIMCO MANAGER VALUE-ADDED** Estimate PIMCO alpha based on historical consistency and level of alpha for each PIMCO PM	15–25%	
▪ Current and historical valuation indicators for stocks, bonds, cash	Business cycle dependent valuations and risk measures **RISK PREMIUM ANALYSIS** Compare current valuation to historical and cross-sectional to assess price impact of valuation change	15–25%	Intermediate-term When to trade
▪ Risk characteristics and correlations within the business cycle	**PORTFOLIO CONSTRUCTION** Incorporate appropriate correlations and volatilities, Seek to maximize risk-adjusted real return	10–20%	
▪ Qualitative input on financial, economic or geopolitical events	**"WHAT ARE THE MODELS MISSING?"** Research Affiliates and PIMCO investment professionals meet monthly	5–15%	What insights are **not** "in the data"

↓

PIMCO All Asset Fund target allocations

Refer to Appendix for additional investment strategy and risk information.

PIMCO All Asset All Authority Fund performance



PIMCO All Asset All Authority Fund

	Since inception 31 Oct '03	10 yrs.	5 yrs.	3 yrs.	1 yr.	6 mos.	3 mos.
After fees (%)	5.99	5.32	3.89	0.41	-4.80	-4.77	-0.32
S&P 500 Index (%)	8.32	8.01	14.47	16.11	12.73	5.93	0.95
CPI + 6.5 (%)	8.65	8.52	8.14	7.49	6.48	2.42	1.37

Performance quoted represents past performance. Past performance is not a guarantee or a reliable indicator of future results. Current performance may be lower or higher than performance shown. Investment return and principal value will fluctuate, so that fund shares may be worth more or less than their original cost when redeemed. Performance data current to the most recent month-end is available at www.pimco.com/investments or by calling 888.87.PIMCO.

As of 31 March 2015

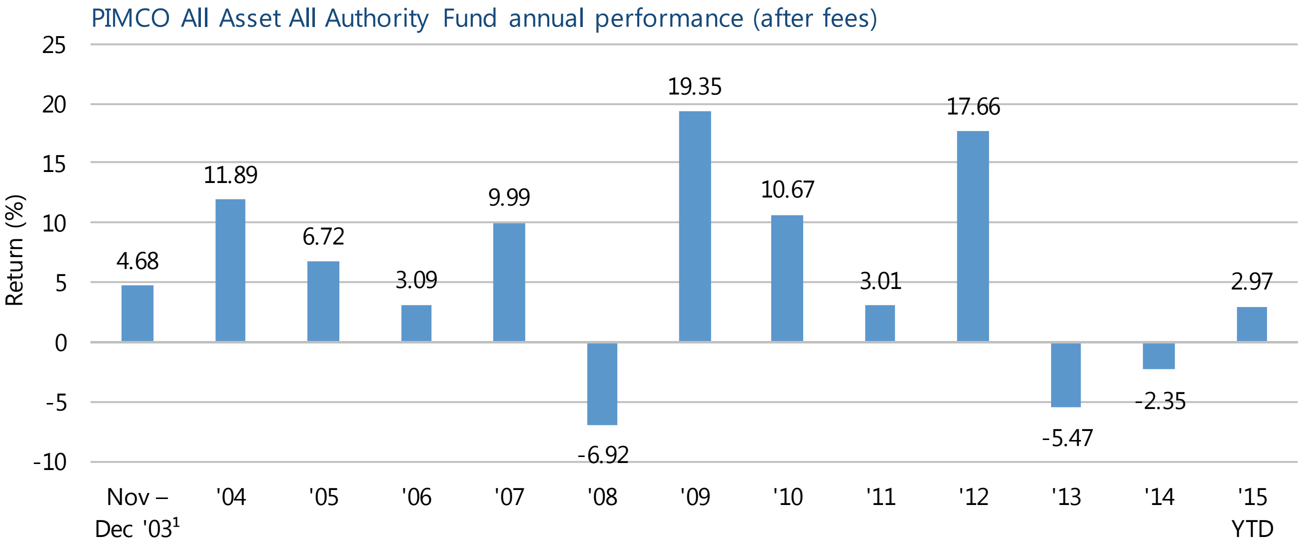
1 Note: Partial performance for 2003 is due to a 31 October 2003 inception date of the All Asset All Authority Fund

2 The 60/40 mix is comprised of 60% S&P 500 and 40% Barclays U.S. Aggregate Index

Performance is shown for the institutional class

Refer to Appendix for additional performance and fee, index, risk and secondary benchmark information.

PIMCO All Asset All Authority Fund performance



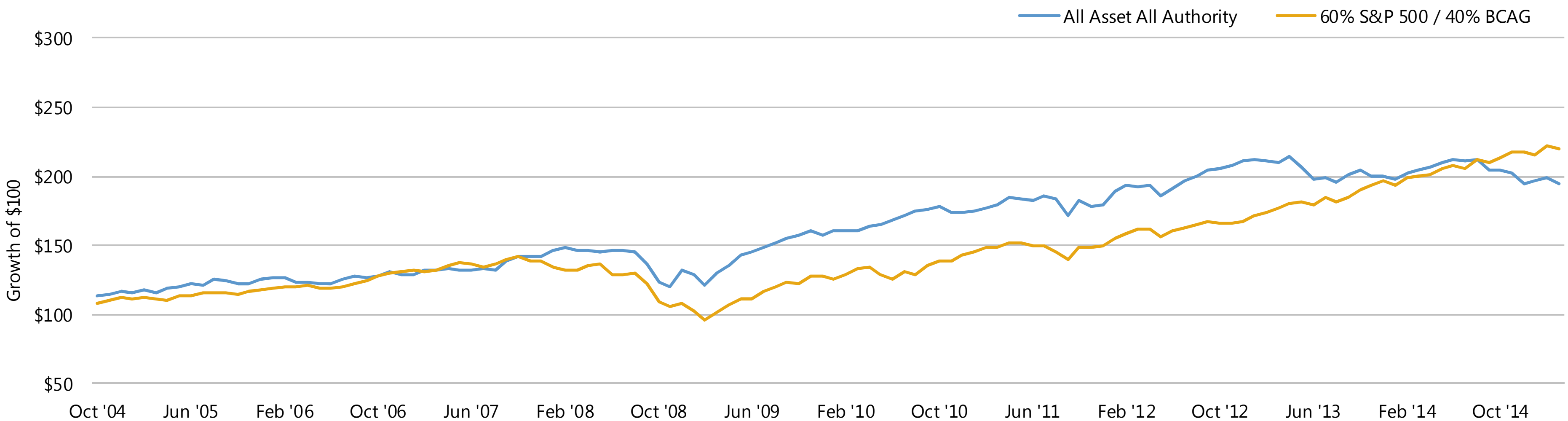
PIMCO All Asset All Authority Fund

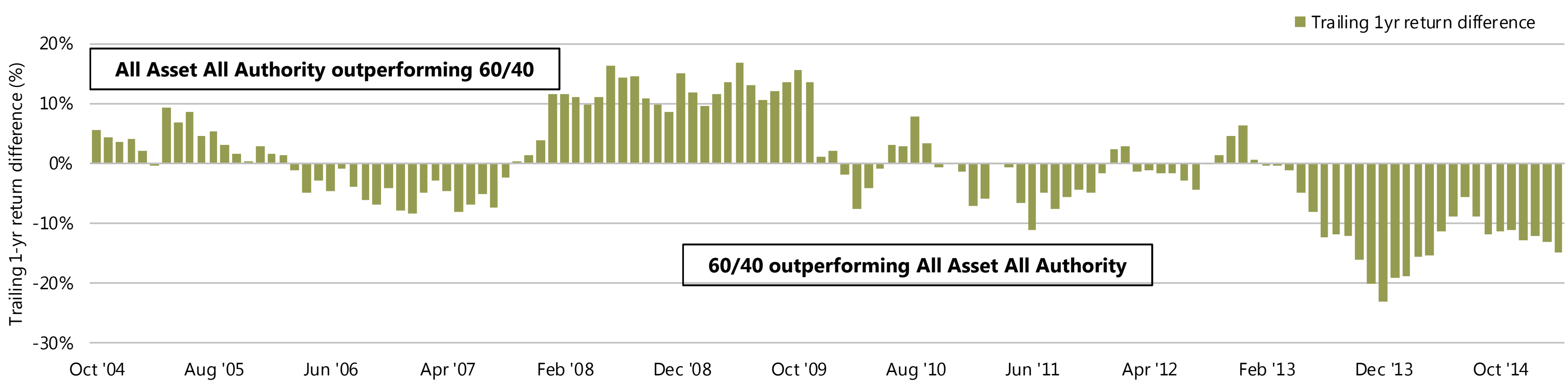
	S.I. 31 Oct '03	10 yrs.	5 yrs.	3 yrs.	1 yr.	6 mos.	3 mos.	YTD 30 Apr '15
After fees (%)	6.25	5.42	4.08	1.16	-2.81	-2.01	2.30	2.97
S&P 500 Index (%)	8.34	8.32	14.33	16.73	12.98	4.40	5.07	1.92
CPI + 6.5 (%) *	8.65	8.52	8.14	7.49	6.48	2.42	1.37	1.37

Performance quoted represents past performance. Past performance is not a guarantee or a reliable indicator of future results. Current performance may be lower or higher than performance shown. Investment return and principal value will fluctuate, so that fund shares may be worth more or less than their original cost when redeemed. Performance data current to the most recent month-end is available at www.pimco.com/investments or by calling 888.87.PIMCO.

As of 30 April 2015
* Due to lag in release, performance is as of 31 March 2015
1 Note: Partial performance for 2003 is due to a 31 October 2003 inception date of the All Asset All Authority Fund
Performance is shown for the institutional class
Refer to Appendix for additional performance and fee, index, risk and secondary benchmark information.

All Asset's long-term performance is consistent with 60/40, but has provided diversification versus 60/40 along the way





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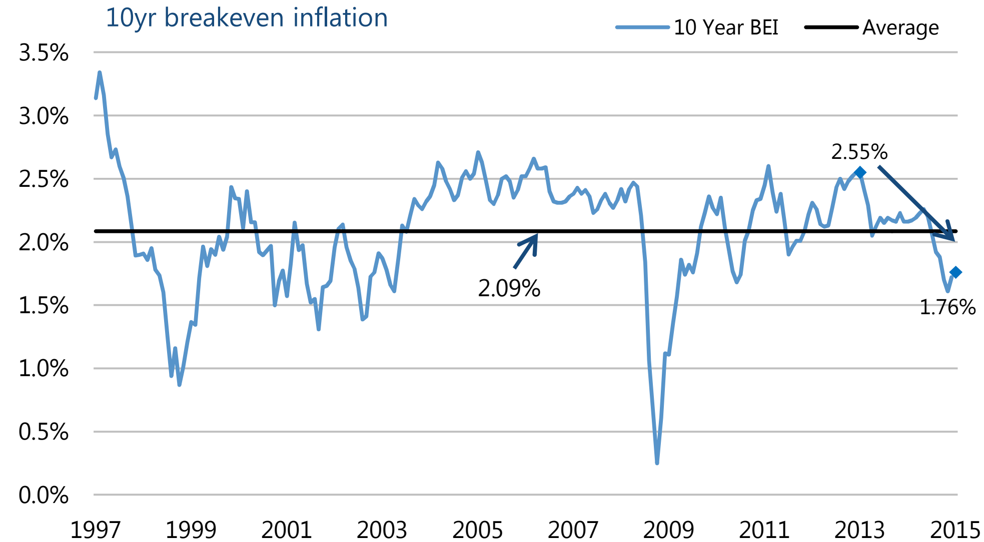
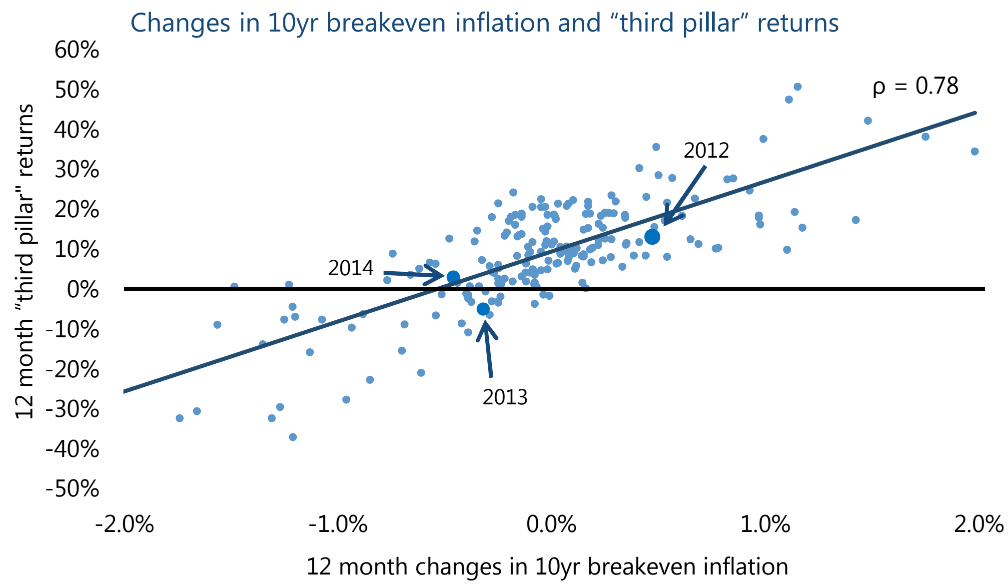
As of 31 March 2015
SOURCE: PIMCO
Performance is net of fees
Refer to Appendix for additional performance and fee, index, and risk information.

Inflation expectations, which had fallen for two years, may offer a tailwind to third pillar assets going forward

- Inflation expectations fell over the past two years driven in part by falling oil prices
- Rising inflation expectations from lows in January provide a tailwind for third pillar assets in 2015
- Historically, third pillar asset returns have been positively correlated with changes in breakeven inflation

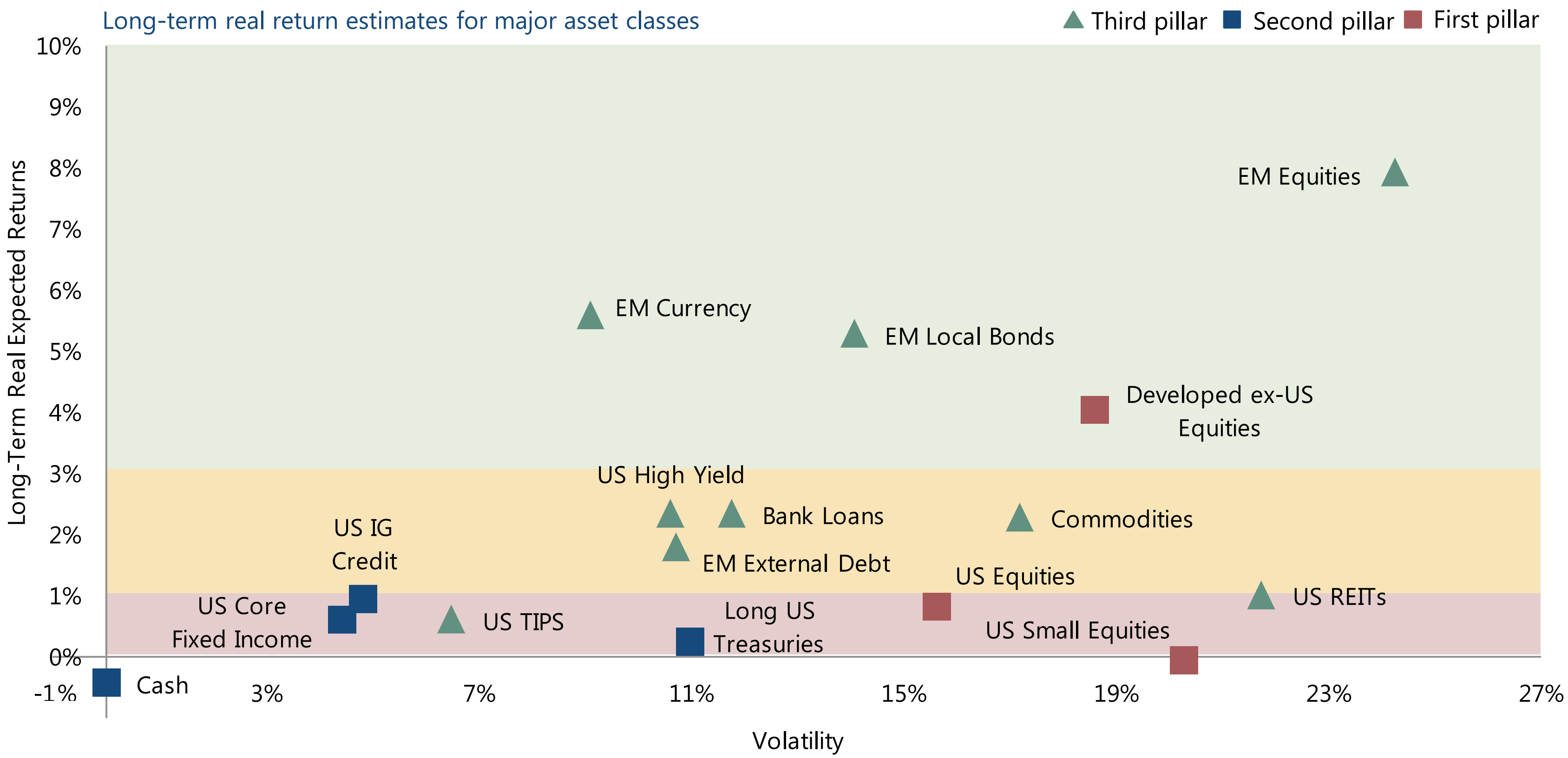




From March 1997-March 2015
SOURCE: Research Affiliates based on data from Bloomberg and St. Louis Fed
NOTE: Breakeven inflation is the difference between TIPS and Treasury yields
Third pillar composite is an equally-weighted blend of U.S. high yield (Barclays U.S. Corporate High Yield Index), Long U.S. TIPS (Barclays U.S. Treasury Inflation Notes: 10+ Year Index), EM local bonds (JPMorgan Government Bond Index-Emerging Markets Global Diversified Index (Unhedged)), EM equities (MSCI EM Index), REITs (Dow Jones U.S. Select REIT Total Return Index), and diversified commodities (DJ-UBS Commodity TR Index)

Research Affiliates' current long-term real return estimates

The highest return potential is outside of U.S. stocks and bonds

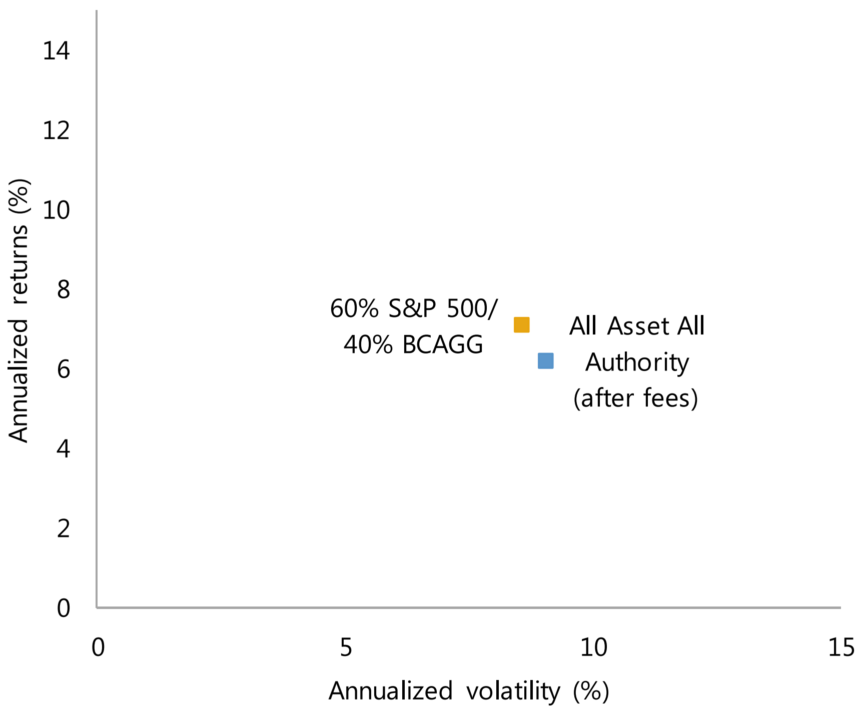


- Most third pillar assets are attractively priced, after anemic recent results, while US stocks and bonds are not
- The dark side of a major bull market? Those asset classes are priced to offer weak future returns

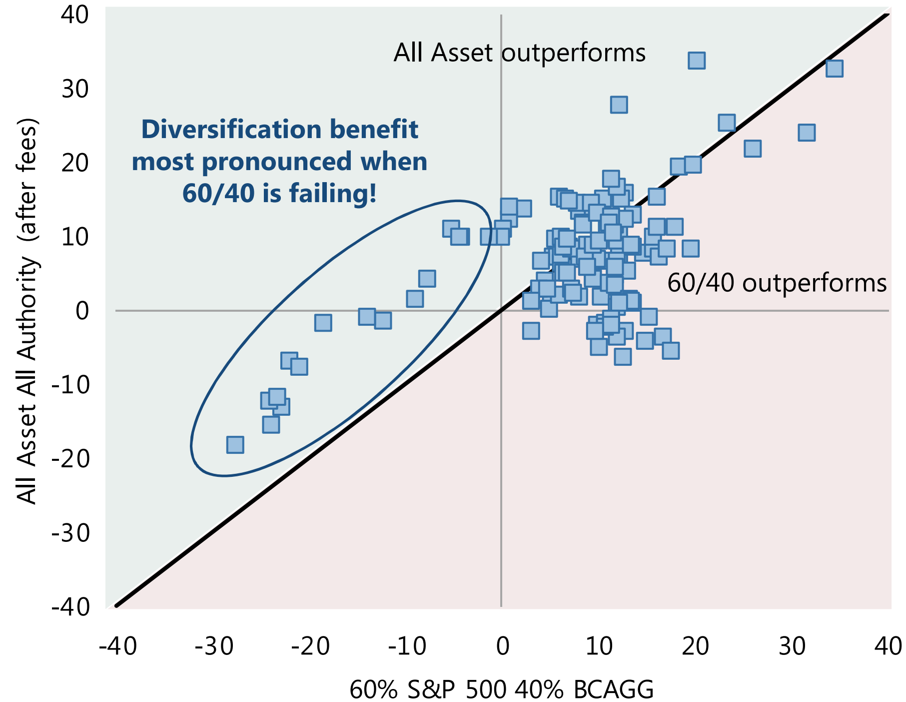
As of 31 March 2015
SOURCE: Research Affiliates, LLC, based on data building blocks, mean reversion and business cycle models.
The asset classes shown above are represented by the following indexes: U.S. Equities represented by S&P 500; Developed ex U.S. Equities represented by MSCI EAFE; Long U.S. Treasuries represented by Barclays U.S. Treasury Long; U.S. Core Fixed Income represented by Barclays U.S. Aggregate; U.S. Investment Grade Credit represented by Barclays U.S. Interim Credit; U.S. high yield represented by Barclays U.S. Corporate High Yield; U.S. TIPS represented by Barclays U.S. Treasury U.S. TIPS, U.S. REITS represented by FTSE NAREIT; EM local bonds represented by JPM GBI-EM; EM equities represented by MSCI EM; and Commodities represented by DJ-UBS Commodity TR Index.
Refer to Appendix for additional forecast, outlook and risk information.

All Asset All Authority has a strong track record of diversification relative to a more traditional balanced strategy despite recent performance headwinds

Historical risk and return since inception



Rolling 12m returns since inception



- Since inception, All Asset All Authority has delivered attractive returns while offering diversification relative to a traditional balances strategy
- The historical diversification benefits were most pronounced in years when traditional balanced strategies sold off significantly

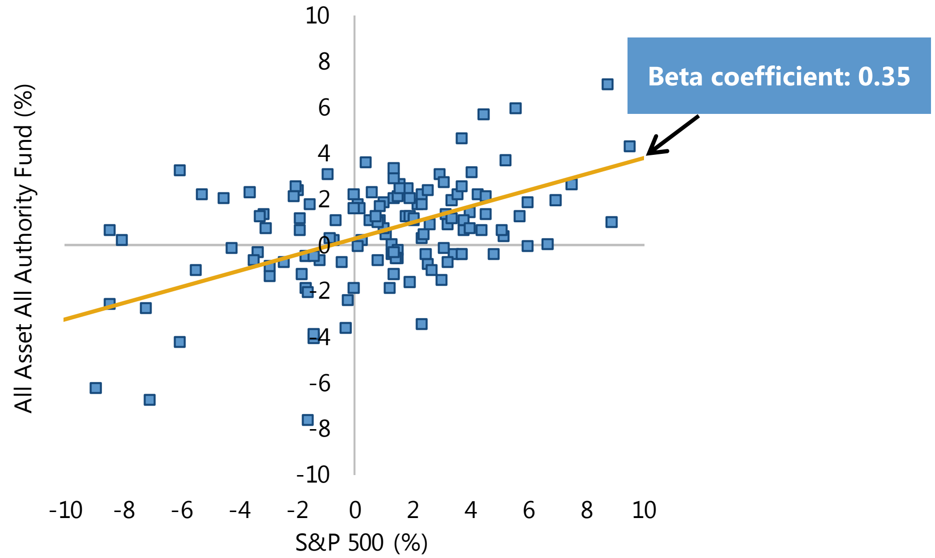
Performance quoted represents past performance. Past performance is not a guarantee or a reliable indicator of future results. Current performance may be lower or higher than performance shown. Investment return and principal value will fluctuate, so that fund shares may be worth more or less than their original cost when redeemed. Performance data current to the most recent month-end is available at www.pimco.com/investments or by calling 888.87.PIMCO.

As of 31 March 2015
Refer to Appendix for additional fee, index, and risk information

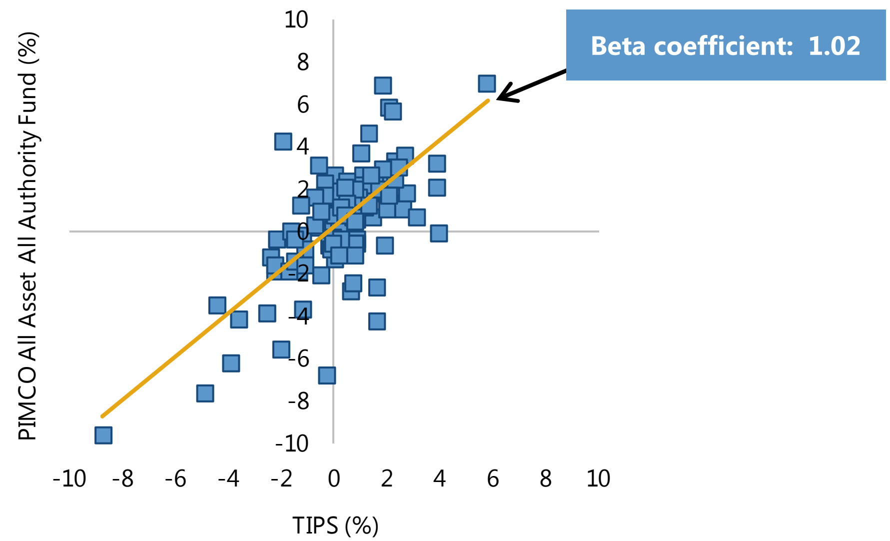
All Authority diversifies equity risk and maintains TIPS-like characteristics

- The PIMCO All Asset All Authority Fund has displayed low systematic risk relative to the equity market
- The PIMCO All Asset All Authority Fund has demonstrated a high beta to TIPS, consistent with the CPI-based orientation of each

PIMCO All Asset All Authority Fund (net of fees) vs. S&P 500 monthly returns from 31 October 2003 to 31 March 2015



PIMCO All Asset All Authority Fund (after fees) vs. TIPS monthly returns from 31 October 2003 to 31 March 2015



Performance quoted represents past performance. Past performance is not a guarantee or a reliable indicator of future results. Current performance may be lower or higher than performance shown. Investment return and principal value will fluctuate, so that fund shares may be worth more or less than their original cost when redeemed. Performance data current to the most recent month-end is available at www.pimco.com/investments or by calling 888.87.PIMCO.

As of 31 March 2015
SOURCE: Standard & Poor's, PIMCO
Performance is shown for the institutional class
Refer to Appendix for additional performance and fee, beta coefficient, chart, index and risk information.

PIMCO All Asset All Authority Fund: A compelling asset allocation strategy

Demonstrated track record delivering these benefits

- Total return potential
- Inflation hedging
- Diversification from equity risk
- Seeks modest volatility
- Daily liquidity

Refer to Appendix for additional risk information.

Additional information

Annual return comparison: PIMCO All Asset All Authority Fund

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	**Since inception**
All Asset All Authority (after fees) 11.89%	All Asset All Authority (after fees) 6.72%	S&P 500 15.79%	TIPS 1-10yr 11.45%	U.S. aggregate bonds 5.24%	S&P 500 26.46%	S&P 500 15.06%	TIPS 1-10yr 8.93%	All Asset All Authority (after fees) 17.66%	S&P 500 32.39%	S&P 500 13.69%	S&P 500 8.31%
S&P 500 10.88%	S&P 500 4.91%	T-bills 4.76%	All Asset All Authority (after fees) 9.99%	T-bills 1.80%	All Asset All Authority (after fees) 19.35%	All Asset All Authority (after fees) 10.67%	Investment grade bonds 8.35%	S&P 500 16.00%	T-Bills 0.05%	Investment grade bonds 7.53%	All Asset All Authority (after fees) 5.99%
TIPS 1-10yr 7.10%	T-bills 3.00%	U.S. aggregate bonds 4.33%	U.S. aggregate bonds 6.97%	TIPS 1-10yr -2.43%	Investment grade bonds 16.04%	Investment grade bonds 8.47%	U.S. aggregate bonds 7.84%	Investment grade bonds 9.37%	Investment grade bonds -2.01%	U.S. aggregate bonds 5.97%	Investment grade bonds 5.58%
Investment grade bonds 5.24%	U.S. aggregate bonds 2.43%	Investment grade bonds 4.26%	S&P 500 5.49%	Investment grade bonds -3.08%	TIPS 1-10yr 12.02%	U.S. aggregate bonds 6.54%	All Asset All Authority (after fees) 3.01%	TIPS 1-10yr 5.04%	U.S. aggregate bonds -2.02%	TIPS 1-10 yr 0.91%	U.S. aggregate bonds 4.76%
U.S. aggregate bonds 4.34%	Investment grade bonds 1.96%	All Asset All Authority (after fees) 3.09%	Investment grade bonds 5.11%	All Asset All Authority (after fees) -6.93%	U.S. aggregate bonds 5.93%	TIPS 1-10yr 5.22%	S&P 500 2.11%	U.S. aggregate bonds 4.21%	All Asset All Authority (after fees) -5.47%	T-Bills 0.03%	TIPS 1-10 yr 4.04%
T-bills 1.25%	TIPS 1-10yr 1.87%	TIPS 1-10yr 1.56%	T-bills 4.74%	S&P 500 -37.00%	T-bills 0.16%	T-bills 0.13%	T-bills 0.08%	T-bills 0.07%	TIPS 1-10 yr -5.58%	All Asset All Authority (after fees) -2.35%	T-Bills 1.41%

Performance quoted represents past performance. Past performance is not a guarantee or a reliable indicator of future results. Current performance may be lower or higher than performance shown. Investment return and principal value will fluctuate, so that fund shares may be worth more or less than their original cost when redeemed. Performance data current to the most recent month-end is available at www.pimco.com/investments or by calling 888.87.PIMCO.

As of 31 March 2015

Note: Insufficient 2003 data due to 31 October 2003 inception of the All Asset All Authority Fund. Investment Grade Bonds are represented by the Barclays Credit Investment Grade Index, TIPS 1–10Yr are represented by the Barclays TIPS 1–10Yr index, U.S. Aggregate Bonds are represented by the Barclays U.S. Aggregate Index, T-Bills are represented by the Citigroup 3-Month T-Bills Index.

Performance is shown for the institutional class.

Refer to Appendix for additional performance and fee, chart, index and risk information.

Asset class returns have low correlations:
This is an opportunity for active reallocation

	Barclays U.S. TIPS from 31 Jan '97	Dow Jones UBS Commodity Total Return from 31 Dec '90	Citigroup 3-Month T-Bill from 31 Dec '90	Barclays Long-Term Treasury from 31 Jan '91	Barclays U.S. Aggregate from 31 Dec '90	JPMorgan Gov't Bond Non-U.S. Hedged from 31 Dec '90	Barclays Credit Investment Grade as of 31 Dec '90	BofA ML U.S. High Yield, BB-B Rated from 31 Dec '92	JPMorgan Emerging Markets + from 31 Dec '93	S&P 500 from 31 Dec '90	MSCI EAFE Hedged from 31 Dec '90	DJ U.S. Select REIT Total Return from 31 Dec '90	BAGG(40%) / S&P 500(60%) from 31 Dec '90
Barclays U.S. TIPS	1.0												
Dow Jones UBS Commodity Total Return	0.3	1.0											
Citigroup 3-Month T-Bill	0.0	0.1	1.0										
Barclays Long-Term Treasury	0.6	-0.1	0.0	1.0									
Barclays U.S. Aggregate	0.8	0.0	0.1	0.9	1.0								
JPMorgan Gov't Bond Non-U.S. Hedged	0.5	-0.1	0.2	0.7	0.7	1.0							
Barclays Credit Investment Grade	0.7	0.2	0.0	0.7	0.9	0.6	1.0						
BofA ML U.S. High Yield, BB-B Rated	0.3	0.3	-0.1	-0.1	0.2	0.0	0.5	1.0					
JPMorgan Emerging Markets +	0.5	0.3	0.0	0.1	0.3	0.1	0.5	0.6	1.0				
S&P 500	0.0	0.3	0.0	-0.2	0.0	-0.1	0.2	0.6	0.5	1.0			
MSCI EAFE hedged	0.1	0.5	0.0	-0.2	0.0	-0.1	0.3	0.6	0.6	0.8	1.0		
DJ U.S. Select REIT Total Return	0.2	0.3	0.0	0.0	0.2	0.0	0.3	0.6	0.4	0.5	0.5	1.0	
BAGG(40%) / S&P 500(60%)	0.1	0.3	0.0	0.0	0.2	0.0	0.4	0.6	0.6	1.0	0.8	0.5	1.0
Annualized standard deviations	**4.3%**	**10.9%**	**0.4%**	**7.1%**	**2.6%**	**2.1%**	**3.7%**	**5.7%**	**9.0%**	**10.5%**	**11.7%**	**14.5%**	**6.4%**

Average cross correlation: 0.4

Correlations based on maximum history indices*

As of 31 March 2015
SOURCE: Bloomberg, JPMorgan, Barclays, BofA Merrill Lynch, PIMCO
* For indexes incepted after 31 Dec '90, maximum history is based on the inception date of the newer index in each correlated pairing
Refer to Appendix for additional correlation and index information.

All Asset All Authority is used in various ways by investors

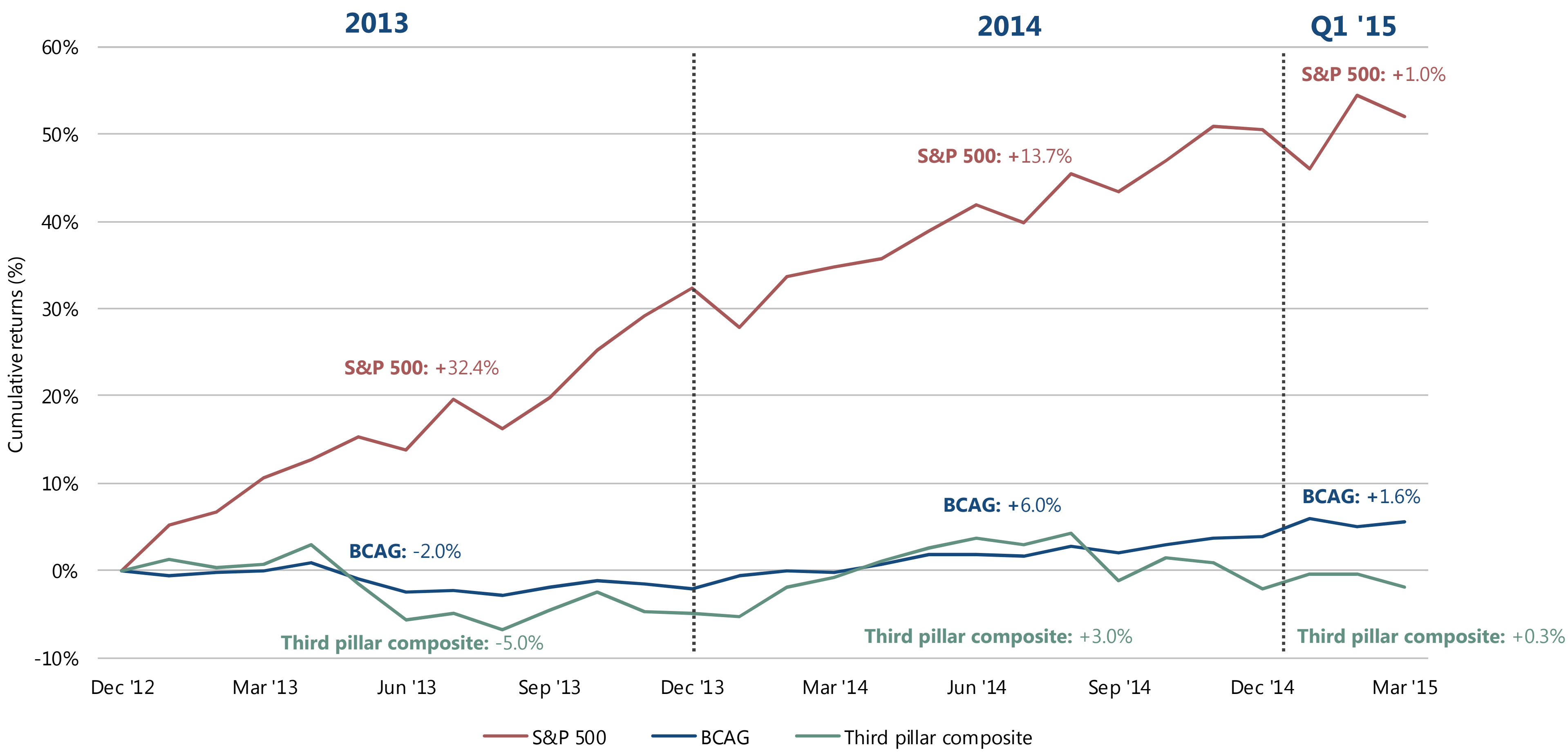
All Asset All Authority characteristics	Investor use
Global tactical allocation strategy	Core holding or diversifying satellite
CPI + 6.5% secondary benchmarks	Inflation protection / real return strategy
Attractive total return potential+ low equity beta	Liquid alternative* / absolute return strategy
Bond-like correlation and volatility	Fixed income alternative

* PIMCO's liquid alternative strategies are without the principal lock-ups of traditional private equity funds and hedge funds and include separate accounts whose holdings can be liquidated at a client's request subject to current market conditions, mutual funds that can be liquidated at NAV on a daily basis and ETFs that can be liquidated on the secondary market under normal market conditions. There is no guarantee that a security will be able to be liquidated in a timely fashion or when it would be most advantageous to do so.

Refer to Appendix for additional portfolio structure and risk information.

Understanding recent performance

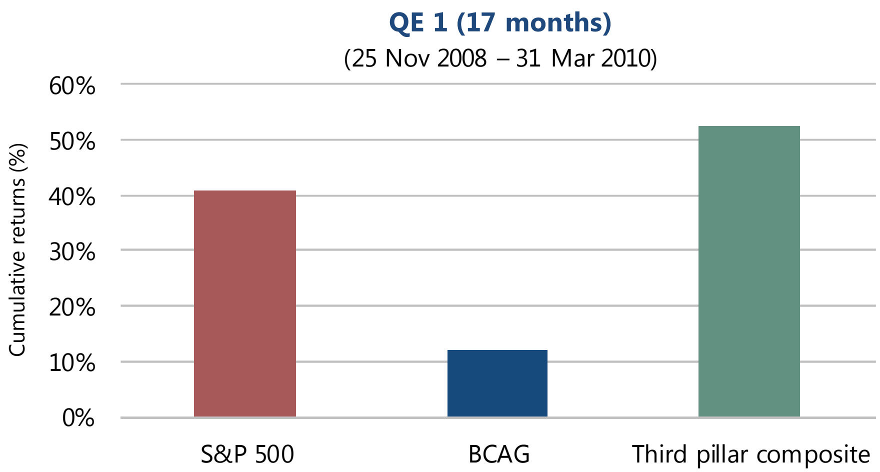
The large divergence of U.S. stocks from other asset classes during 2013-2014 has diminished in 2015

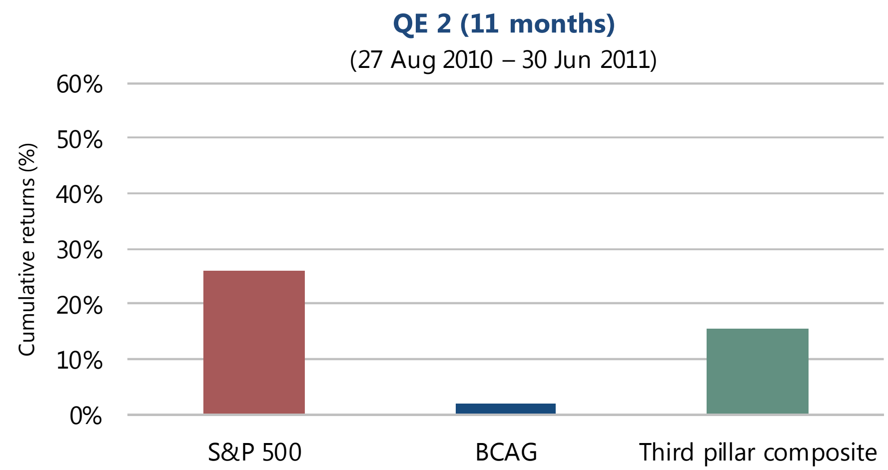


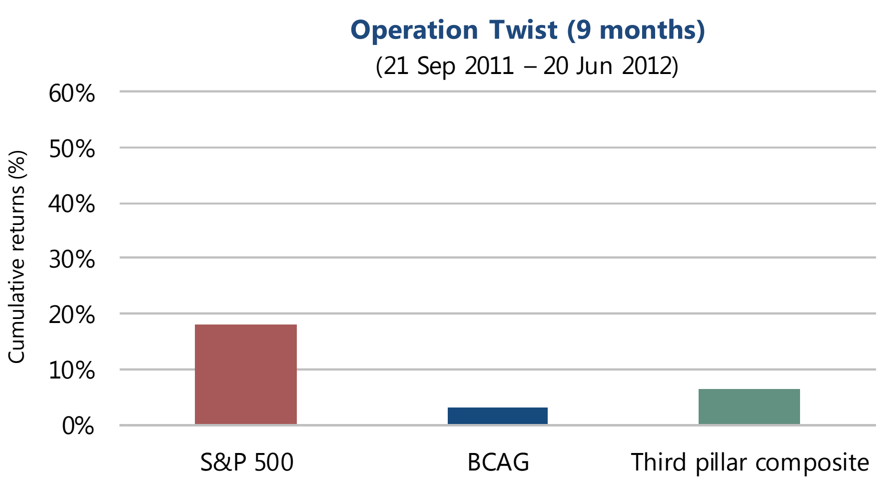
- QE3 led to strong gains in U.S. stocks versus other asset classes; S&P 500 gained 51% in 2013-2014, far outpacing other markets
- This effect has diminished in 2015 as the Fed ended QE3 and discussed the potential for near-term rate hikes

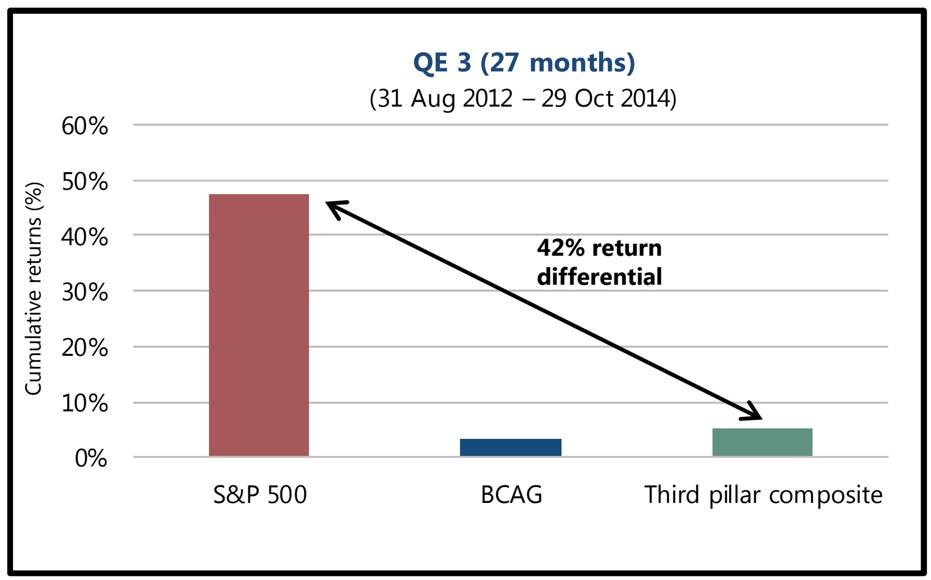
As of 31 March 2015
SOURCE: PIMCO
Third pillar composite is an equally-weighted blend of U.S. high yield (Barclays U.S. Corporate High Yield Index), Long U.S. TIPS (Barclays U.S. Treasury Inflation Notes: 10+ Year Index), EM local bonds (JPMorgan Government Bond Index-Emerging Markets Global Diversified Index (Unhedged)), EM equities (MSCI EM Index), REITs (Dow Jones U.S. Select REIT Total Return Index), and diversified commodities (DJ-UBS Commodity TR Index)

During QE3, U.S. stocks outpaced other asset classes significantly more than in prior QE periods









As of 31 March 2015
SOURCE: PIMCO
Refer to Appendix for additional index and risk information.
Third pillar composite is an equally-weighted blend of U.S. high yield (Barclays U.S. Corporate High Yield Index), Long U.S. TIPS (Barclays U.S. Treasury Inflation Notes: 10+ Year Index), EM local bonds (JPMorgan Government Bond Index-Emerging Markets Global Diversified Index (Unhedged)), EM equities (MSCI EM Index), REITs (Dow Jones U.S. Select REIT Total Return Index), and diversified commodities (DJ-UBS Commodity TR Index)

Expectations for the “third pillar” in different environments

Calendar year change in inflation expectations

Calendar year S&P 500 return

-0.75% **-0.50%** **0.50%** **0.75%**

Disinflationary bull markets

Average calendar year returns:
First and second pillar = 16.4%
Third pillar = -3.2%
Years: ‘98, ‘13, ‘14

Expectation:
Third pillar underperformance on a relative basis

Reflationary bull markets

Average calendar year returns:
First and second pillar = 13.7%
Third pillar = 22.0%
Years: ‘99, ‘03, ‘04, ‘09, ‘12

Expectation:
Third pillar outperformance on both relative and absolute basis

Neutral Markets

Δ in inflation expectations between -0.25% and 0.25%

Average Calendar Year Returns
First and second pillar = 3.5%
Third Pillar = 10.0%
Years: ‘01, ‘02, ‘06, ‘07, ‘10

Expectation:
Third pillar as diversifying return driver

Disinflationary bear markets

Average calendar year returns:
First and second pillar = -11.5%
Third pillar = -10.4%
Years: ‘00 and ‘08

Expectation:
Third pillar relative outperformance, particularly with value orientation

Reflationary bear markets

Average calendar year returns:
No observations since 1998

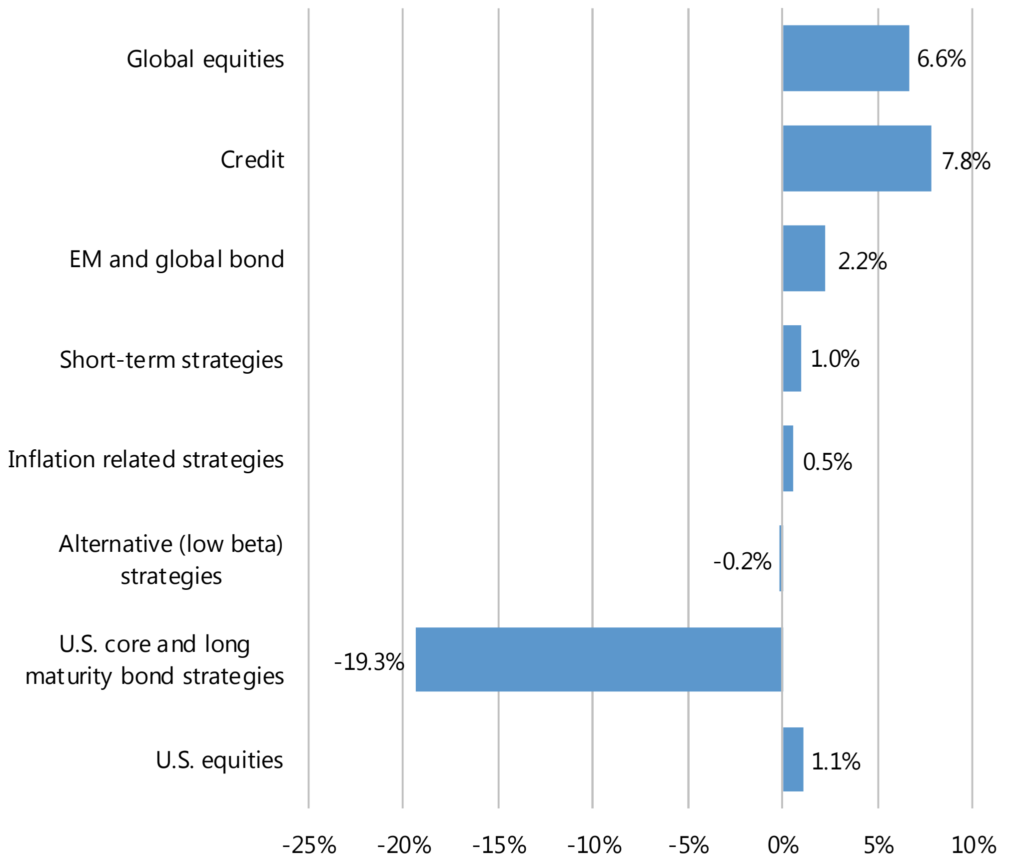
Expectation:
Infrequent but magnitude of third pillar relative outperformance is large

From 1998–2014
SOURCE: Research Affiliates based on data from Bloomberg
Third pillar composite is an equally-weighted blend of U.S. high yield (Barclays U.S. Corporate High Yield Index), Long U.S. TIPS (Barclays U.S. Treasury Inflation Notes: 10+ Year Index), EM local bonds (JPMorgan Government Bond Index-Emerging Markets Global Diversified Index (Unhedged)), EM equities (MSCI EM Index), REITs (Dow Jones U.S. Select REIT Total Return Index), and diversified commodities (DJ-UBS Commodity TR Index)

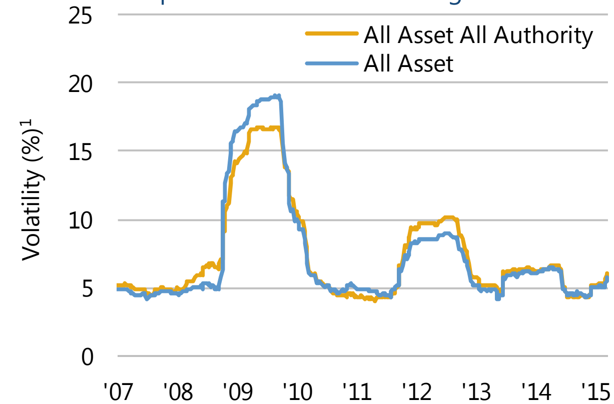
Historical and current allocations

Leverage in All Asset All Authority is being used to emphasize diversifying sectors while also seeking to hedge overall volatility and equity risk

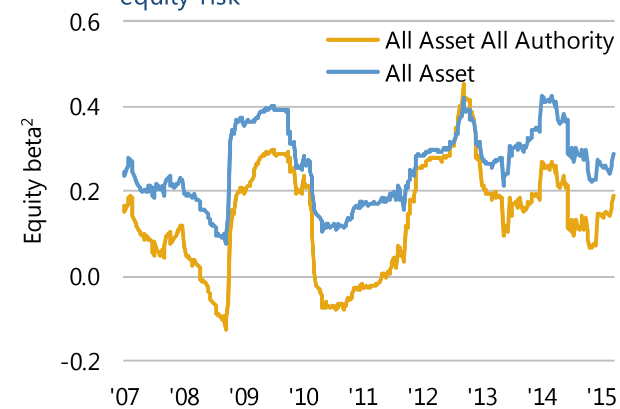
Current allocation mix: All Asset All Authority minus All Asset



Total volatility has been nearly identical despite differences in holdings



Leverage in All Asset All Authority Fund has been used to diversify exposure away from equity risk



As of 31 March 2015

[1] Volatility measured by rolling 3-month standard deviation of daily returns

[2] Measured against S&P 500 using rolling 3-month daily returns

Refer to Appendix for additional portfolio and risk information.

PIMCO All Asset All Authority Fund: Historical exposures (Page 1 of 2)

	Dec '03	Dec '04	Dec '05	Dec '06	Dec '07	Dec '08	Dec '09	Dec '10	Dec '11	Dec '12	Dec '13	Dec '14	Mar '15
Third Pillar	**74.8%**	**77.8%**	**66.7%**	**88.8%**	**74.3%**	**85.2%**	**61.8%**	**85.2%**	**110.4%**	**96.3%**	**107.6%**	**94.9%**	**103.2%**
Emerging Markets Equities	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.1%**	**1.4%**	**2.7%**	**9.3%**	**7.7%**	**12.7%**	**17.0%**	**16.7%**
Fundamental PLUS EMG Fund	-	-	-	-	-	0.1%	1.4%	2.7%	9.1%	7.6%	12.5%	6.2%	
Low Volatility PLUS EMG Fund	-	-	-	-	-	-	-	-	-	-	0.0%	10.8%	
EqS Emerging Markets Fund	-	-	-	-	-	-	-	-	0.2%	0.1%	0.1%	0.0%	
Commodities and REITs	**7.9%**	**14.4%**	**3.7%**	**16.3%**	**5.4%**	**7.9%**	**7.0%**	**12.4%**	**19.0%**	**6.5%**	**10.8%**	**10.7%**	**9.9%**
CommoditiesPLUS™ Strategy Fund	-	-	-	-	-	-	-	4.0%	7.3%	5.2%	5.2%	4.6%	
CommodityRealReturn Strategy Fund®	2.6%	8.8%	1.5%	16.1%	4.5%	3.3%	6.7%	5.6%	6.4%	0.6%	1.9%	3.3%	
RealEstateRealReturn Strategy Fund	5.3%	5.7%	2.2%	0.2%	0.8%	4.7%	0.2%	2.8%	5.3%	0.7%	3.7%	2.8%	
Emerging Markets Bonds	**7.4%**	**16.4%**	**16.0%**	**20.4%**	**18.4%**	**23.6%**	**6.2%**	**8.2%**	**23.9%**	**26.3%**	**25.4%**	**22.7%**	**22.9%**
Emerging Local Bond Fund	-	-	-	-	5.4%	8.9%	1.4%	2.6%	8.1%	8.9%	8.5%	10.6%	
Emerging Markets Currency Fund	-	-	9.8%	14.9%	6.6%	6.4%	2.9%	5.1%	11.0%	9.8%	9.4%	10.2%	
Emerging Markets Bond Fund	7.4%	16.4%	6.1%	5.6%	6.5%	8.2%	1.8%	0.6%	4.8%	6.0%	5.6%	1.3%	
Emerging Markets Corporate Bond Fund	-	-	-	-	-	-	-	-	-	1.6%	1.9%	0.6%	
Credit	**9.4%**	**21.3%**	**10.9%**	**37.8%**	**30.2%**	**23.0%**	**6.9%**	**23.5%**	**37.4%**	**38.1%**	**30.6%**	**20.7%**	**22.8%**
High Yield Fund	1.5%	6.6%	4.1%	2.0%	5.7%	6.5%	2.4%	5.8%	10.0%	9.8%	6.1%	2.4%	
High Yield Spectrum Fund	-	-	-	-	-		-	-	1.2%	4.0%	5.1%	4.3%	
Income Fund	-	-	-	-	2.6%	3.0%	1.6%	7.0%	8.0%	8.4%	9.5%	7.5%	
Diversified Income Fund	-	-	-	2.5%	7.3%	1.7%	1.0%	2.0%	4.8%	5.8%	3.6%	0.1%	
Floating Income Fund	-	10.0%	6.7%	33.3%	10.3%	3.4%	0.9%	4.7%	8.3%	4.9%	3.0%	0.1%	
Senior Floating Rate Fund	-	-	-	-	-	-	-	-	0.6%	3.6%	3.3%	6.2%	
Convertible Fund	-	2.8%	0.1%	0.1%	4.3%	8.4%	1.0%	4.0%	4.4%	1.6%	-	-	
European Convertible Fund	7.9%	1.9%	-	-	-	-	-	-	-	-	-	-	
Global Bonds	**0.0%**	**8.7%**	**1.4%**	**0.0%**	**3.7%**	**0.6%**	**2.2%**	**2.6%**	**2.7%**	**4.3%**	**1.0%**	**0.5%**	**0.6%**
Foreign Bond Fund (Unhedged)	-	8.7%	1.3%	-	3.6%	0.6%	0.3%	1.1%	1.1%	1.8%	0.0%	0.4%	
Global Advantage Strategy Fund	-	-	-	-	-	-	1.9%	1.5%	1.6%	2.5%	1.0%	0.1%	
Global Bond Fund (Unhedged)	-	-	0.0%	0.0%	0.0%	0.0%	-	-	-	-	-	-	
Inflation-Linked Bonds	**50.0%**	**16.9%**	**34.8%**	**14.2%**	**16.6%**	**26.0%**	**26.4%**	**10.1%**	**6.5%**	**0.5%**	**0.5%**	**3.3%**	**7.6%**
Real Return Fund	28.3%	9.4%	16.6%	7.0%	7.7%	1.1%	6.3%	1.6%	0.4%	0.1%	0.0%	1.8%	
Real Return Asset Fund	21.7%	7.5%	18.3%	7.2%	8.9%	24.9%	20.1%	8.6%	6.2%	0.3%	0.5%	1.4%	
Global Advantage® Inflation-Linked Bond ETF	-	-	-	-	-	-	-	-	-	0.1%	0.1%	0.1%	
Alternative Strategies	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**4.0%**	**11.8%**	**25.6%**	**11.5%**	**12.9%**	**26.6%**	**19.9%**	**22.6%**
Unconstrained Bond Fund	-	-	-	-	-	-	-	11.0%	5.8%	5.6%	7.5%	3.1%	
Credit Absolute Return Fund	-	-	-	-	-	-	-	-	0.2%	0.7%	4.5%	1.1%	
Mortgage Opportunities Fund	-	-	-	-	-	-	-	-	-	-	0.6%	0.9%	
TRENDS Managed Futures Strategy Fund	-	-	-	-	-	-	-	-	-	-	-	0.3%	
EqS Long/Short Fund	-	-	-	-	-	-	-	-	-	0.4%	0.5%	0.6%	
Worldwide Long/Short PLUS Fund	-	-	-	-	-	-	-	-	-	-	-	3.3%	
Fundamental Advantage PLUS Fund	-	-	-	-	-	4.0%	11.8%	14.6%	5.5%	5.5%	6.3%	2.9%	
Worldwide Fundamental Advantage PLUS Fund	-	-	-	-	-	-	-	-	-	0.8%	7.2%	7.7%	

* Fund liquidated on 1 August 2011 and is no longer available for investing after this date.
Refer to Appendix for additional investment strategy, portfolio structure and risk information.

PIMCO All Asset All Authority Fund: Historical exposures (Page 2 of 2)

	Dec '03	Dec '04	Dec '05	Dec '06	Dec '07	Dec '08	Dec '09	Dec '10	Dec '11	Dec '12	Dec '13	Dec '14	Mar '15
Second Pillar	**3.8%**	**15.6%**	**24.0%**	**1.9%**	**5.7%**	**15.0%**	**38.7%**	**18.6%**	**8.2%**	**13.9%**	**3.4%**	**14.5%**	**5.8%**
US Long Maturity Bonds	**0.0%**	**1.9%**	**12.8%**	**0.6%**	**3.3%**	**0.4%**	**13.2%**	**2.8%**	**3.6%**	**6.5%**	**3.3%**	**4.2%**	**0.5%**
Long-Term US Government Fund	-	1.9%	12.8%	0.6%	3.3%	0.3%	4.3%	0.1%	1.3%	2.3%	0.6%	0.9%	
Long Term Credit Fund	-	-	-	-	-	-	4.6%	2.2%	1.4%	1.7%	2.2%	1.6%	
Long Duration Total Return Fund	-	-	-	-	-	0.1%	4.2%	0.6%	0.9%	2.4%	0.5%	1.7%	
US Core Bonds	**1.7%**	**13.7%**	**11.2%**	**0.5%**	**0.3%**	**14.6%**	**23.9%**	**14.0%**	**4.5%**	**6.9%**	**0.3%**	**5.0%**	**3.5%**
Total Return Fund	-	5.4%	10.9%	0.5%	0.3%	0.4%	14.5%	10.1%	0.1%	3.3%	0.1%	2.8%	
Investment Grade Corporate Bond Fund	-	-	-	-	-	14.1%	9.4%	3.8%	4.4%	3.6%	0.2%	2.1%	
Mortgage-Backed Securities Fund	-	-	0.2%	0.0%	0.0%	-	-	-	-	-	-	-	
GNMA Fund	1.7%	8.2%	0.1%	-	0.0%	-	-	-	-	-	-	-	
Short-Term Bonds	**2.2%**	**0.0%**	**0.0%**	**0.8%**	**2.1%**	**0.1%**	**1.6%**	**1.8%**	**0.1%**	**0.5%**	**-0.2%**	**5.4%**	**1.8%**
Low Duration Fund	2.2%	0.0%	0.0%	0.8%	2.1%	0.1%	1.6%	1.6%	0.0%	0.3%	0.1%	3.8%	
Low Duration Exchange Traded Fund	-	-	-	-	-	-	-	-	-	-	-	0.3%	
Short Term Fund	-	-	-	-	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	
Government Money Market Fund												1.5%	
Net Cash Equivalents	-	-	-	-	-	-	-	-	-	0.2%	-0.3%	-0.3%	
First Pillar	**32.9%**	**30.0%**	**-1.7%**	**-1.4%**	**-8.5%**	**8.5%**	**-12.2%**	**-15.9%**	**3.6%**	**-6.8%**	**-6.3%**	**-2.4%**	**-4.6%**
Developed ex-US Equities	**8.1%**	**12.4%**	**7.6%**	**9.1%**	**6.5%**	**0.0%**	**0.0%**	**0.8%**	**5.5%**	**7.5%**	**11.8%**	**11.3%**	**10.5%**
Fundamental PLUS International Fund	-	-	-	-	-	-	-	-	1.6%	5.4%	8.0%	3.2%	
Low Volatility PLUS International Fund	-	-	-	-	-	-	-	-	-	-	0.0%	6.9%	
StocksPLUS® International Fund (USD-Hedged)	-	-	-	-	-	-	-	0.1%	0.4%	0.1%	0.2%	0.0%	
StocksPLUS® International Fund (Unhedged)	-	-	-	-	-	-	-	0.3%	0.2%	0.1%	-	-	
EqS Dividend Fund									0.1%	0.1%	0.1%	0.0%	
EqS Pathfinder Fund	-	-	-	-	-	-	-	0.4%	3.2%	1.8%	3.5%	1.2%	
European StocksPLUS® AR Strategy Fund	5.6%	3.3%	-	0.6%	1.1%	-	-	-	-	-	-	-	
Far East (ex-Japan) StocksPLUS® TR Strategy Fund	1.2%	4.0%	2.8%	2.1%	2.7%	-	-	-	-	-	-	-	
Japanese StocksPLUS® TR Strategy Fund	1.2%	5.1%	4.8%	6.4%	2.7%	-	-	-	-	-	-	-	
US Equities, Net Short	**24.8%**	**17.7%**	**-9.2%**	**-10.6%**	**-15.0%**	**8.5%**	**-12.2%**	**-16.7%**	**-1.9%**	**-14.3%**	**-18.1%**	**-13.8%**	**-15.1%**
Fundamental PLUS Fund	-	-	7.7%	4.4%	2.8%	4.1%	0.4%	0.2%	1.3%	0.2%	0.0%	0.7%	
Low Volatility PLUS Fund	-	-	-	-	-	-	-	-	-	-	0.0%	2.8%	
Fundamental PLUS Small Fund	-	-	-	-	-	-	-	-	1.4%	0.9%	1.2%	0.8%	
Fundamental IndexPLUS™	-	-	-	3.7%	3.7%	0.0%	0.0%	0.0%	-	-	-	-	
StocksPLUS® Fund	5.7%	6.1%	-	0.8%	0.2%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	
StocksPLUS® Absolute Return Fund	19.0%	11.6%	0.0%	0.0%	0.2%	0.1%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	
StocksPLUS® Small Fund	-	-	-	-	0.3%	4.2%	0.2%	0.9%	0.5%	0.3%	0.0%	0.0%	
StocksPLUS® Short Fund**	-	-	-17.0%	-19.4%	-22.3%	0.0%	-12.9%	-17.8%	-5.3%	-15.7%	-19.3%	-18.0%	
Leverage versus Net Assets	**1.11x**	**1.23x**	**1.23x**	**1.28x**	**1.16x**	**1.09x**	**1.14x**	**1.24x**	**1.33x**	**1.35x**	**1.43x**	**1.43x**	**1.42x**

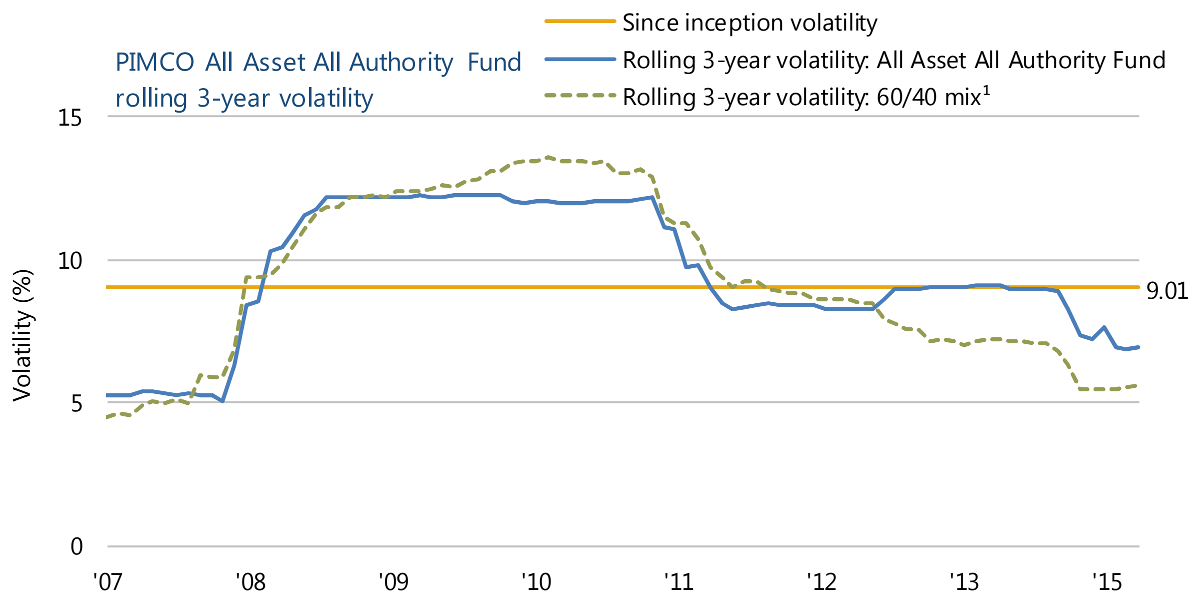
* Fund liquidated on 1 August 2011 and is no longer available for investing after this date.

** The StocksPLUS® Short Fund is shown as a negative allocation on this report because the Fund provides short exposure to the S&P 500 Index

Refer to Appendix for additional investment strategy , portfolio structure and risk information.

Attractive return potential with historically low equity risk

PIMCO All Asset All Authority Fund volatility



PIMCO All Asset All Authority Fund volatility

	Since inception 31 Oct '03	10 yrs.	5 yrs.	3 yrs.	1 yr.	6 mos.	3 mos.
After fees (%)	9.01	9.03	7.95	6.96	6.44	5.97	5.07
S&P 500 Index (%)	14.03	14.70	12.86	9.45	8.67	10.17	13.28
CPI + 6.5 (%)	1.14	1.20	0.75	0.83	0.93	1.02	1.47
60/40 mix (%)[1]	8.56	8.94	7.46	5.58	5.10	5.27	6.43

Performance quoted represents past performance. Past performance is not a guarantee or a reliable indicator of future results. Current performance may be lower or higher than performance shown. Investment return and principal value will fluctuate, so that fund shares may be worth more or less than their original cost when redeemed. Performance data current to the most recent month-end is available at www.pimco.com/investments or by calling 888.87.PIMCO.

As of 31 March 2015
1 The 60/40 mix is comprised of 60% S&P 500 and 40% Barclays U.S. Aggregate Index
Performance is shown for the institutional class
Volatility is the annualized standard deviation of monthly returns
Refer to Appendix for additional performance and fee, index, risk and secondary benchmark information.

PIMCO All Asset All Authority Fund: Seeking higher real returns at intermediate volatility

- PIMCO All Asset All Authority Fund has produced a high correlation to TIPS*, but with a meaningful return premium
  - The high correlation is consistent with the CPI-based return of each

31 Oct '03 – 31 Mar '15	Correlation to AAAAF	AAAAF return differential[1]	Volatility
PIMCO All Asset All Authority Fund, after fees	1.00	0.00%	9.0%
Barclays U.S. TIPS Index	0.71	+1.20%	6.3%
Barclays U.S. Aggregate Index	0.58	+1.23%	3.3%
S&P 500	0.55	-2.33%	14.1%
60/40 mix**	0.63	-1.03%	8.6%

Performance quoted represents past performance. Past performance is not a guarantee or a reliable indicator of future results. Current performance may be lower or higher than performance shown. Investment return and principal value will fluctuate, so that fund shares may be worth more or less than their original cost when redeemed. Performance data current to the most recent month-end is available at www.pimco.com/investments or by calling 888.87.PIMCO.

As of 31 March 2015
* Treasury Inflation Protected Securities
** The 60/40 mix is comprised of 60% S&P 500 and 40% Barclays U.S. Aggregate Index
1 AAAAF return differential is net of fees
Performance is shown for the institutional class
Refer to Appendix for additional performance and fee, chart, correlation, index and risk information.

Comparison to PIMCO All Asset Fund

Comparison of key guidelines: All Asset vs. All Asset All Authority

	PIMCO ALL ASSET FUND[4]	PIMCO ALL ASSET ALL AUTHORITY FUND[4]
Exposure to any single fund	Max 50% of total assets[1]	Max 50% of total assets[1]
Exposure to inflation related strategies (i.e., TIPS, commodities and REITs as a group)	Max 75% of total assets[1]	Max 75% of total assets[1]
Exposure to long-only equity strategies	Max 50% of total assets[1]	Max 66 2/3% of total assets[1]
Exposure to Short Strategy Funds (e.g. PIMCO StocksPLUS AR Short Strategy Fund)	Not allowed	Max 20% of total assets[1]
Use of direct borrowing to purchase additional shares of PIMCO Funds[2]	Not allowed	Max 33 1/3% of total assets[1]
Secondary benchmark	CPI + 5%[3]	CPI + 6.5%[3]

As of 31 March 2015

1 Not normally to exceed. Total assets includes all holdings of PIMCO Funds, including the fund shares purchased in the All Asset All Authority Fund using a line of credit.

2 The All Asset All Authority Fund may draw against a line of credit to purchase more shares of underlying funds, as deemed attractive by the All Asset All Authority Fund's investment process. For example, for every $100 invested the All Asset All Authority Fund can borrow up to $50 to purchase more shares of underlying funds.

3 Consumer Price Index for All Urban Consumers (Seasonally Adjusted)

4 Total Annual Operating Expense (Institutional Share Class): All Asset All Authority Fund: 1.68%; All Asset Fund: 0.965%

Refer to Appendix for additional risk and secondary benchmark information.

PIMCO AUM by strategy

Assets under management by strategy

PIMCO manages $1.59 trillion in assets, including $1.19 trillion in third-party client assets

Alternatives		Billions ($)
Liquid Absolute Return	Unconstrained bond strategies, credit absolute return, other absolute return strategies	23.83
Hedge Funds	Global macro, long/short credit, multi-asset volatility arbitrage strategies, relative value commodities	15.34
Opportunistic/Distressed	Opportunistic strategies focusing on real estate related assets (residential, commercial), corporate credit	5.40
Asset Allocation		
Asset Allocation Strategies	Global Multi Asset, All Asset, EM Multi Asset, Real Retirement, Inflation-Response Multi Asset, DRA	63.31
Equities		
Equity Strategies	Combines enhanced equities and active equities	23.73
Real Return		
Real Return Strategies	Combines inflation linked strategies, actively managed commodities, and real-estate linked exposure	73.56
Fixed Income		
Total Return[1]	Total Return	141.66
Intermediate[2]	Core Strategies, Moderate Duration	148.25
Credit	Investment Grade Corporates, Bank Loans, High Yield Corporates, Convertibles	167.92
Long Duration	Focus on long-term bonds; asset liability management	130.25
Global	Non-U.S. and global multiple currency formats	102.04
Cash Management[2]	Money Market, Short-Term, Low Duration	94.06
Income	Income-oriented, insurance income	80.73
Emerging Markets	Local debt, external debt, currency	49.71
Mortgages	Agency MBS, structured credit (non-Agency MBS, CMBS, and ABS)	33.39
Diversified Income	Global credit combining corporate and emerging markets debt	21.52
Municipals	Tax-efficient total return management	12.82
Other	Custom mandates	9.05
Total assets under management		**$ 1,196.55 B**
Stable Value[2]	Stable income with emphasis on principal stability	25.38
Tail-Risk Hedging[3]	Pooled and customized portfolios of actively managed tail-risk hedges	46.47

As of 31 March 2015
SOURCE: PIMCO
Assets reflect those managed on behalf of third-party clients and exclude affiliated assets. Fund of funds assets have been netted from each strategy.
Potential differences in asset totals are due to rounding. Represents assets of strategy group in dedicated and non-dedicated portfolios.

1 Total Return has been segregated to isolate the assets of PIMCO sponsored U.S. Total Return 1940-act fund and foreign pool fund accounts. All other U.S. Total Return portfolios are included in the Intermediate category.

2 Stable value assets have not been netted from U.S. Total Return, U.S. Moderate Duration and U.S. Low Duration assets

3 Tail-risk hedging assets reflect total notional value of dedicated mandates and are not counted towards PIMCO total assets under management

Appendix

PERFORMANCE AND FEE
Past performance is not a guarantee or a reliable indicator of future results. The performance figures presented reflect the total return performance for Institutional Class shares (after fees) and reflect changes in share price and reinvestment of dividend and capital gain distributions. All periods longer than one year are annualized. The minimum initial investment for Institutional class shares is $1 million; however, it may be modified for certain financial intermediaries who submit trades on behalf of eligible investors.

BETA COEFFICIENT
A measure of the volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole.

CHART
Performance results for certain charts and graphs may be limited by date ranges specified on those charts and graphs; different time periods may produce different results.

CORRELATION
The statements contained in this presentation regarding the correlation of various indices or securities against one another or against inflation are based upon data over a long time period. These correlations may vary substantially in the future or over shorter time periods, resulting in greater volatility.

INVESTMENT STRATEGY
There is no guarantee that these investment strategies will work under all market conditions or are suitable for all investors and each investor should evaluate their ability to invest long-term, especially during periods of downturn in the market.

PORTFOLIO STRUCTURE
Portfolio structure is subject to change without notice and may not be representative of current or future allocations.

RISK
The funds invest in other PIMCO funds and performance is subject to underlying investment weightings which will vary. Investing in the **bond market** is subject to risks, including market, interest rate, issuer, credit, inflation risk, and liquidity risk. The value of most bonds and bond strategies are impacted by changes in interest rates. Bonds and bond strategies with longer durations tend to be more sensitive and volatile than those with shorter durations; bond prices generally fall as interest rates rise, and the current low interest rate environment increases this risk. Current reductions in bond counterparty capacity may contribute to decreased market liquidity and increased price volatility. Bond investments may be worth more or less than the original cost when redeemed. Investing in **foreign denominated and/or domiciled securities** may involve heightened risk due to currency fluctuations, and economic and political risks, which may be enhanced in emerging markets. **Commodities** contain heightened risk including market, political, regulatory, and natural conditions, and may not be suitable for all investors. **Mortgage and asset-backed securities** may be sensitive to changes in interest rates, subject to early repayment risk, and their value may fluctuate in response to the market's perception of issuer creditworthiness; while generally supported by some form of government or private guarantee there is no assurance that private guarantors will meet their obligations. **High-yield, lower-rated, securities** involve greater risk than higher-rated securities; portfolios that invest in them may be subject to greater levels of credit and liquidity risk than portfolios that do not. **Inflation-linked bonds (ILBs**) issued by a government are fixed-income securities whose principal value is periodically adjusted according to the rate of inflation; ILBs decline in value when real interest rates rise. Investing in securities of **smaller companies** tends to be more volatile and less liquid than securities of larger companies. **Equities** may decline in value due to both real and perceived general market, economic, and industry conditions. **Derivatives and commodity-linked derivatives** may involve certain costs and risks such as liquidity, interest rate, market, credit, management and the risk that a position could not be closed when most advantageous. Commodity-linked derivative instruments may involve additional costs and risks such as changes in commodity index volatility or factors affecting a particular industry or commodity, such as drought, floods, weather, livestock disease, embargoes, tariffs and international economic, political and regulatory developments. Investing in derivatives could lose more than the amount invested. The cost of investing in the funds will generally be higher than the cost of investing in a fund that invests directly in individual stocks and bonds. Diversification does not ensure against loss.

Appendix

SECONDARY BENCHMARK

The Funds' secondary benchmark is created by adding 5% (All Asset) or 6.5% (All Asset All Authority) to the annual percentage change in the Consumer Price Index ("CPI"). This index reflects seasonally adjusted returns. The Consumer Price Index is an unmanaged index representing the rate of inflation of the US consumer prices as determined by the US Department of Labor Statistics. There can be no guarantee that the CPI or other indexes will reflect the exact level of inflation at any given time. Prior to 31 July 2012 the Funds' benchmark used non-seasonally-adjusted CPI. The performance presented reflects this change in calculation.

PIMCO Investments LLC, distributor, 1633 Broadway, New York, NY, 10019, is a company of PIMCO.

INDEX DESCRIPTIONS

60% S&P 500 / 40% BCAG Index - Synthesized from the Standard & Poor's 500 and the Barclays U.S. Aggregate Index. Allocations are assigned to each index: 60% to the S&P 500 and 40% to the BCAG.

Barclays Long-Term Treasury consists of U.S. Treasury issues with maturities of 10 or more years.

Barclays U.S. Aggregate Index represents securities that are SEC-registered, taxable, and dollar denominated. The index covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities. These major sectors are subdivided into more specific indices that are calculated and reported on a regular basis.

Barclays U.S. TIPS: 1-10 Year is an unmanaged index market comprised of U.S. Treasury Inflation Protected securities having a maturity of at least 1 year and less than 10 years.

Barclays U.S. TIPS Index is an unmanaged market index comprised of all U.S. Treasury Inflation Protected Securities rated investment grade (Baa3 or better), have at least one year to final maturity, and at least $250 million par amount outstanding. Performance data for this index prior to October 1997 represents returns of the Barclays Inflation Notes Index.

The BofA Merrill Lynch U.S. High Yield BB-B Rated Index is an unmanaged market index comprised of various fixed income securities rated BB and B.

The Citigroup 3-Month Treasury Bill Index is an unmanaged index representing monthly return equivalents of yield averages of the last 3-month Treasury Bill issues.

The Consumer Price Index (CPI) is an unmanaged index representing the rate of inflation of the U.S. consumer prices as determined by the U.S. Department of Labor Statistics. There can be no guarantee that the CPI or other indexes will reflect the exact level of inflation at any given time.

The Dow Jones UBS Commodity Total Return Index is an unmanaged index composed of futures contracts on 19 physical commodities. The index is designed to be a highly liquid and diversified benchmark for commodities as an asset class. Prior to 7 May 2009, this index was known as the Dow Jones AIG Commodity Total Return Index.

Dow Jones U.S. Select Real Estate Investment Trust (REIT) Total Return Index, a subset of the Dow Jones U.S. Select Real Estate Securities Total Return Index, is an unmanaged index comprised of U.S. publicly traded Real Estate Investment Trusts. This index was formerly known as the Dow Jones Wilshire REIT Index.

The JPMorgan Emerging Markets Bond Index Plus is a total return index that tracks the traded market for U.S. dollar-denominated Brady and other similar sovereign restructured bonds traded in the emerging markets.

Appendix

The JPMorgan Non-U.S. Government Bond Index is an independently maintained and published index composed of non-U.S. government bonds with maturities of one year or more.

The MSCI EAFE (Morgan Stanley Capital International Europe, Australasia, Far East Index) is an unmanaged index of over 900 companies, and is a generally accepted benchmark for major overseas markets. Index weightings represent the relative capitalizations of the major overseas markets included in the index on a U.S. dollar adjusted basis.

The S&P 500 Index is an unmanaged market index generally considered representative of the stock market as a whole. The index focuses on the Large-Cap segment of the U.S. equities market.

It is not possible to invest directly in an unmanaged index.

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Ventura County Employees' Retirement Association

Global Absolute Return Strategies (GARS)

Tam McVie
Investment Director – Absolute Return Investment Specialist

Peter Schmole
Director, US Business Development

May 18, 2015

Standard Life Investments Worldwide

- Investment house founded in 1998
- Dedicated investment management arm of the Standard Life Group, which was founded in 1825
- Clearly differentiated, successful investment philosophy and process
- HQ in Edinburgh – presence in London, Dublin, Paris, Frankfurt, Stockholm, Brussels, Milan, Madrid, Zurich, Boston, New York, Los Angeles, Toronto, Sydney, Hong Kong, Beijing, Seoul, Mumbai* and Tokyo**

Source: Standard Life Investments
* Joint Venture with HDFC Asset Management, which is located in Mumbai
** Strategic Partnership with Sumitomo Mitsui Trust Bank Limited
Please see Important Information at the back of this presentation

Global Absolute Return Strategies

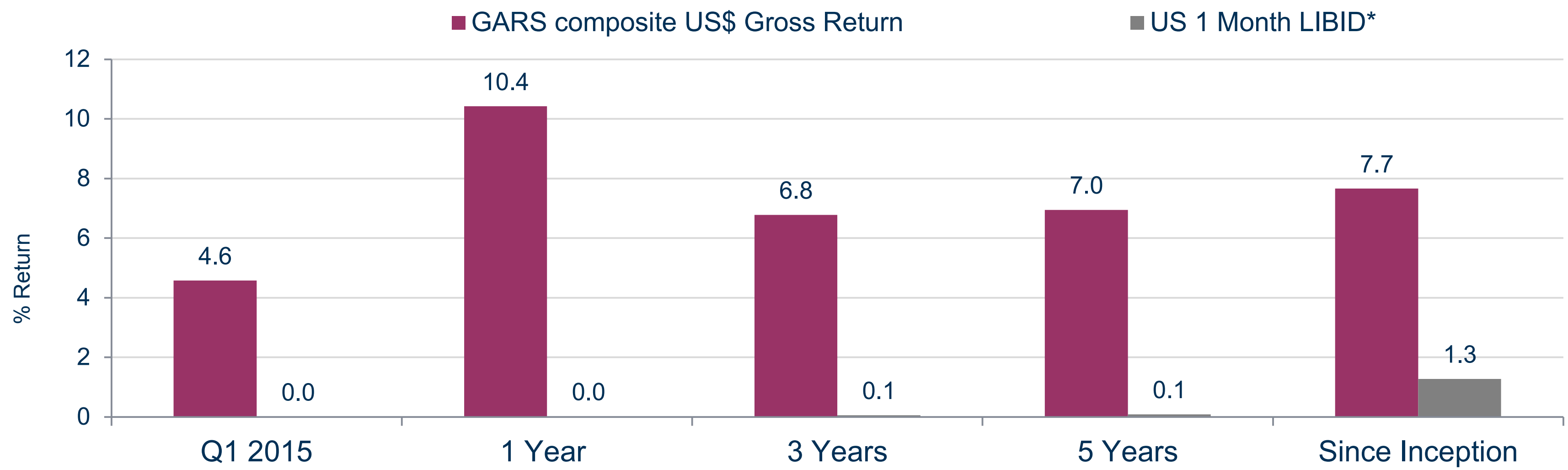
- Objective
  - Cash* +5% per year (gross) performance target over rolling 3 years basis
  - Expected volatility range 4% - 8%

- Our Key Investment Themes
  - Investment Strategies Longer Term in Nature
    - Markets are generally inefficient over long term time horizons (greater than 2 years)
    - We see these market inefficiencies as opportunities which may be exploited by patient investors
  - Enduring Diversification
    - A robust portfolio that seeks to perform in a variety of future market conditions
    - Experienced and integrated team combining idea generation, risk analysis and fund management
  - Risk Controlled Implementation
    - Strategies must be scalable and liquid
    - Maximize the range of scenarios that may provide a positive return

* Cash is defined as 1 month USD LIBID rate
Please see Important Information at the back of this presentation

Global Absolute Return Strategies

GARS Composite Performance



Annual GARS Composite

	2014	2013	2012	2011	2010	2009	2008	2007
GARS Composite (Gross)	6.0	7.3	7.9	2.9	10.8	19.3	-6.4	8.4
1 Month LIBID*	0.0	0.1	0.1	0.1	0.2	0.2	2.6	5.4

* Source: Thomson Datastream for US 1 Month LIBID as of March 31, 2015
Source: Standard Life Investments, for US Composite gross Performance; $ GARS Composite performance from 06/12/2006 to 03/31/2015, Standard Life Investments converted U$ performance of £ Institutional Fund to the January 29, 2008, converted U$ performance of £ OEIC fund to July 31, 2009, weighted average of converted U$ performance of £ OEIC and the Off Shore GARS Fund to June 30, 2011, weighted average of converted U$ performance of £ OEIC, OffShore GARS Fund & GARS SICAV US$ thereafter. Gross performance does not reflect advisory or other fees that may be charged to the account
Standard Life Investments claims compliance with the Global Investment Performance Standards (GIPS®). The portfolio specific data presented above is supplementary information to the US GARS GIPS® composite report, which is enclosed in the Appendix for your reference
Past performance is no guarantee of future results. Please see Important Information at the back of this presentation

Risk Analytics

Risk Statistics

- Volatility:
  - GARS 5.3%
  - Global Equities 16.8%

  (annualized, using monthly data, to 03/31/2015)
- VaR (95%, monthly):
  - GARS -2.0%
  - Global Equities -8.5%

  (using monthly data, to 03/31/2015)

Market Capture & Drawdown

- Global Equity Market Capture
  - Upside 30.5%
  - Downside 1.9%

  (using monthly data, to 03/31/2015)
- Maximum Drawdown:
  - GARS -9.2%
  - Global Equities -53.7%

  (using daily data, to 03/31/2015)

Range of Outcomes

- Annualized Returns over Three Year Rolling Periods:

	High	Low
GARS*	12.7%	4.2%
Global Equities**	23.3%	-10.9%

(using monthly data, to 03/31/2015)

Consistent performance narrows the range of outcomes

** Source: Thomson Datastream as of March 31, 2015

* Source: Standard Life Investments, for US Composite gross Performance; $ GARS Composite performance from 06/12/2006 to 03/31/2015, Standard Life Investments converted U$ performance of £ Institutional Fund to the January 29, 2008, converted U$ performance of £ OEIC fund to July 31, 2009, weighted average of converted U$ performance of £ OEIC and the Off Shore GARS Fund to June 30, 2011, weighted average of converted U$ performance of £ OEIC, OffShore GARS Fund & GARS SICAV US$ thereafter

Past performance is no guarantee of future results

Please see Important Information at the back of this presentation

Multi-Asset Investing Team

MAI Team Members:	Staff	Area	Average years in industry	Average years at Standard Life Investments
Economic Framework	10	Global Strategy	14	6
Risk Investigation	10	Multi-Asset Risk & Structuring	14	8
Idea Development and Implementation	26	Multi-Asset Management & Implementation	18	10
Development / Communication	8	Multi-Asset Investment Specialists	23	8

Guy Stern CFA
Head of Multi-Asset and Macro Investing

Global Strategy
Andrew Milligan
Jeremy Lawson
James McCann
Alex Wolf
Frances Hudson
Dr Chris Faulkner – MacDonagh
Govinda Finn
Craig Hoyda
Harry Smith
Stephanie Kelly

Multi-Asset Risk and Structuring
Dr Brian Fleming CFA PRM
Dr Anne Friel PRM
Owen McCrossan FIA
Dr Jens Kroeske PRM FRM
Naglis Vysniauskas
Dr Robert de Roeck
Richard Martin FIA
Abdel Chabi-Yo
Graeme Lindsay
Nicholas Hutchings

Multi-Asset Implementation
David Kirkpatrick
Harry Barnes
Kevin Hogg
Audrey Simpson
Kenny MacMaster
Alex Berry
Stephen Kerr

Multi-Asset / Macro Portfolio Management
Multi-Asset
Roger Sadewsky
Sebastian Mackay
Adam Rudd CFA
Neil Richardson
David Sol
Jennifer Catlow CFA
Mark Holden
Jason Hepner CFA
Scott Smith CFA
Colette Conboy
Murray Forbes
Lynne Provan
Andy McNeill
Vincent Ropers

Rates & Real Returns
Philip Laing
Jack Kelly
Liam O'Donnell CFA
Ross Hutchison
Katy Forbes CFA
Adam Skerry
Tom Walker

Multi-Asset Investment Specialists
Christopher Nichols FIA
Mark Foster FFA
Malcolm Jones FFA
David Bint
Scott Kay
Tam McVie*
Stuart Peskin CFA*
Andrew Spooner*

Multi-Asset Business Management
Malin Nairn
Sean Flanagan CFA
James Esland CFA
Norest Zvavamwe CFA

Critical combination of skills and experience

* Based in North America, **GARS Portfolio Constructors,** Grey boxes denote reporting lines only
The Real Returns and Rates teams provide macro research and views, they do not have a direct input into the management of the GARS Portfolio and are therefore not included in the number of investment professionals for the product and are therefore greyed out
Source Standard Life Investments as of March 31, 2015
Please see Important Information at the back of this presentation

GARS Process

Idea Generation

Selection

Implementation

Fundamental economic analysis	Asset class team views and strategies	Valuation modelling	Quantitative modelling

Strategic Investment Group

- Review
- Debate
- Ratify / Reject

Conviction
Diversity
Liquidity

Multi-Asset Risk and Structuring

Pre-Trade Risk | Diversification Measurement | Scenario Analysis

Multi-Asset Management

Strategy Implementation | Final Position Sizing | Execution

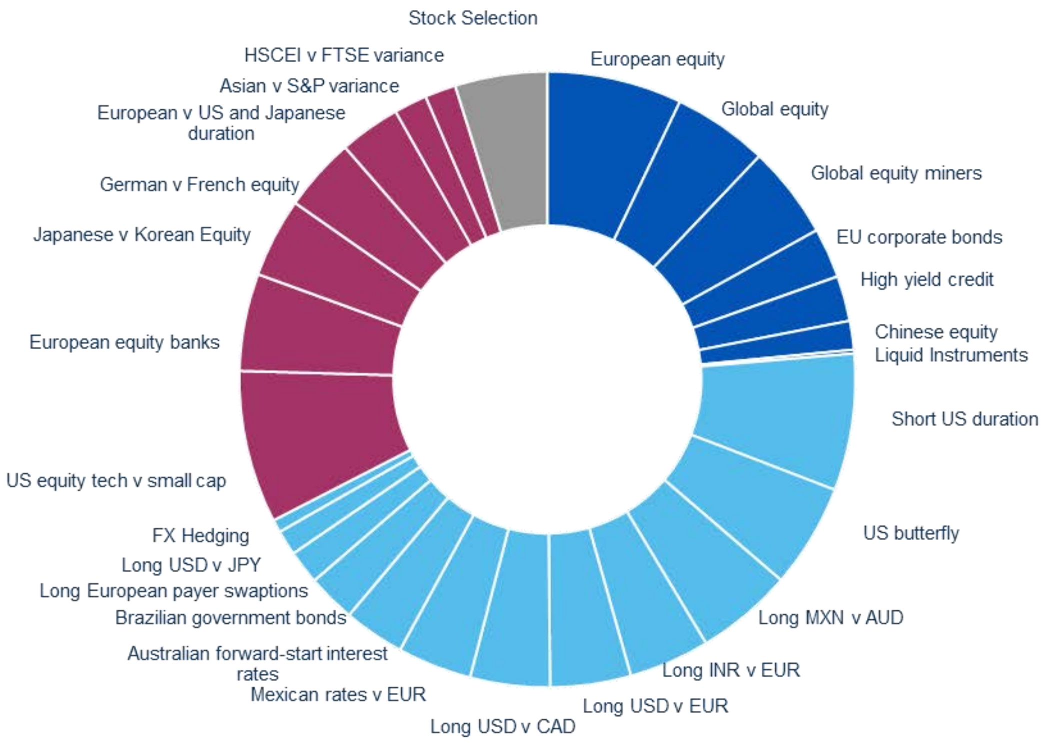
Investment Governance & Oversight

- Independent Risk Analysis
- Counterparty Risk Management
- Investment Governance

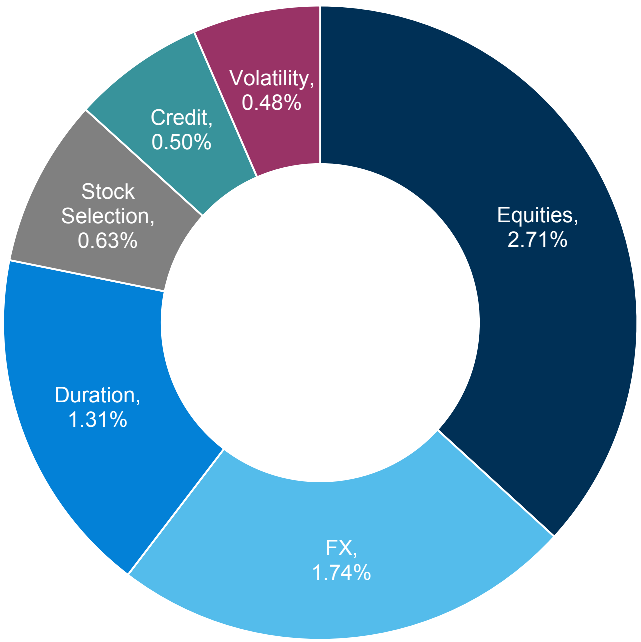
Integrated with broad skill set across Standard Life Investments

Risk-based Portfolio Construction

Share of market risk exposure by strategy



Share of market risk exposure by risk categories

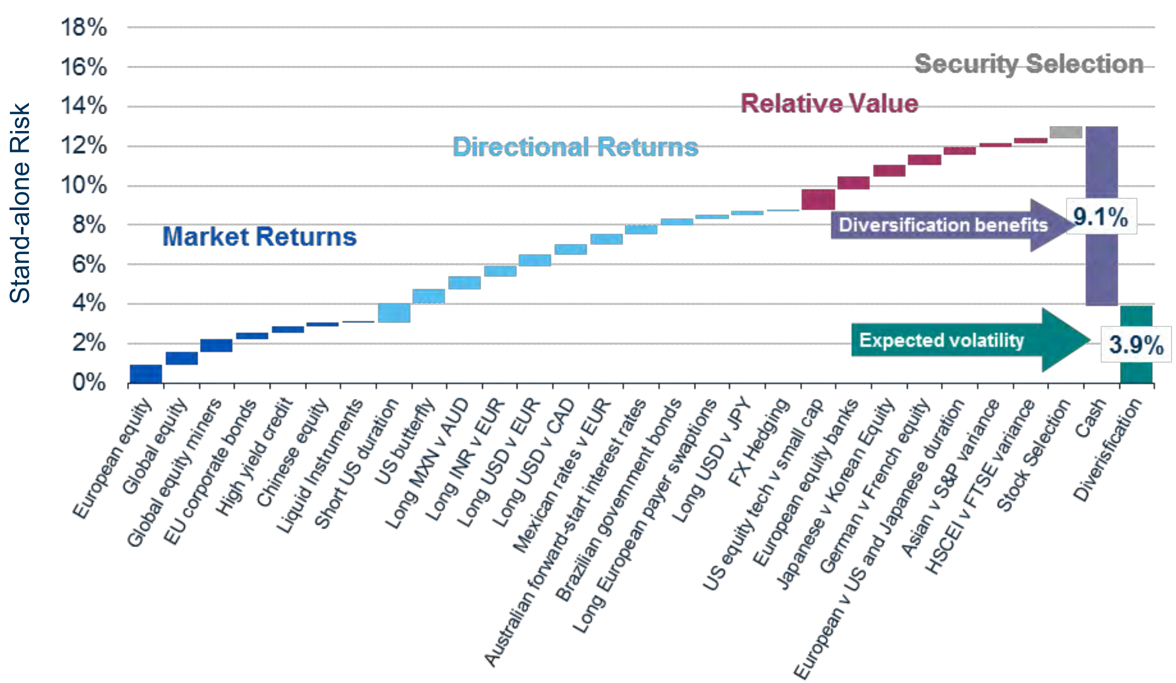


Portfolio construction through a strategy lens

Source: Standard Life Investments US Representative GARS portfolio as of March 31, 2015
The Security Selection component of the share of the market risk exposure represents exposure to the excess returns of actively managed portfolios in various asset classes
Please see Important Information at the back of this presentation

Risk Profile

Risk Profile of Multi-market Return Strategy



- The portfolio is exposed to multiple & diverse market risks
- Total stand-alone investment risk that is deployed to seek returns is 13.0%
- Equivalent equity volatility is 12.4%
- Independent risk analysis* shows the benefits of investment diversification

Source: Standard Life Investments US Representative GARS portfolio as of March 31, 2015
*Risk analysis is conducted using Sungard APT, a 3rd party system
Key to color coding: **Market**, **Directional**, **Relative Value** and **Security Selection**
Please see Important Information at the back of this presentation

Individual Strategies Risk

		% of equity vol[1]	ρ
Volatility	3.91%	*31.4%*	*0.04*
Fully correlated risk categories	*13.03%*	*105%*	*1*
Uncorrelated risk categories	*2.83%*	*23%*	*0*

VaR (99%, 1 month)	72,908,622	2.62%	*as % of NAV*

Risk Categories	Stand-alone risk	% of total standalone [2]	Diversification	Position-removal	Correlation	Marginal Attribution[3]	Exposures Long	Exposures Short
US equity tech v small cap	1.04%	8.01%	-1.33%	-0.09%	-0.21	0.05%	10.5%	-10.6%
Short US duration	0.94%	7.18%	1.16%	0.29%	0.20	0.40%	5.6%	-24.1%
European equity	0.92%	7.08%	1.91%	0.62%	0.60	0.68%	8.7%	-3.1%
US butterfly	0.71%	5.46%	-1.38%	-0.18%	-0.33	-0.12%	31.3%	-77.0%
European equity banks	0.67%	5.11%	1.19%	0.24%	0.29	0.29%	4.2%	-4.0%
Long MXN v AUD	0.66%	5.09%	1.08%	0.21%	0.24	0.26%	7.7%	-7.5%
Global equity	0.65%	5.00%	1.68%	0.44%	0.62	0.47%	15.9%	-11.1%
Global equity miners	0.63%	4.86%	1.53%	0.37%	0.52	0.40%	2.7%	0.0%
Stock Selection	0.63%	4.84%	0.40%	0.07%	0.03	0.12%	35.2%	-35.2%
Long INR v EUR	0.55%	4.24%	1.20%	0.23%	0.36	0.26%	5.3%	-5.1%
Long USD v EUR	0.55%	4.23%	-0.63%	-0.01%	-0.09	0.03%	7.1%	-6.5%
Long USD v CAD	0.55%	4.18%	-1.22%	-0.15%	-0.34	-0.11%	7.7%	-7.6%
Japanese v Korean Equity	0.54%	4.17%	0.82%	0.13%	0.16	0.16%	2.8%	-2.6%
Mexican rates v EUR	0.51%	3.90%	1.27%	0.25%	0.44	0.27%	10.3%	-5.1%
German v French equity	0.50%	3.87%	0.39%	0.05%	0.04	0.08%	5.1%	-4.9%
European v US and Japanese duration	0.42%	3.20%	0.58%	0.07%	0.11	0.09%	10.0%	-10.7%
Australian forward-start interest rates	0.42%	3.19%	-0.71%	-0.04%	-0.15	-0.02%	36.7%	-8.8%
EU corporate bonds	0.34%	2.63%	0.32%	0.03%	0.04	0.04%	6.5%	0.0%
Brazilian government bonds	0.33%	2.54%	0.58%	0.06%	0.13	0.07%	3.4%	0.0%
High yield credit	0.31%	2.38%	1.15%	0.19%	0.58	0.19%	4.6%	0.0%
Long European payer swaptions	0.23%	1.77%	0.60%	0.05%	0.20	0.06%	0.0%	-1.5%
Asian v S&P variance	0.23%	1.74%	0.70%	0.07%	0.28	0.08%	0.0%	0.0%
HSCEI v FTSE variance	0.21%	1.63%	0.40%	0.03%	0.10	0.03%	0.0%	0.0%
Chinese equity	0.20%	1.51%	0.14%	0.01%	0.01	0.01%	1.9%	-1.9%
Long USD v JPY	0.17%	1.32%	0.68%	0.06%	0.35	0.07%	1.8%	-1.7%
FX Hedging	0.09%	0.67%	0.31%	0.01%	0.14	0.01%	1.5%	-0.4%
Liquid Instruments	0.03%	0.20%	0.33%	0.01%	0.55	0.01%	13.9%	0.0%
Cash	0.00%	0.00%	0.00%	0.00%	0.00	0.00%	33.1%	0.0%
Total (exposures ex.cash):	**13.03%**	**100.00%**		**3.03%**		**3.91%**	**205.3%**	**-194.3%**
Diversification benefit:	**9.12%**							

1. MSCI WORLD equity vol (12.4%), 2. Limit on % total standalone: 30%, 3. Also known as Contribution to Risk
Source: Standard Life Investments US Representative GARS portfolio as of March 31, 2015
Please see Important Information at the back of this presentation

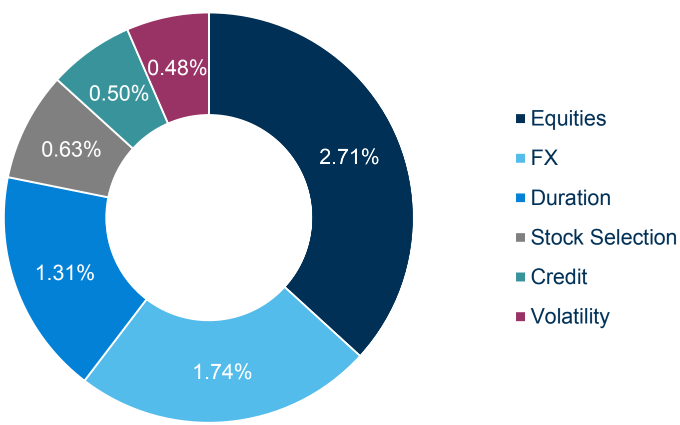
Strategy Groupings Risk

		% of equity vol[1]	ρ
Volatility	3.91%	*31.4%*	*0.06*
Fully correlated risk categories	*7.38%*	*59%*	*1*
Uncorrelated risk categories	*3.59%*	*29%*	*0*

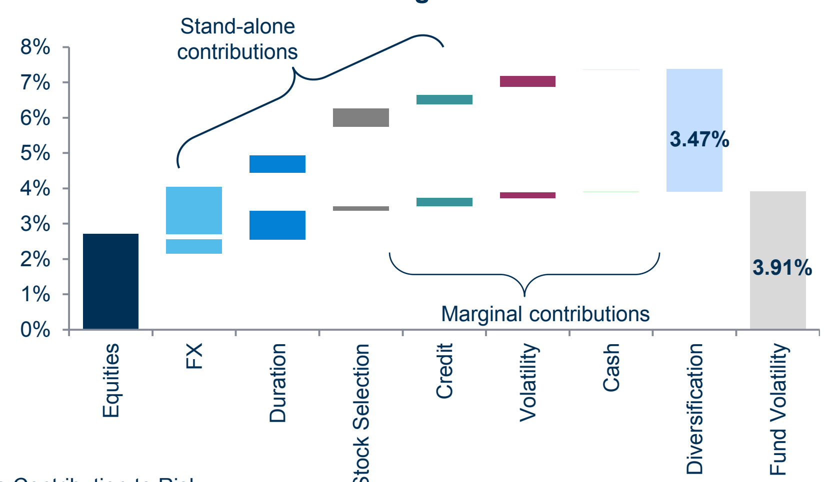
VaR (99%, 1 month)	72,908,622	2.62%	*as % of NAV*

Risk Categories	Standalone risk	% of total standalone [2]	Diversification	Position-removal	Correlation	Marginal attribution[3]	Exposures Long	Exposures Short
Equities	2.71%	36.66%	1.48%	1.51%	0.17	2.16%	51.9%	-38.2%
FX	1.74%	23.51%	-1.71%	0.01%	-0.22	0.39%	11.3%	-30.9%
Duration	1.31%	17.73%	1.72%	0.65%	0.35	0.82%	92.1%	-120.5%
Stock Selection	0.63%	8.55%	0.40%	0.07%	0.03	0.12%	35.2%	-35.2%
Volatility	0.50%	6.72%	1.17%	0.21%	0.37	0.24%	11.2%	0.0%
Credit	0.48%	6.49%	0.92%	0.14%	0.24	0.17%	0.1%	-1.6%
Cash	0.03%	0.35%	0.33%	0.01%	0.55	0.01%	47.0%	0.0%
Total (exposures ex.cash):	**7.38%**	**100.00%**		**2.61%**		**3.91%**	**166.5%**	**-191.3%**
Diversification benefit:	**3.47%**							

Stand-alone Contributions



Stand-alone and Marginal Contributions



1. MSCI WORLD equity vol (12.4%), 2. Limit on % total standalone: 40%, 3. Also known as Contribution to Risk
Source: Standard Life Investments US Representative GARS portfolio as of March 31, 2015
Please see Important Information at the back of this presentation

Portfolio Outlook / Themes

Multi-Speed Global Growth

- German vs French equity
- Brazilian Government bonds

Central Bank Policy

- US short forward interest rates
- Long US Dollar vs Japanese Yen
- European vs US & Japanese interest rates
- European banks vs European equity

Growth Potential and Uncertainty

- European equity
- US Relative interest rates (Butterfly)

Resources and Demand

- Long US Dollar vs Canadian Dollar
- Global miners equity

Source: Standard Life Investments US Representative GARS portfolio as of March 31, 2015
Key to themes: **Market**, **Directional**, **Relative Value** and **Security Selection**
Please see Important Information at the back of this presentation

Key Benefits to GARS

Diversity

- Broad range of return-seeking positions
- Positions carefully chosen to work in conjunction with one another

Transparency

- Communication program covering outlook and strategy positions
- Comprehensive return and risk attribution

Liquidity

- High underlying liquidity

Fit to your existing portfolio

- Growth engine / equity replacement
- Complimentary holding to a variety of investment strategies
- Palatable “Alternative Investment” – low, flat fee structure

Our goal: Exceptional rewards for modest risk levels

Appendices

Strategy Activity Over the Last Four Quarters

Q2 2014

- *Closed European Duration (Forward Start)*
- **Added Brazilian Gov't Bonds (hedged)**

Q3 2014

- Reduced Investment Grade credit exposure in UK and EU
- Reduced UK Equity exposure
- **Added US $ vs NZ $**
- **Added INR vs €**
- **Added European Banks Relative Value**
- **Added Short US Forward Duration**
- *Closed European Long-End Curve Steepener*

Q4 2014

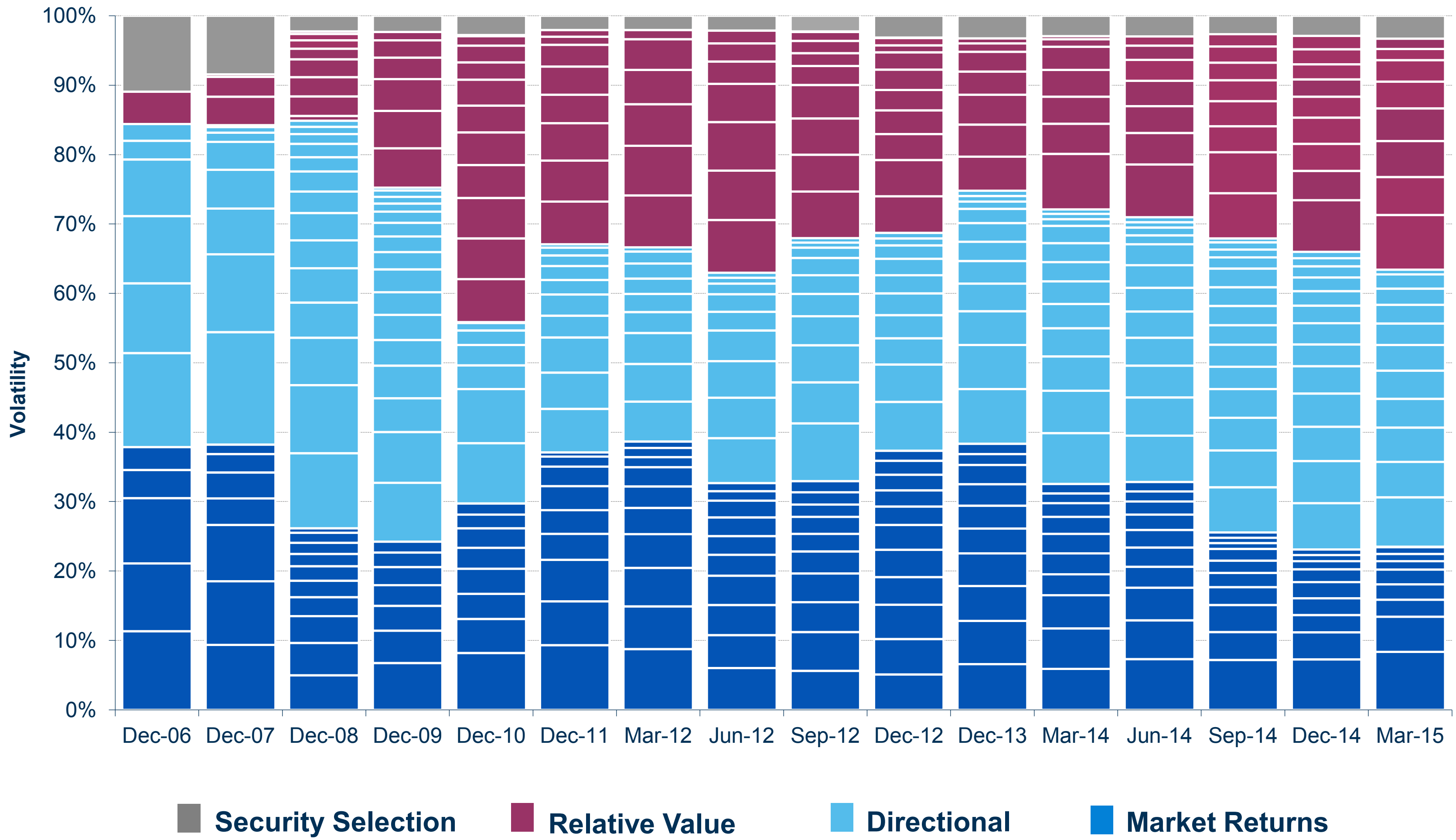
- *Closed US Dollar vs NZ Dollar*
- Increased Brazilian Gov't Bonds
- Captured profit on Long Equity Variance then rebuilt position
- *Closed Global REIT*
- Implemented short strangle on US$ vs Yen
- **Added US Relative Interest Rates (Butterfly)**

Q1 2015

- *Closed Global Oil majors*
- *Closed Short UK real yield*
- *Closed Global miners equity vs Swiss equity*
- **Added Global miners equity**
- Reduced equity beta over the quarter
- *Closed long equity variance*
- Reduced US Dollar vs Canadian Dollar

Closed strategies shown in italics
Source: Standard Life Investments US Representative GARS portfolio as of March 31, 2015
Key to themes: **Market**, **Directional**, **Relative Value** and **Security Selection**
Please see Important Information at the back of this presentation

Dynamic Diversification



Source: Standard Life Investments sample GARS portfolio as of March 31, 2015
The above strategy types are for illustrative purposes only to visualize the approach of changing risk allocation in a portfolio over a stated period of time
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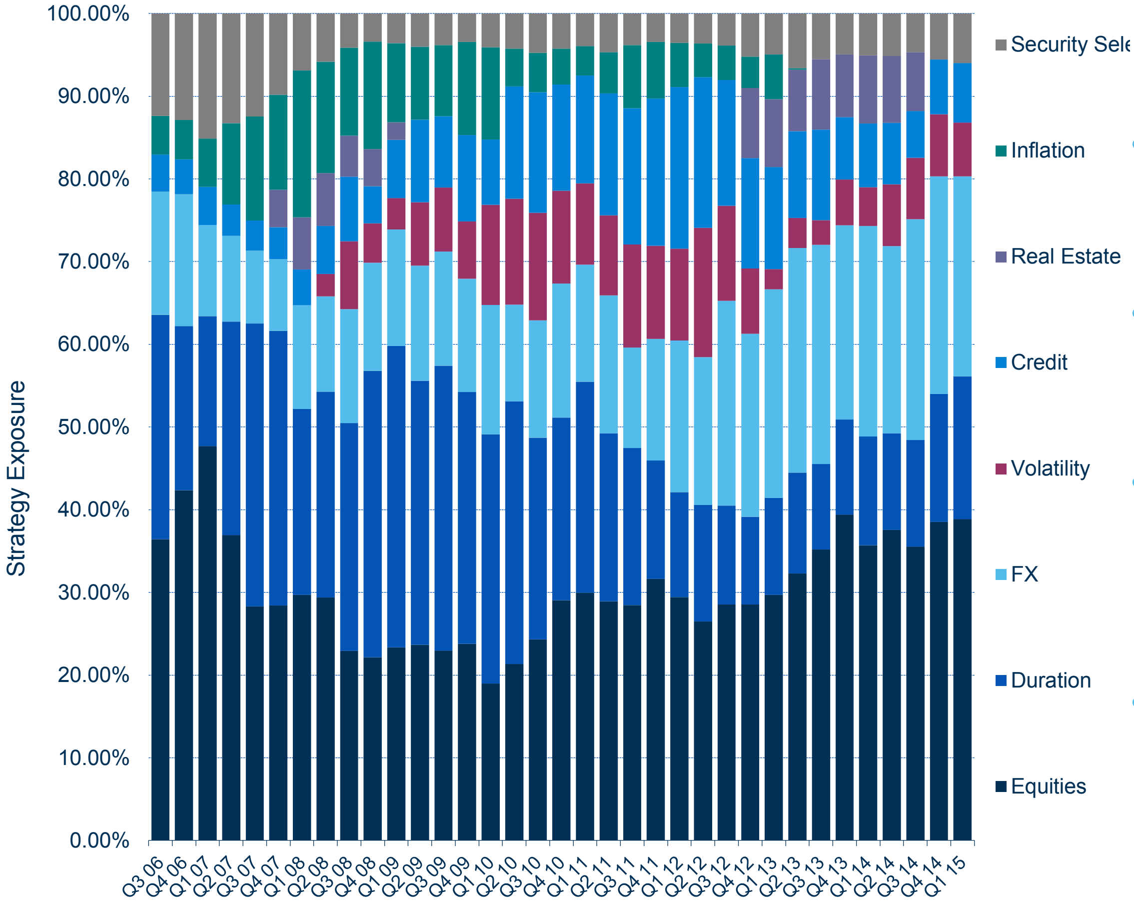
Changing Risk Allocation



- Strategy groups reflect the broad themes of risk exposure
- Each one is expected to have distinct behavior characteristics
- No one strategy group may actively be set to be more than 40% of aggregate risk
- Weighting reflects size coupled with a moving assessment of historic market volatility over 3 years
- Clear broad move away from Duration risk since the peak in Q1 2009

Source: Standard Life Investments sample GARS portfolio as of March 31, 2015
The above strategy exposures are for illustrative purposes only to visualize the approach of changing risk allocation in a portfolio over a stated period of time
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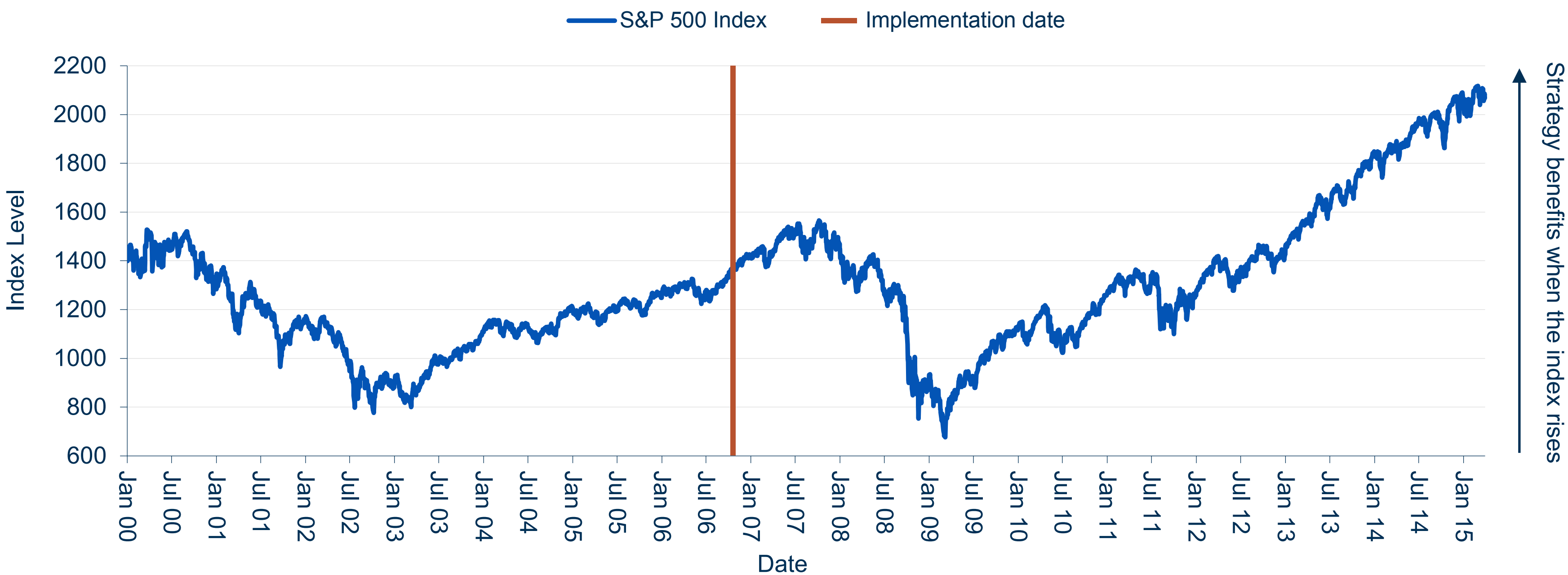
US Equities



- The outlook for US growth is positive, with the end of QE and the prospects of the Fed hiking rates in H2 2015 highlights that the economy is approaching escape velocity. Investors remain confident of strong US economic performance; the housing market is healthy, and rising prices and increased activity levels are important positives
- Repairs to banks' balance sheets have enabled the health of the financial sector to improve, allowing the transmission of very low Fed rates into the economy
- Valuations are not particularly expensive relative to their long term history, and have scope to further expand over the medium term. The asset class can benefit from inflows from yield and income seeking investors

Chart source: Bloomberg as of March 31, 2015. Comments: Standard Life Investments as of March 31, 2015
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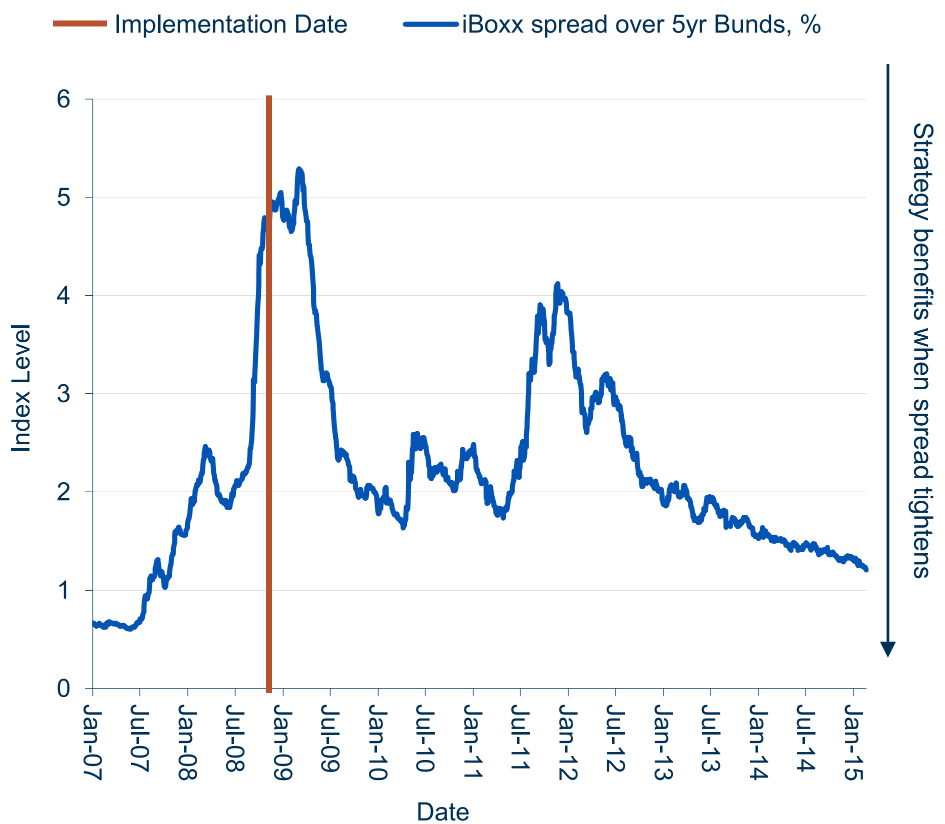
European Corporate Bonds



- We have operated both long and relative value credit positions
- Currently, we favor long physical credit for the additional spread which even after the recent run offers value. QE on a larger than expected scale and the TLTRO program provide cheap funding and are supportive for spreads. Valuations are not expensive relative to history
- Corporate balance sheet strength, low default rates, and positive cash flows along with an on-going muted economic recovery suggests that spreads could continue to grind tighter

Chart source: Bloomberg as of March 31, 2015. Comments: Standard Life Investments as of March 31, 2015
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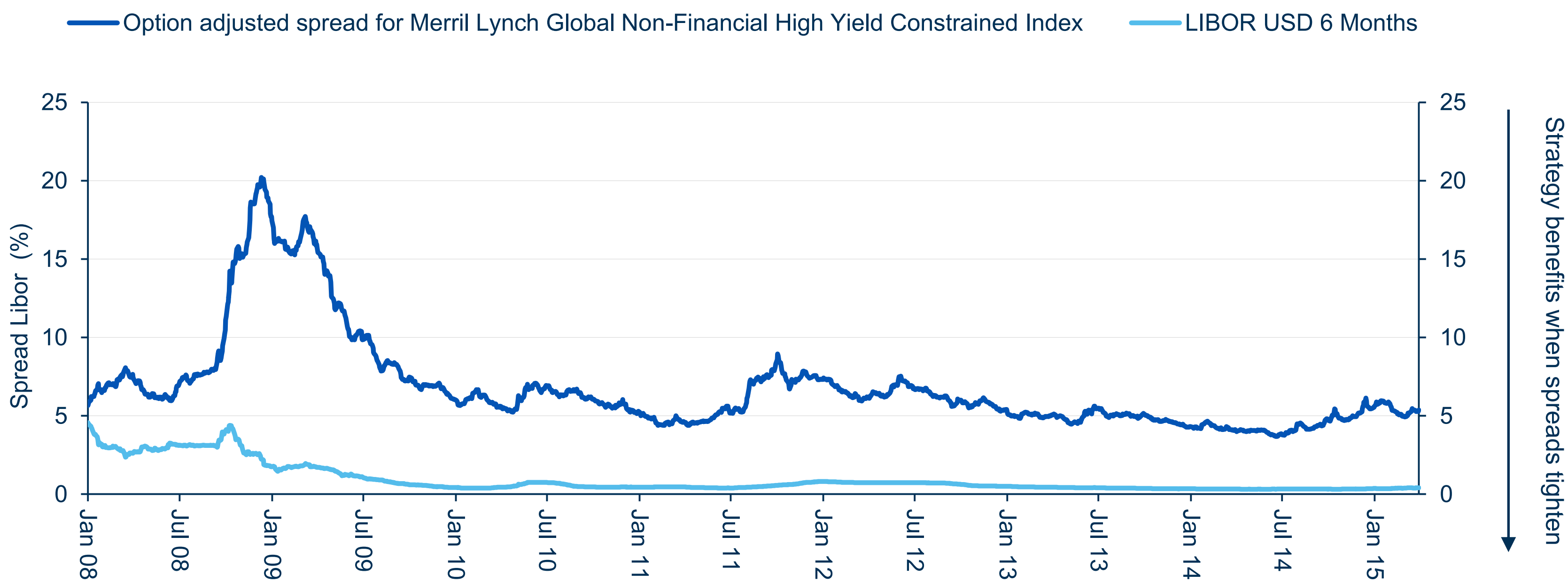
High Yield Credit



- High yield credit delivers equity-like returns over some periods, though as high yield debt is further up the capital structure of the corporate balance sheet, risk-adjusted returns can be very attractive
- High yield bonds also provide a substantial additional yield over cash, supported by a positive outlook for corporate earnings. Default rates remain low
- The price behavior of high yield is closely correlated with equity but in a significant equity sell-off, when volatility rises, high yield should outperform - absent a recession

Chart source: Bloomberg as of March 31, 2015. Comments: Standard Life Investments as of March 31, 2015
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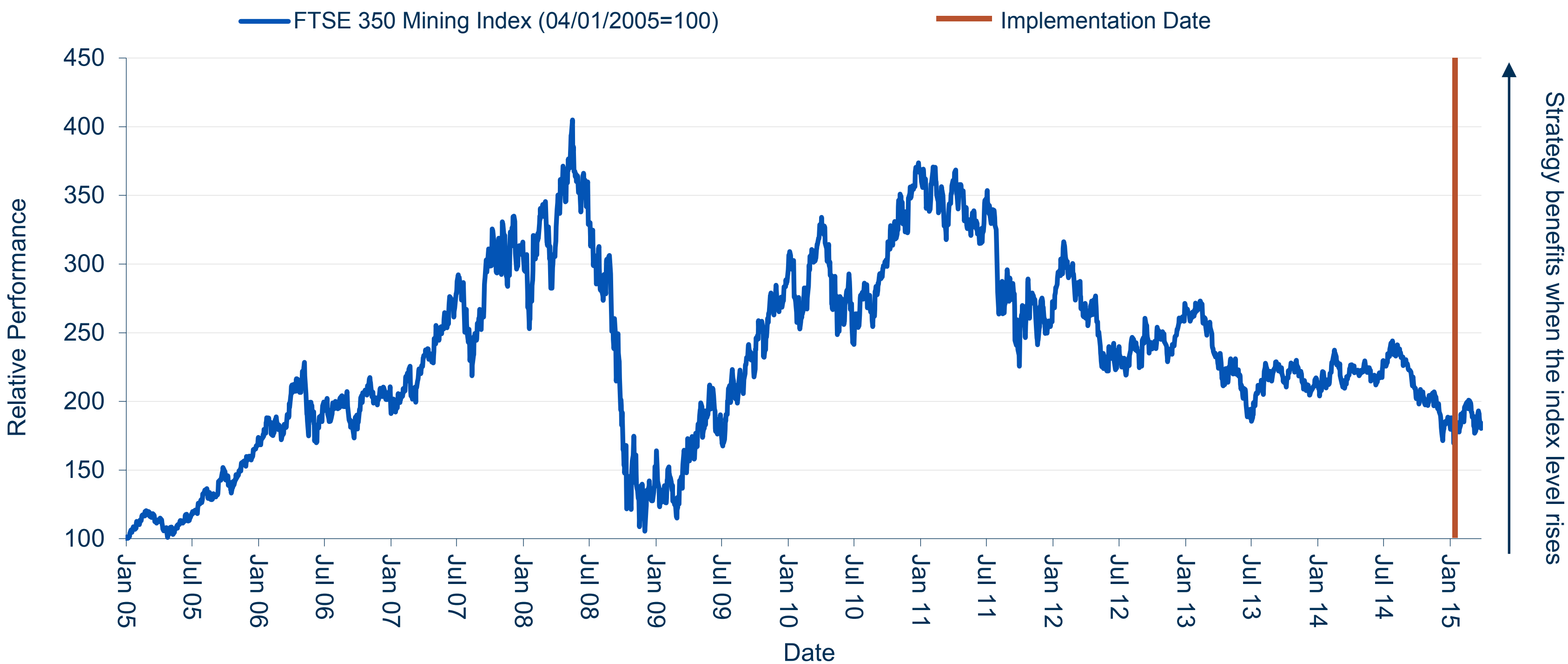
Global Miners



- The mining industry is focusing on capital discipline, cost cutting and returning capital to investors. Valuations are now attractive after the recent sell-off in commodities
- The backdrop of a positive global growth outlook, e.g. China meeting its economic growth forecasts, should act as a driver for commodity demand. Mining stocks are positively correlated with the US dollar, which should appreciate in anticipation of the Fed hiking rates in H2

Chart source: Bloomberg as of March 31, 2015. Comments: Standard Life Investments as of March 31, 2015
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US Dollar vs Euro

- Monetary policy is disconnecting with the ECB instigating negative interest rates and undertaking QE, while the US has fully tapered QE and is looking to raise rates in H2 2015
- The AQR has given an indication that Euro banks have sufficiently developed, which should remove another headwind for the short Euro leg. Longer term concerns regarding several European economies' fiscal positions have not gone away
- The Euro remains expensive and the economic and political problems of the region should keep the currency under pressure. In contrast the US economic recovery is more robust and durable, acting as an important support for the Dollar

Chart source: Datastream as of March 31, 2015. Comments: Standard Life Investments as of March 31, 2015
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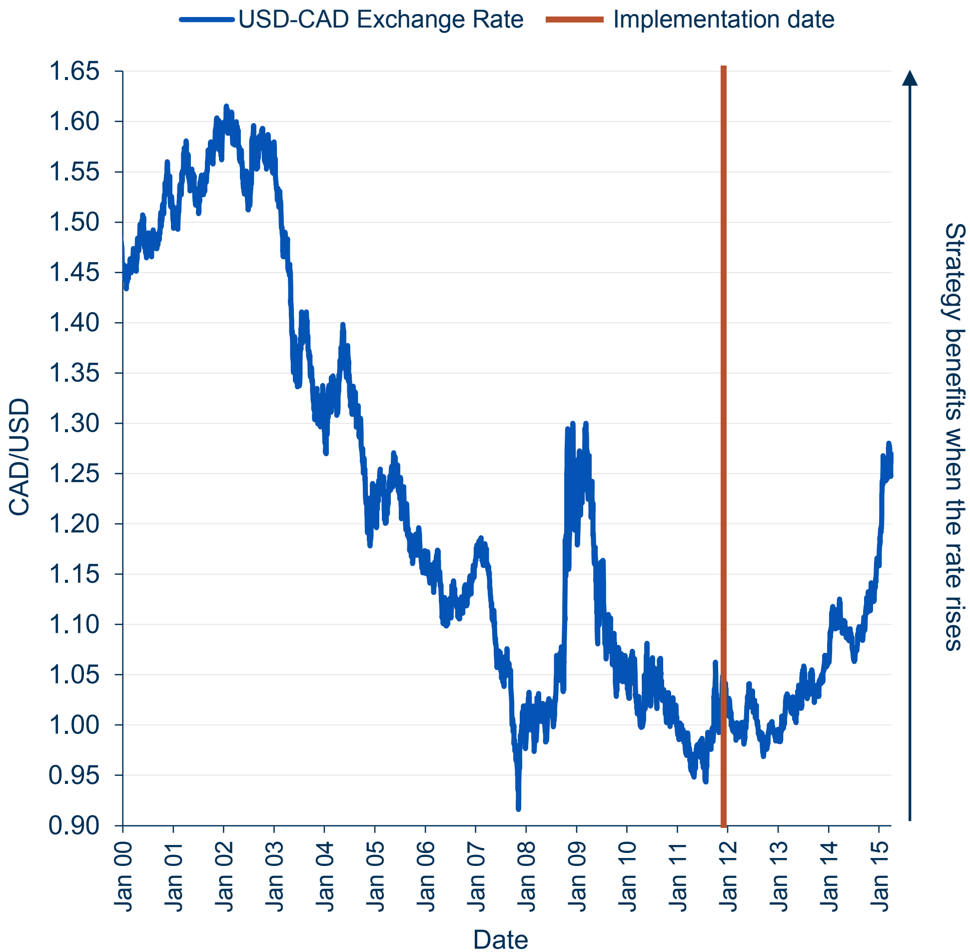
US Dollar vs Japanese Yen

- Monetary policy is becoming disconnected with the BoJ recently expanding the its QQE program, while the US has fully tapered and the Fed is indicating rate rises are on the horizon in H2 2015
- Japanese debt levels are very high, and make the risks of policy error considerable; a deteriorating current account balance means that the BoJ must take action to prevent any strengthen of the Yen
- The US economic recovery is continuing, as evidenced by strong employment growth and other economic data

Chart source: Datastream as of March 31, 2015. Comments: Standard Life Investments as of March 31, 2015

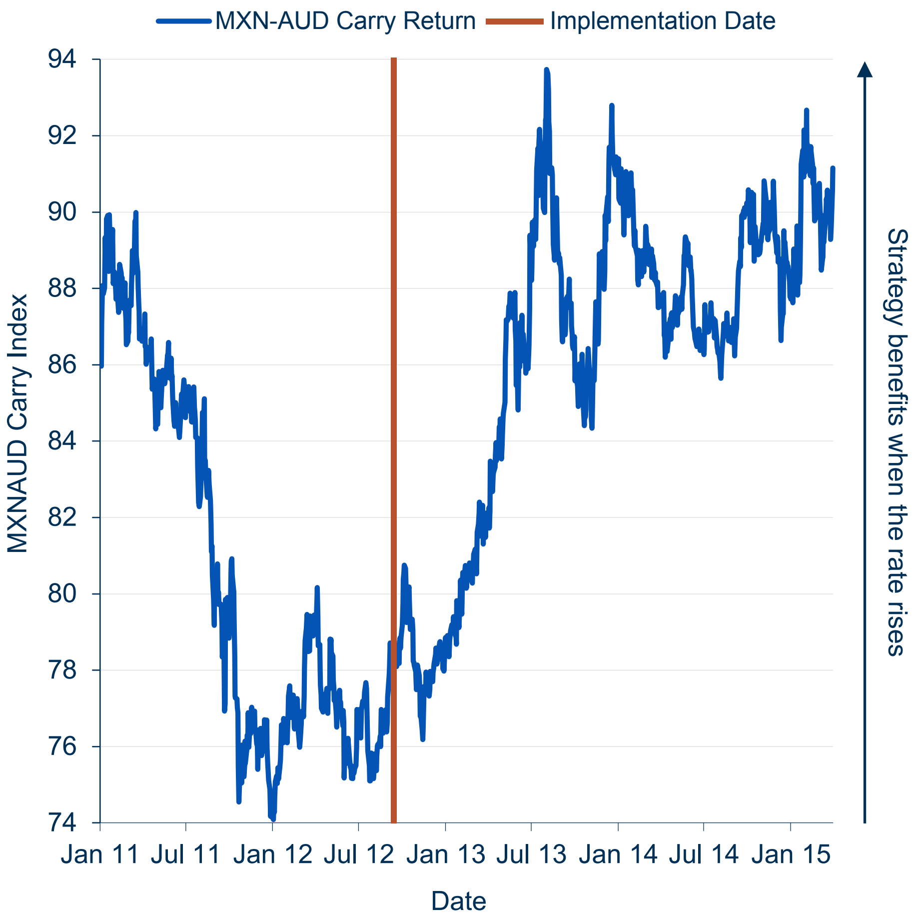
US Dollar vs Canadian Dollar



- Canadian exposure to a global slowdown is greater than that of the US which is more domestically orientated. Canadian consumers and banks remain more levered than in the US, with a stretched housing market. This creates domestic economic risks in the years ahead
- China's rebalancing of its economy away from investment and over to consumption makes the Canadian Dollar vulnerable, as its strength depends on buoyant commodity prices. Continued lower oil prices will have a large negative macro impact on the Canadian economy
- The withdrawal of quantitative easing in the US will cause money supply growth to slow, and stronger economic growth can be a driver of US Dollar strength; US rate hikes are a support for further US Dollar strength

Chart source: Bloomberg as of March 31, 2015. Comments: Standard Life Investments as of March 31, 2015

Mexican Peso vs Australian Dollar



- Mexico is taking market share from China in terms of US imports, and has a cheap currency. The economy is expected to grow faster than the Australian economy, helped by low leverage ratios across the Mexican economy

- Australian Dollar valuations had become very stretched, driven up by safe haven flows and the search for yield. The excessive strength of Australian Dollar is causing significant problems for parts of its economy

- Mexican Peso vs Australian Dollar has enjoyed a positive carry, and we expect this to widen over time given the RBA's propensity to cut rates given the flagging Australian economy

Chart source: Bloomberg as of March 31, 2015. Comments: Standard Life Investments as of March 31, 2015
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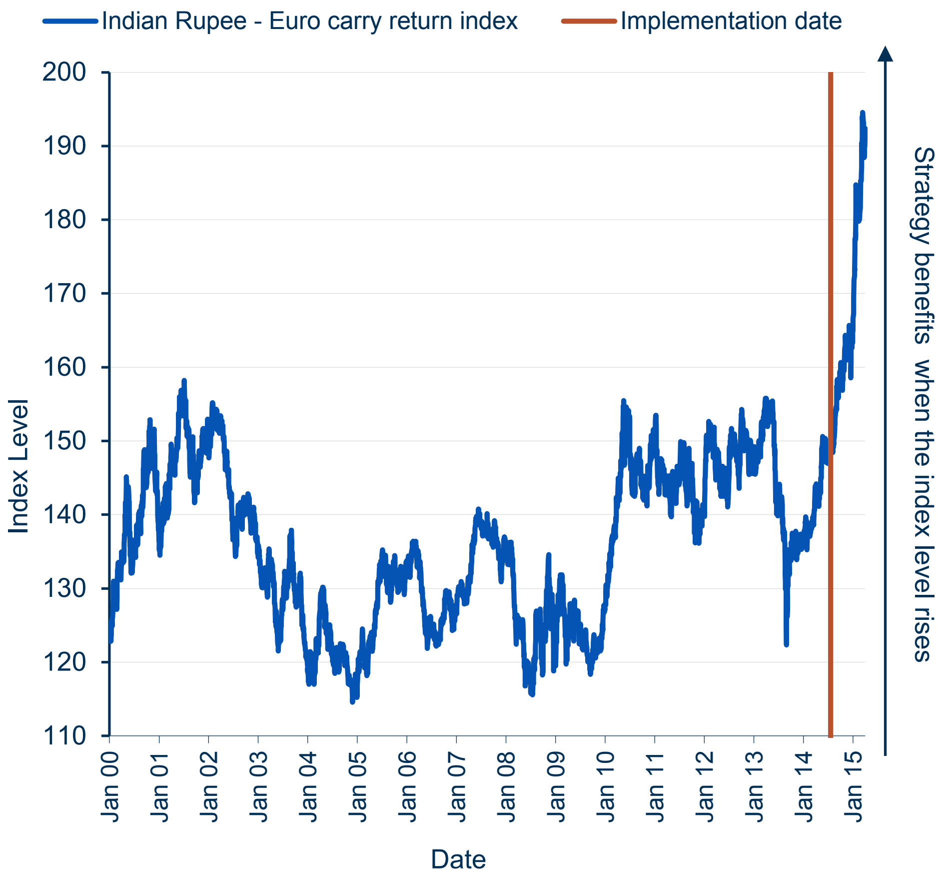
Indian Rupee vs Euro



- This pairing benefits from the Indian Rupee's appeal as a carry currency and the need in Europe for the Euro to depreciate
- The Indian central bank and government have gained credibility by reducing the current account deficit and by introducing an inflation target; further reforms and an increase in FX reserves make the currency less vulnerable to rate rises in the US
- ECB actions in the form of QE, TLTRO and negative deposit rates should have the effect of dampening the currency. Recent bank deleveraging in time for the AQR looks to be almost complete, hence a support of Euro strength is in the process of being removed

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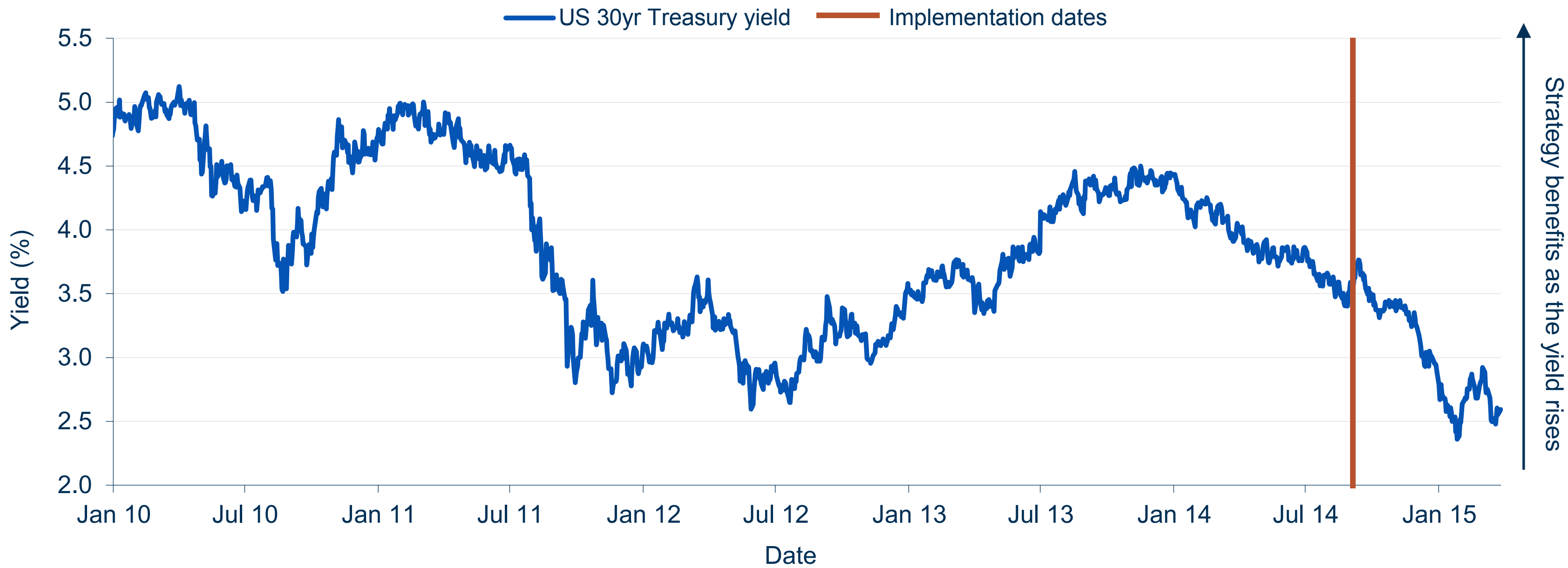
US Short Forward Interest Rates



- This position should benefit from a sell-off in US duration. More recently, long-dated forward rates in the US have reversed much of the increases seen in 2013. This move doesn't appear to be caused by the fundamentals and is probably a reflection of 'non-economic' buying by foreign reserve managers
- Even if such flows continue, we would expect the private sector to respond to lower cost of borrowing by increasing investment given that significant deleveraging has already been achieved and capital stock is relatively low and aged
- The drop in forward rates may therefore be a temporary mismatch between planned savings and investment
- This position is implemented through USD 20yr forward 10yr payer swap to avoid negative carry and achieve a marginally positive roll-premium

Chart source: Datastream as of March 31, 2015. Comments: Standard Life Investments as of March 31, 2015
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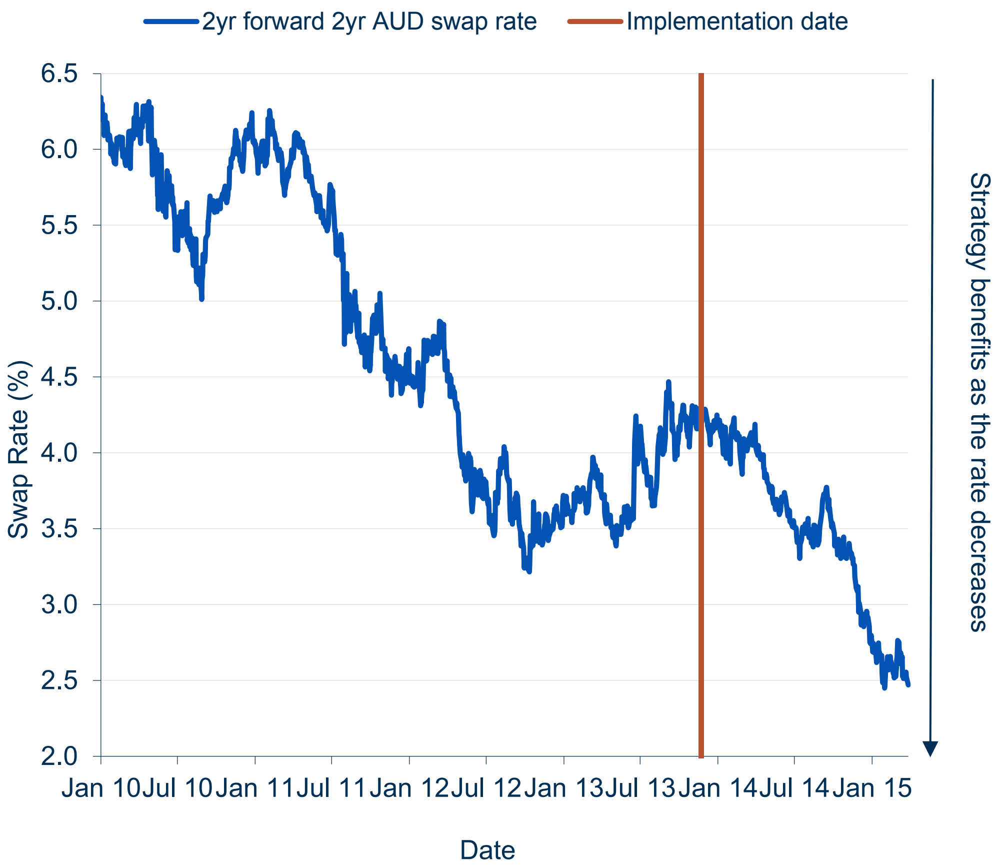
Australian Forward-Start Interest Rates



- The structural shift in the Australian economy away from mining investment needs to be accommodated by a weaker currency, which in turn, requires lower interest rates by historical standards
- The strength of the housing market is offset by a slowdown in the labor market and in credit growth, limiting the RBA's scope to raise rates
- A slowdown in Chinese economic growth will impact commodity prices and thus as a major commodity exporter Australia will be significantly affected

Chart source: Bloomberg as of March 31, 2015. Comments: Standard Life Investments as of March 31, 2015
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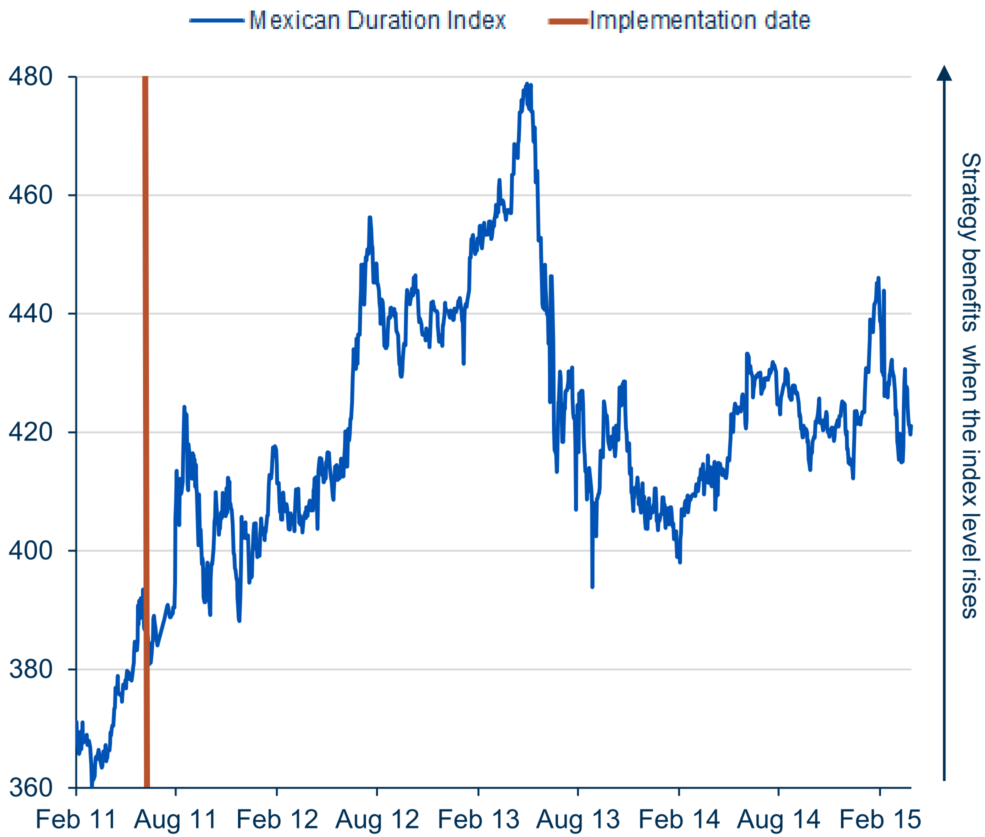
Mexican Government Bonds



- Mexican bond yields are attractive in a global context, given low rates elsewhere. The country is Investment Grade, with a relatively low debt to GDP ratio and core inflation is muted at this time
- The Mexican Peso continues to be undervalued and this should boost the return projections for an unhedged Mexican Peso bond position. Real trend GDP at 3-4% is good vs the global economy, however not as strong as other Asian competitors
- Mexico is gaining market share within the US import market vs China, given China's wage and inflation pressures. This is an important strategic positive for Mexico

Chart source: Bloomberg as of March 31, 2015. Comments: Standard Life Investments as of March 31, 2015
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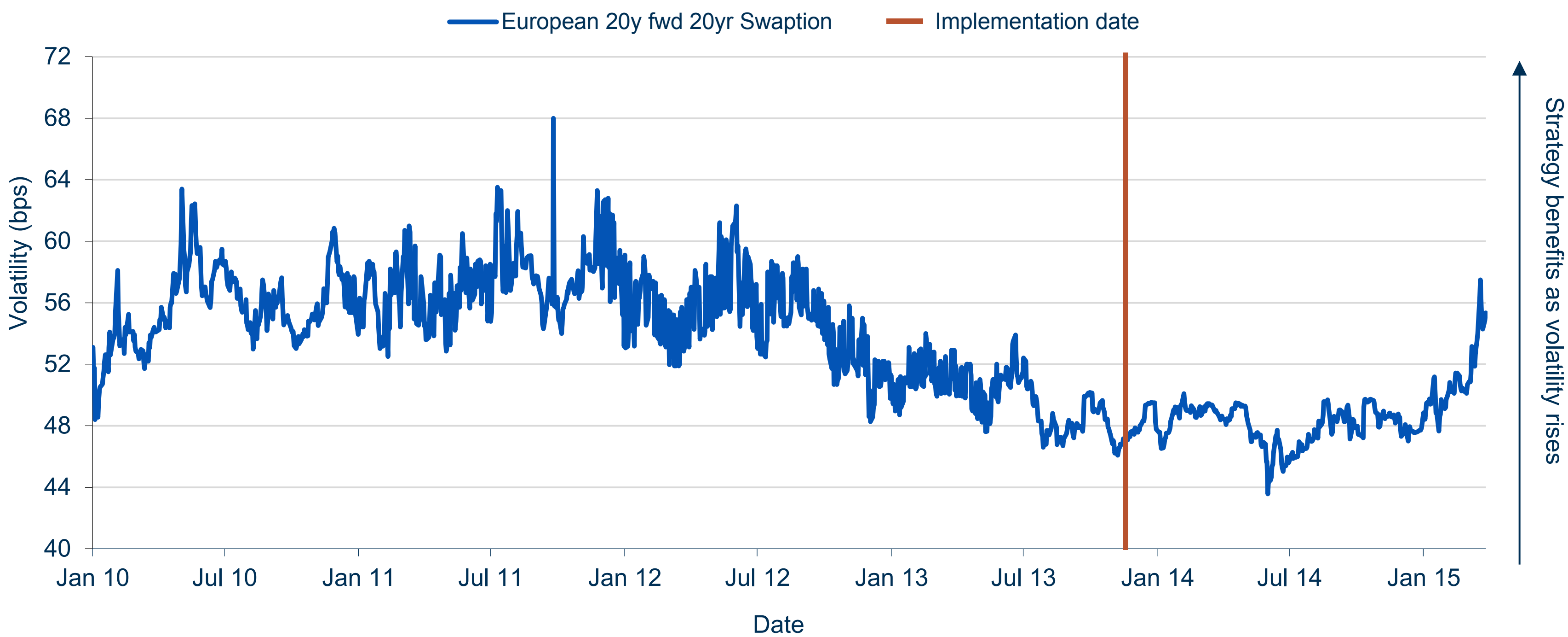
Suppressed European Interest Rate Volatility



- European interest rate volatility was suppressed due to excess demand for callable bonds from German insurers who sought to enhance their yield in a low rates environment
- Callable bonds ordinarily offer a higher yield because the issuer has an option to redeem the bonds
- Our view is that the rates' volatility will rise along with long-term interest rates to reflect the stimulus of QE and changes to regulations that drive hedging activity

Chart source: Datastream as of March 31, 2015. Comments: Standard Life Investments as of March 31, 2015
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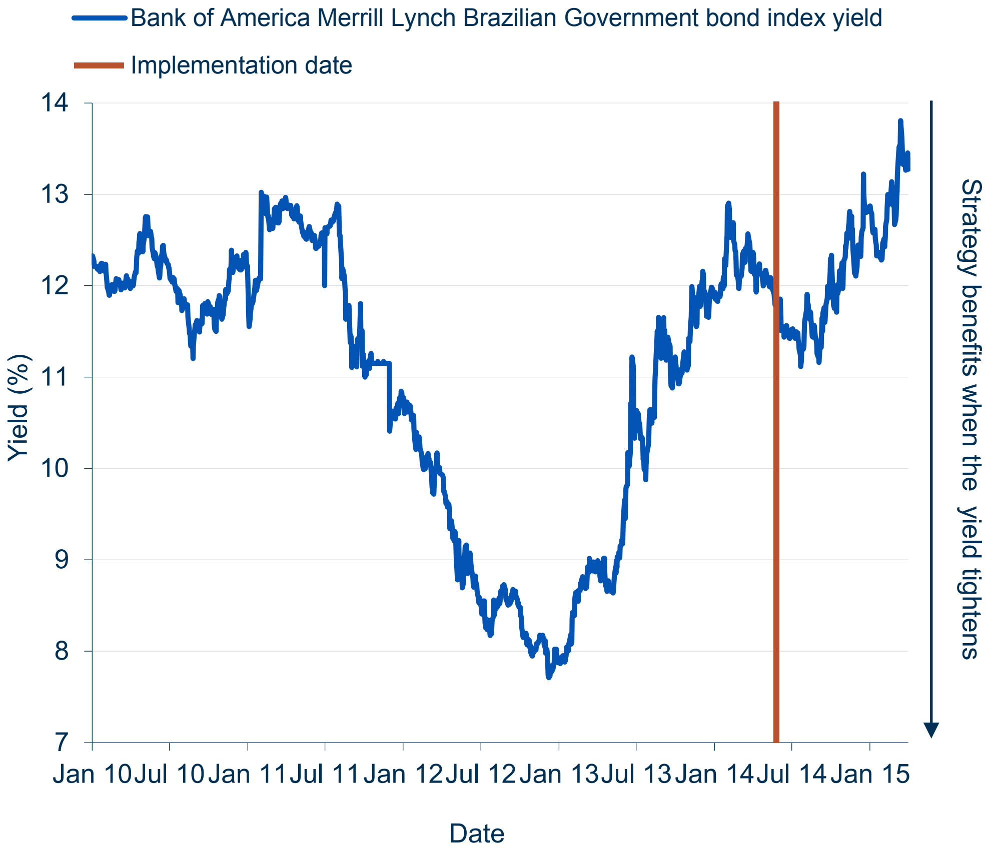
Brazilian Government Bonds



- The Brazilian central bank has raised interest rates sharply to combat inflation, defend the Real and due to the political backdrop; the result is that Brazil has one of the highest levels of real interest rates in the world. Rates at this level are unsustainable, and hence will need to be cut sometime in 2015

- The economic slowdown gives an opportunity for the central bank to begin to cut rates: retail sales, credit growth and industrial production are all weak

Chart source: Bloomberg as of March 31, 2015. Comments: Standard Life Investments as of March 31, 2015
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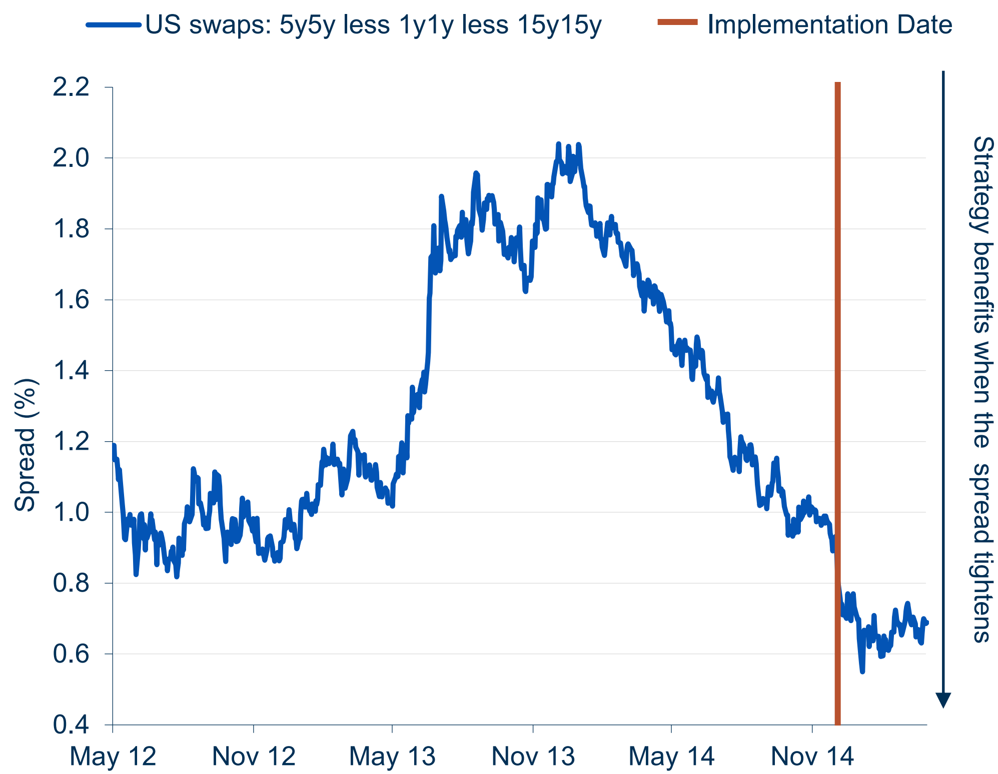
US Relative Interest Rates (Butterfly)



- This is a non-penal expression of a bearish US rates view that should also benefit from a disappointing economic recovery
- A sharp rise in 1 year rates relative to 5 year rates and 15 year rates as experienced in 2004 should produce strong positive returns
- Alternatively should US economic recovery disappoint and interest rate hikes are postponed, this strategy should still produce positive returns

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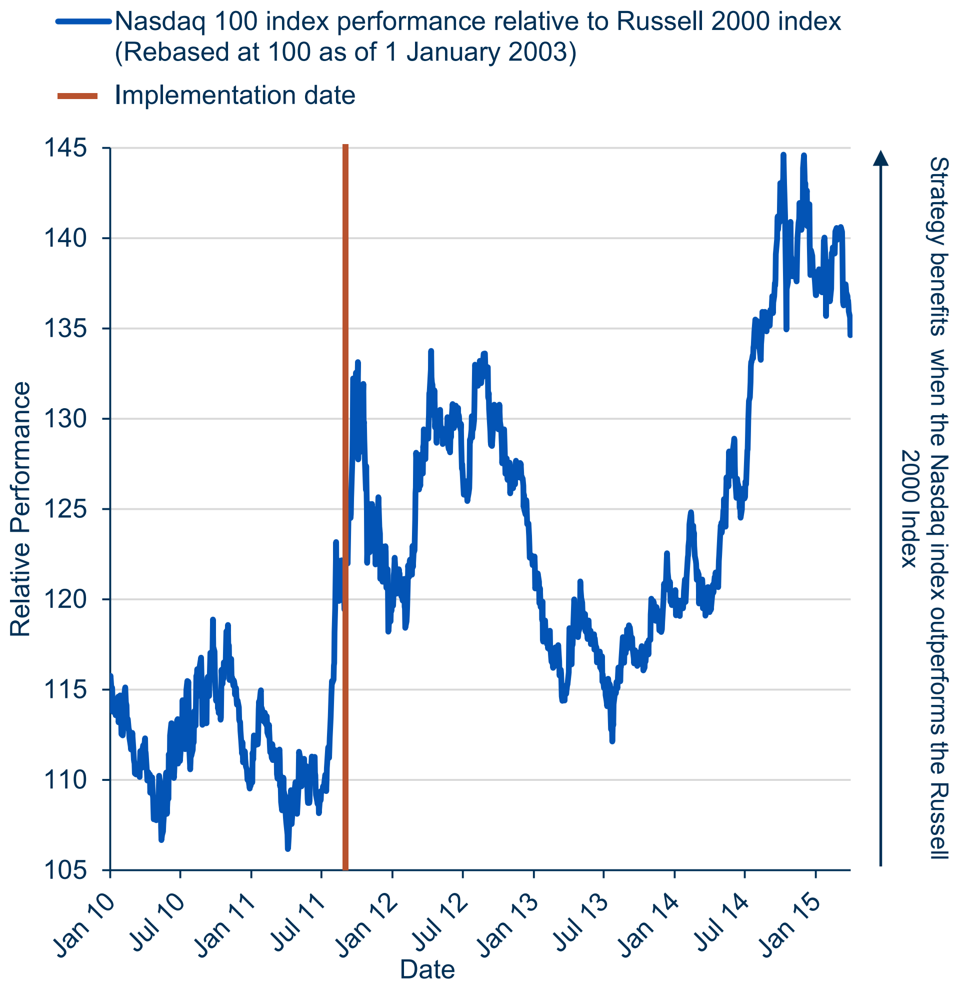
US Equity Large Cap Technology vs Small Caps



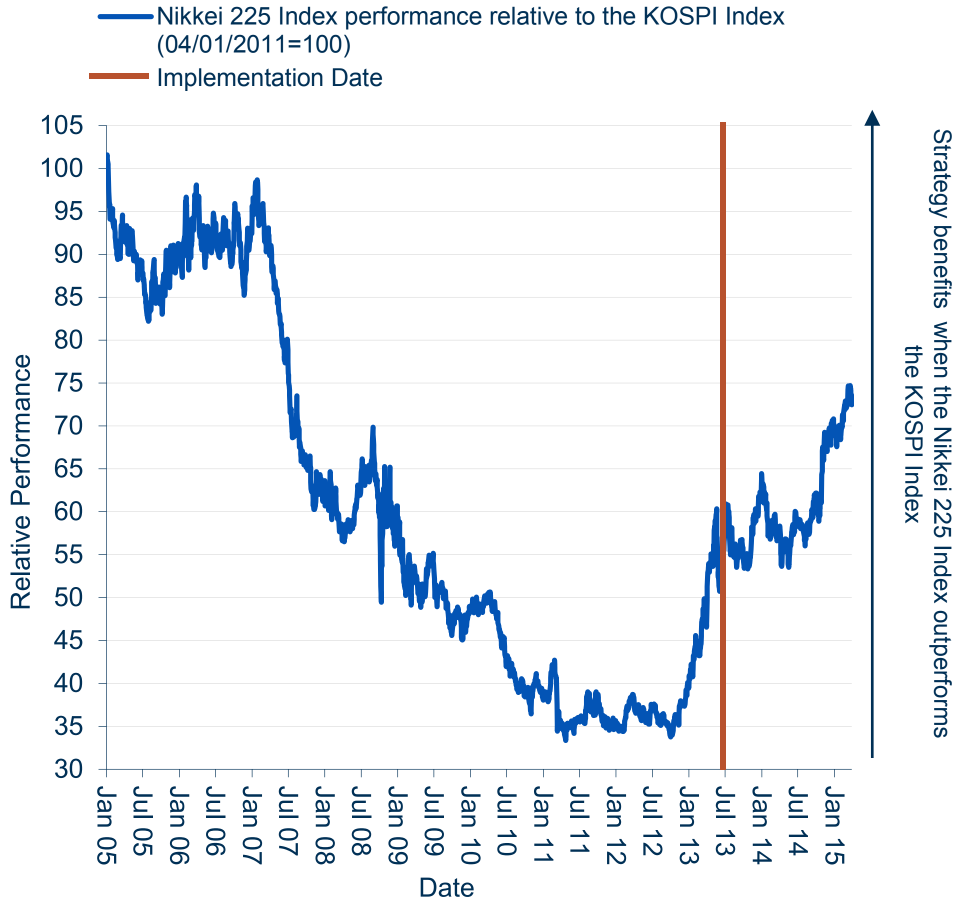
- Technology valuations are currently attractive relative to the broad market at the aggregate index level, while capital expenditure by cash-rich corporates and consumer spending priorities towards technology related products looks set to continue

- We believe the market will continue to favor good quality large companies with reliable growth prospects, rather than those reliant on fast GDP growth in an environment of deleveraging headwinds. We consider the Nasdaq 100 will also continue to benefit from exposure to relatively strong overseas markets

- Strong growth prospects appear priced into earnings forecasts for the Russell 2000 versus modest assumptions for the Nasdaq 100; should US growth disappoint then the Russell 2000 will likely come under significant pressure

Chart source: Bloomberg as of March 31, 2015. Comments: Standard Life Investments as of March 31, 2015
Key to color coding: **Market**, **Directional**, **Relative Value** and **Security Selection.** Index information is provided for illustrative purposes only and is not intended to imply past or future performance. Please note an investor cannot invest directly in an index . Unless otherwise noted, index returns reflect the reinvestment of income and dividends, if any, but do not reflect fees, brokerage commissions or other expenses of investing. Please see Important Information at the back of this presentation

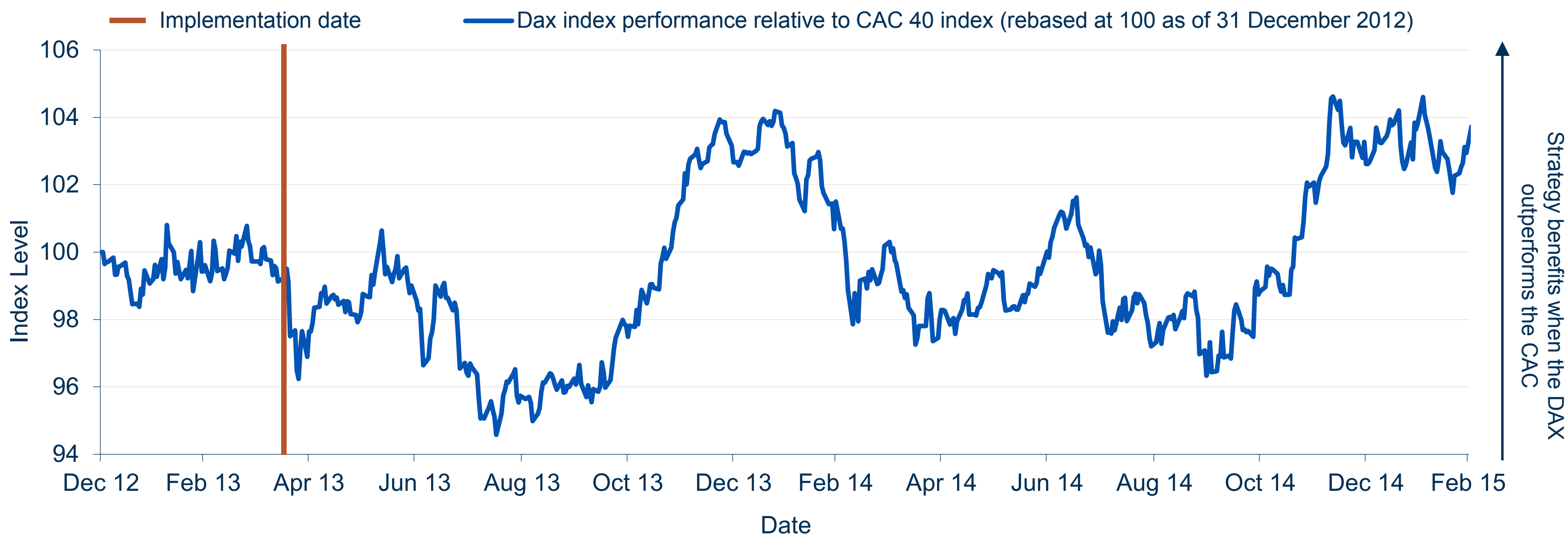
Japan vs Korean Equity



- Japan is in the midst of a tectonic shift in its monetary policy regime, as it attempts to pull the economy out of deflation. Aggressive monetary easing is often a key driver of stock market returns
- One of the key mechanisms via which Japan is looking to exit deflation and get its economy kick-started, is to weaken its currency. This makes Japan more competitive versus South Korea, a key competitor. 30% of the Nikkei market cap is in cash, making capex, M&A and share buybacks/dividends more likely
- Abe, the Japanese Prime Minister, won a strong mandate at the upper house elections, and this will likely prove a spur for structural reforms. South Korea's economy is struggling for growth at this time, with a large proportion of households finding difficulty in coping with their high debt burdens

Chart source: Bloomberg as of March 31, 2015. Comments: Standard Life Investments as of March 31, 2015

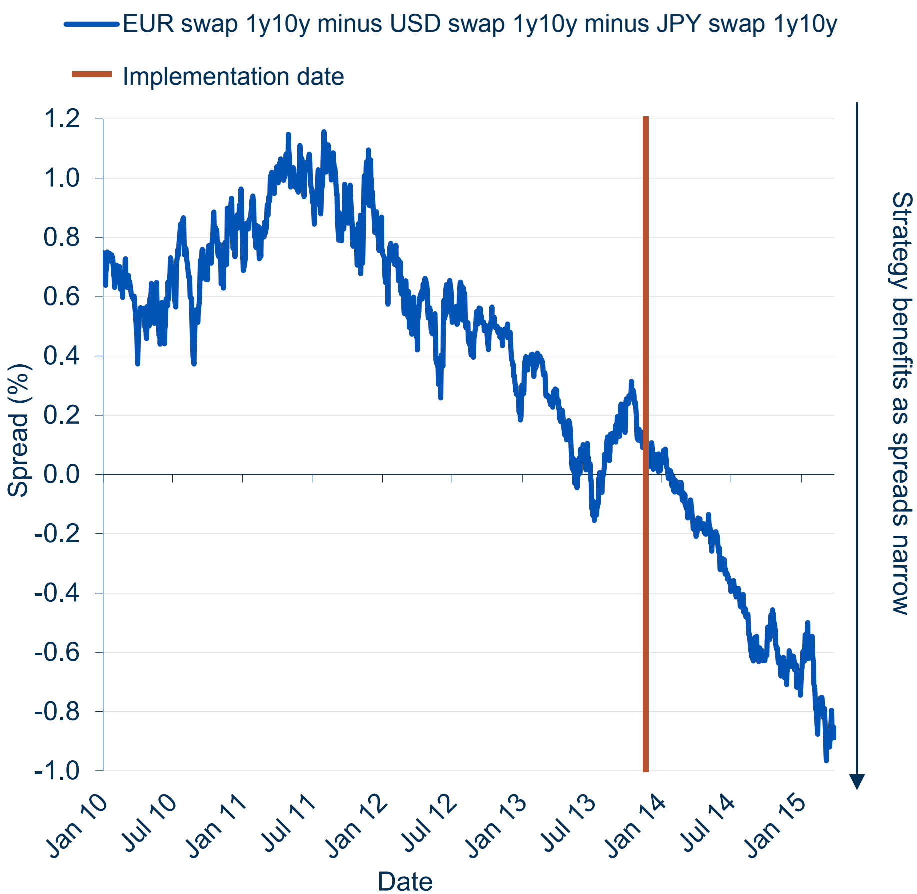
German vs French Equities



- Following a series of reforms beginning a decade ago, the German economy has become one of the most successful and dynamic European economies. France, on the other hand, requires radical reforms to adjust its fiscal mix and alleviate its rigid labor market. It is unlikely that the French government will launch a radical reform program that will free-up the rigid labor market
- Furthermore, corporate profitability in France is low due to uncompetitive labor costs while German industries are globally competitive and highly profitable, helped by a larger exposure to faster-growing international markets. Despite the deteriorating fiscal situation in France, the consensus currently underestimates the extent of faster German growth relative to France
- We believe that lacklustre growth in Europe will weigh on French corporates, demonstrated via earnings expectations, while relative earnings momentum in Germany should remain positive. If the European crisis deepens, we expect France to diverge further from the "core" and Germany to re-rate relative to other markets based on its superior medium-term economic prospects

Chart source: Bloomberg as of March 31, 2015. Comments: Standard Life Investments as of March 31, 2015
Key to color coding: **Market**, **Directional**, **Relative Value** and **Security Selection.** Index information is provided for illustrative purposes only and is not intended to imply past or future performance. Please note an investor cannot invest directly in an index . Unless otherwise noted, index returns reflect the reinvestment of income and dividends, if any, but do not reflect fees, brokerage commissions or other expenses of investing. Please see Important Information at the back of this presentation

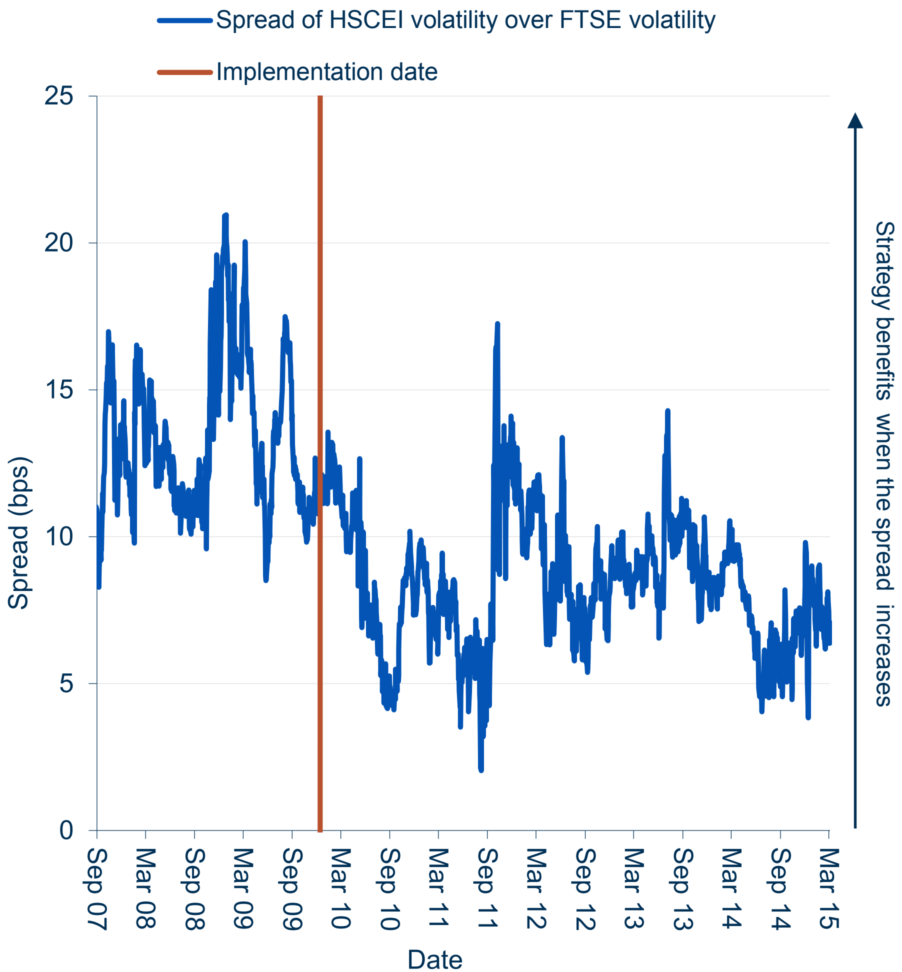
European vs US & Japanese Interest Rates



- Japan is vulnerable to a significant correction in yields, driven by change in investor behavior: the state pension fund is likely to rotate to riskier assets and corporations are increasing capex and running down their cash reserves
- Europe is experiencing symptoms similar to Japan in its lost decade, thus European yields should remain anchored over time, and deflationary concerns for ECB have prompted the central bank into unconventional monetary policy. Regulatory changes in Japan could also see increased investment in the European bond market
- Incorporating a short US Treasuries position insulates against a possible US led sell-off

Chart source: Standard Life Investments as of March 31, 2015. Comments: Standard Life Investments as of March 31, 2015
Key to color coding: **Market**, **Directional**, **Relative Value** and **Security Selection.** Index information is provided for illustrative purposes only and is not intended to imply past or future performance. Please note an investor cannot invest directly in an index . Unless otherwise noted, index returns reflect the reinvestment of income and dividends, if any, but do not reflect fees, brokerage commissions or other expenses of investing. Please see Important Information at the back of this presentation

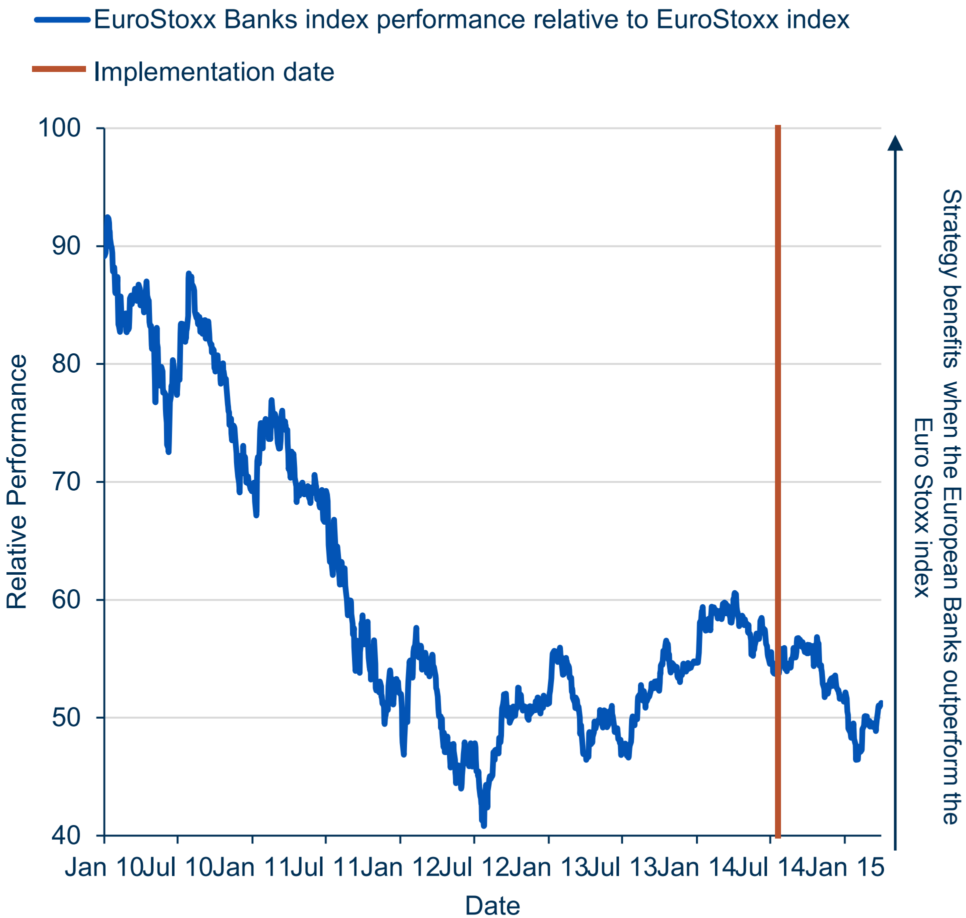
China Equity vs UK Equity Volatility



- We expect Chinese equity volatility to be much higher than that of UK equity for a number of reasons:
  - Chinese banks form c.50% of the HSCEI index and are vulnerable to bad debts and credit constraint in the Chinese economy
  - We have been able to receive HSCEI variance at a low level funded by paying away FTSE100 Variance

Chart source: Bloomberg as of March 31, 2015. Comments: Standard Life Investments as of March 31, 2015
Key to color coding: **Market**, **Directional**, **Relative Value** and **Security Selection.** Index information is provided for illustrative purposes only and is not intended to imply past or future performance. Please note an investor cannot invest directly in an index . Unless otherwise noted, index returns reflect the reinvestment of income and dividends, if any, but do not reflect fees, brokerage commissions or other expenses of investing. Please see Important Information at the back of this presentation

European Banks vs European Equity



- An improvement in European economic conditions should entail lower loan provisions and an increase in lending, which in turn should improve profitability measure such as Return on Equity and support valuations

- Movement towards a banking union within Europe can support the sector over the medium term which should boost sentiments around earnings and valuations; the banks index is still trading cheaply on a Price-to-Book metric compared to its history

- Lower peripheral spreads and core government bond yields have reduced the cost of equity for banks

Chart source: Bloomberg as of March 31, 2015. Comments: Standard Life Investments as of March 31, 2015
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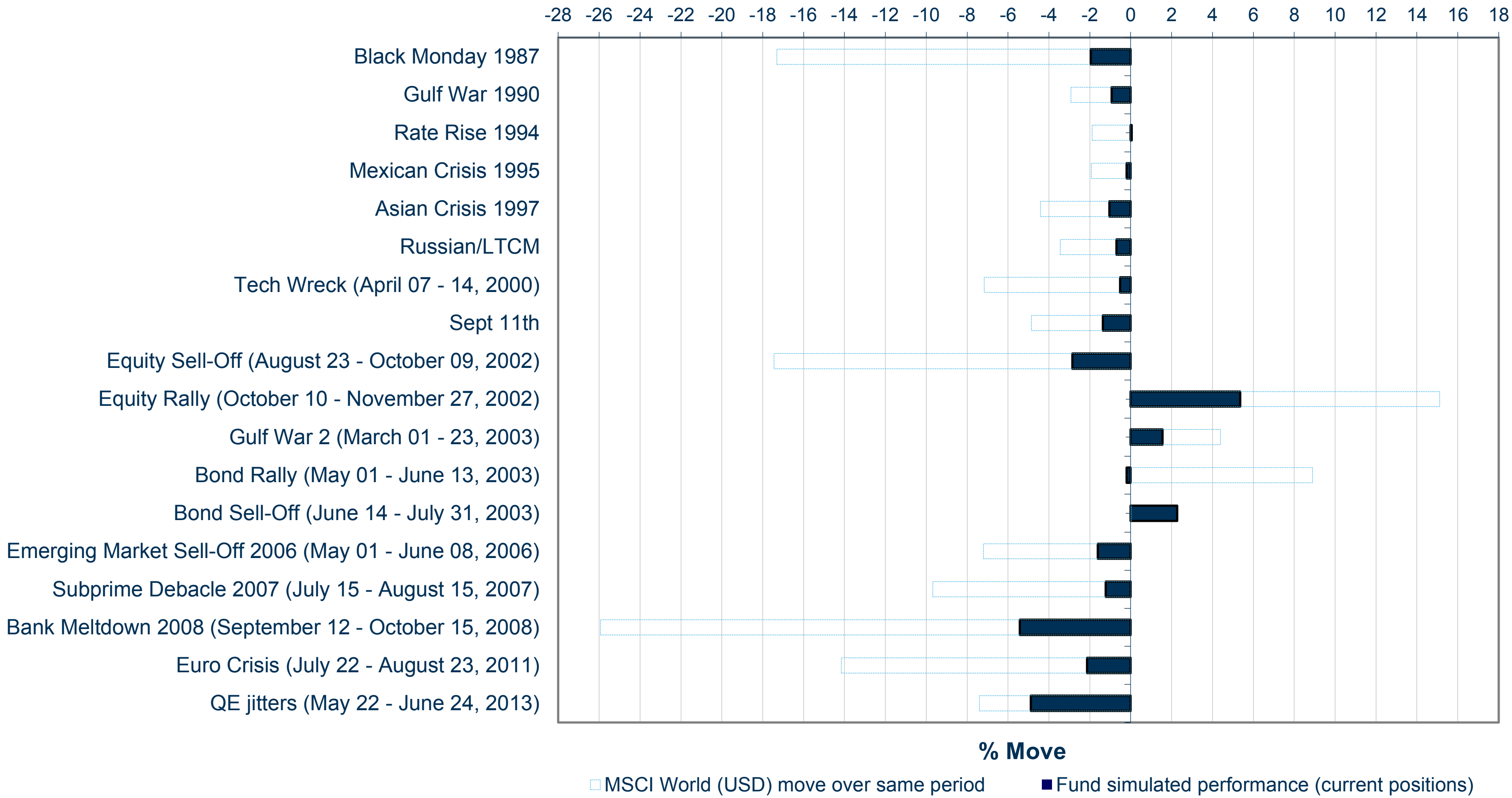
Historical Scenario Analysis



Source: RiskMetrics as of March 31, 2015
Standard Life Investments US Representative GARS portfolio as of March 31, 2015
Please see Important Information at the back of this presentation

Forward-looking Scenario Approach

- Defining features of scenarios need not be directly financial market related*
  - Economic
  - Environmental
  - Geopolitical
  - Societal
  - Technological

- Our subject matter experts translate scenarios into financial market impacts

- Quantitative techniques are then used to
  - Add uncertainty to point return figures
  - Explore potential portfolio behavior

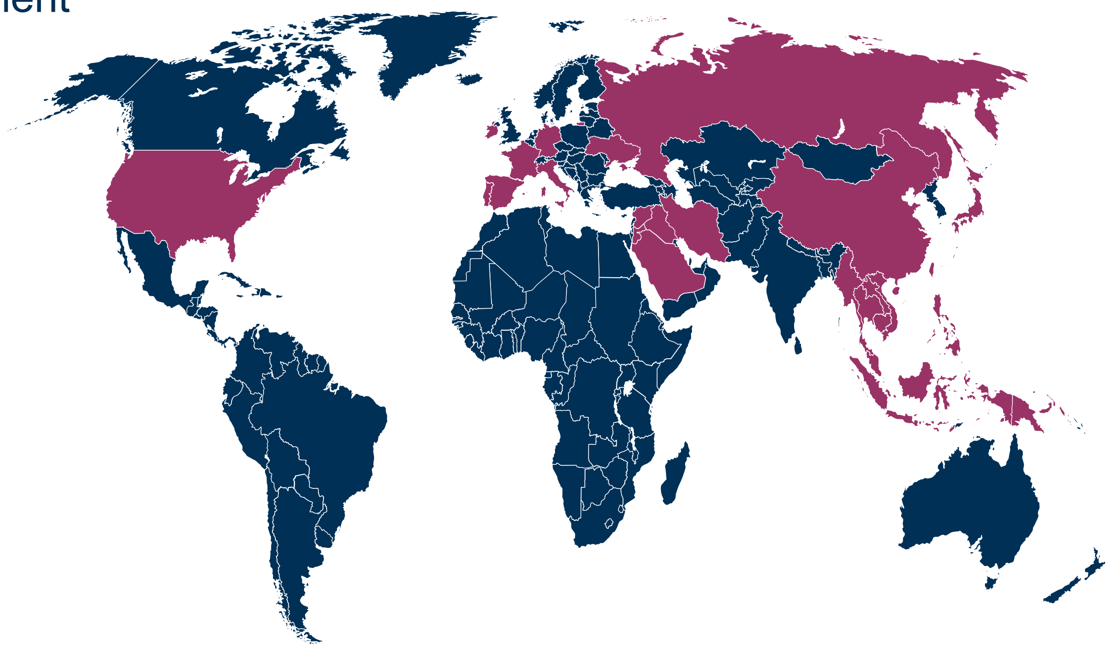
A pragmatic approach based on strategy returns

* Global Risks 2013, World Economic Forum (2013)

Future Scenario Analysis
The Worst Outcome May Not be Repeat of the Past

Some scenarios currently of interest:

- Acropolis now
- Cold war 2
- US Consumer disappointment
- Inflation shocker
- China crisis
- Liquidity drought



Modelling techniques can help identify potential concentrations of investment risk

Shaded regions represent the origin of one or more scenarios
Source: Standard Life Investments as of March 2015. Please see Important Information at the back of this presentation

Regular Liquidity Monitoring

Fund	2250				
Valuation date	31/03/2015		OTC Derivatives		
Total fund value	2,778,190,021		23,831,438	collateral posted *(c)*	
Available cash	854,441,433	*(a)*	123,419,031	collateral held	
Eligible securities	335,985,407	*(b)*	99,587,593	mark to market	

covered by	Exchange traded *(margin)* *cash*		OTC *(collateral)* *cash + securities*		Total derivatives	
Standalone Risk	2.48%		3.88%			
VaR (99%, 1m)	46,216,079	*(d)*	72,335,987	*(e)*	118,552,066	*(d)+(e)*
Available cover	854,441,433	*(f)*	1,120,379,323	*(g)*	1,166,595,403	*(h)*
Cover for 1m VaR	18.5		15.5		9.8	
RAG Status	**GREEN**		**GREEN**		**GREEN**	

Legend

(f) = (a)

(g) = (a)-(d)+(b)-(c)

(h) = (a)+(b)-(c)

The primary status is that on the total derivative cover, however an amber status on either ET or OTC cover requires review by Fund Management. The RAG status limits are:

RED	< 1 * 1 month VaR
AMBER	< 2 * 1 month VaR
GREEN	> 2 * 1 month VaR

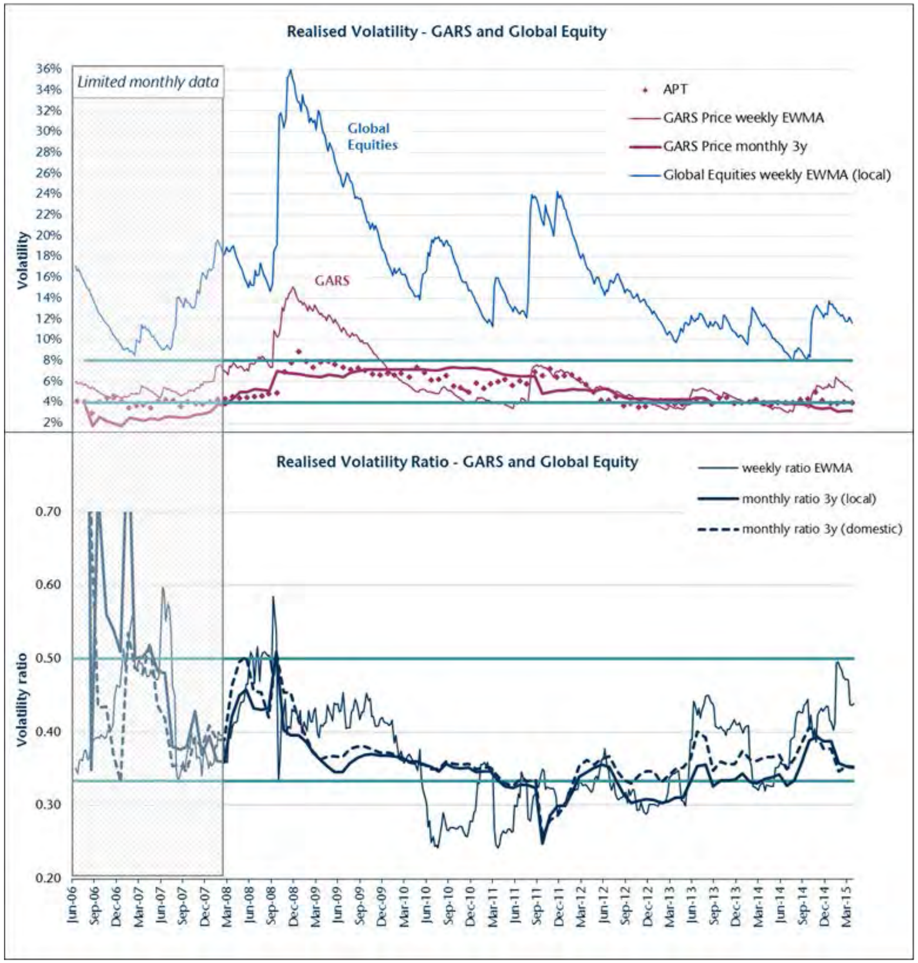
Availability of cash is managed by the Money Market Team. The VaR figures inform this process, as documented in the Cash Management

Considerable cash buffer beyond 99% VaR stress

Standard Life Investments US Representative GARS portfolio as of March 31, 2015

Please see Important Information at the back of this presentation

Ex-post Risk Analysis



- Expect volatility range of 4 – 8%
- We track realized volatility relative to expectation and to risk model estimates
- Many different bases can be used:
  - Monthly, weekly, daily data
  - Various window sizes and weightings
- Measuring relative to equities is a useful way to normalize
- We expect to be 1/3 to 1/2 of equity volatility

Advanced portfolio technologies (APT)
The chart above is for illustrative purposes only of a sample Standard Life Investments GARS portfolio
Chart source: Thomson Datastream as of March 31, 2015
Comments: Standard Life Investments as of March 31, 2015
Please see Important Information at the back of this presentation

US GARS Composite Report

Composite Name	US GARS
Creation Date	01-07-2006
Firm	Standard Life Investments
Currency	USD
Report End Date	31-12-2014
Composite Group	Converted GARS
Benchmark	1 Month USD LIBID

	Anlzd Return (Composite)	Anlzd Return (Benchmark)	3 Year Anzld StdDev (Composite)	3 Year Anzld StdDev (Benchmark)	Dispersion	Market Value	Total Firm Assets	% of Firm Assets	Number of Portfolios
Dec 2005	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dec 2006	7.92	2.63	NA	NA	NA	61,396,573	250,034,719,675	0.02	1
Dec 2007	8.36	5.28	NA	NA	NA	480,921,603	273,159,275,038	0.18	1
Dec 2008	-6.35	2.58	NA	NA	NA	1,193,805,120	169,620,437,123	0.70	1
Dec 2009	19.25	0.20	7.19	0.60	NA	3,555,802,495	205,104,682,260	1.73	2
Dec 2010	10.75	0.13	7.31	0.35	1.33	10,897,493,192	206,244,327,020	5.28	2
Dec 2011	2.89	0.10	5.69	0.02	0.14	16,448,902,409	191,669,627,227	8.58	3
Dec 2012	7.86	0.11	4.62	0.01	0.73	28,976,474,718	217,691,673,950	13.31	3
Dec 2013	7.29	0.06	4.52	0.01	0.31	42,830,233,476	248,389,468,750	17.24	3
Dec 2014	5.96	0.03	3.44	0.01	1.04	49,082,656,541	345,453,084,900	14.21	3

Firm Disclosures

A complete list and description of all of the firm's composites are available from Standard Life Investments. There are no minimum asset levels set below which portfolios are not included in a composite.

All performance calculations and returns have been calculated gross of management fees. All returns are presented on an all-inclusive basis and as such all capital gains interest income and withholding taxes have been taken into account in market valuations and returns. All indices are on a gross of tax basis apart from FTSE UK indices which are net of Withholding Tax

There are no Non-Fee-Paying portfolios included in any composite. The Daily True Time Weighted Rate of Return methodology has been used from 2001 apart from unitised Cash Property GARS and Myfolio products where NAV performance is used. Prior to this NAV performance was used for all products. Additional information regarding policies for calculating and reporting returns is available upon request

Dispersion is calculated using high/low difference. Where there are less than 36 months of returns, the Composite and Benchmark Standard Deviations have not been calculated.

Standard Life Investments 'The Firm' consists of all fee-paying funds managed by Standard Life Investments and its Subsidiaries which include Standard Life Investments (Mutual Funds) Limited SLTM Limited Standard Life Investments (Corporate Funds) Limited Standard Life Investments (USA) Limited and Standard Life Investments (Asia) Limited

Past performance results from Standard Life Investments Limited UK Firm and Standard Life Investments Limited Irish Firm have been linked to form the performance record of the new firm Standard Life Investments. The new firm was created on 01/01/2008. Standard Life Investments claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. Standard Life Investments has been independently verified by PricewaterhouseCoopers LLP for the periods 1996 to 2014. The verification report is available upon request. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation

Composite Disclosures

Derivatives may be used to vary exposure to markets and express views on the direction of currencies, interest rates, sectors and securities to enhance capital return, limit downside volatility and preserve capital Includes part period return for 2006 from 01/07

The composite includes funds that invest in a highly diversified strategy including equities, bonds and cash with a derivative overlay in options, futures, swaps and currency forwards to deliver a positive absolute return. The fund is benchmarked against 1 month US Libid

The standard annual fee applicable to this composite is 1.00%, but individual fees are negotiated on an account basis

This composite includes GBP denominated funds that are converted into USD using 3 month USD Libor and 3 month GBP Libor rates

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All opinions and estimates in this presentation are those of Standard Life Investments, and constitute Standard Life Investments' best judgment as of the date indicated. The information in this material is only as current as the date indicated, and may be superseded by subsequent market events or for other reasons. Statements concerning market trends are based on current market conditions, which may fluctuate. References to future returns are not promises or even estimates of actual returns that Standard Life Investments may achieve, and should not be relied upon. The forecasts contained herein are for illustrative purposes only and are not to be relied upon as advice or interpreted as a recommendation. In addition, the forecasts are based upon subjective estimates and assumptions about circumstance and events that may not yet have taken place or may never do so.

Performance is shown gross of fees and expenses, and includes the reinvestment of dividends and capital gain distributions where applicable. The performance of the strategy will be reduced by advisory and other fees charged to the strategy. Many factors affect performance including changes in market conditions and interest rates and in response to other economic, political, or financial developments. Investment return and principal value of your investment will fluctuate, so that when your investment is sold, the amount you receive could be less than what you originally invested. Past performance is not a guide to or indicative of future results. Future returns are not guaranteed and a loss of principal may occur.

A schedule of fees is described in Part II of Form ADV, which is available upon request. To illustrate an account subject to an investment advisory fee of 1% per annum growing at an annual rate of 8.2% for a five year period would only produce a 7.1% annual return. The returns and fees experienced by a particular client will be different than the example shown. Investments are not insured by the FDIC (or any other state or federal agency), are not guaranteed by any bank, and may lose value.

Fees are also described in the Standard Life Investments (Corporate Fund) Ltd Form ADV Part II and may vary depending on, among other things, the applicable fee schedule and account size.

Standard Life Investments is engaged in a joint venture with HDFC Asset Management owning 40%.

Standard Life Investments is engaged in a strategic partnership with Sumitomo Mitsui Trust Bank.

SL Capital Partners (US) Ltd is a subsidiary of Standard Life Investments. Standard Life Investments owns 60%

No investment process is free of risk and there is no guarantee that the investment process described herein will be profitable. The strategy allocation percentages set forth herein are estimates and actual percentages may vary from time to time. The types of investments presented herein will not always have the same comparable risks and returns. Please see the private placement memorandum for a description of the investment, as well as the risks associated with that investment. Please note that the strategy may elect to invest assets in different investment sectors from those depicted herein, which may entail additional and/or different risks. The actual performance of the portfolio will depend on the Investment Manager's ability to identify and access appropriate investments, and balance assets to maximize return while minimizing risk. The actual investments in the portfolio may or may not be the same or in the same proportion as those shown herein.
Portfolios within the composite are benchmarked to an appropriate market index. The benchmark does not reflect any fees, brokerage commissions or other expenses and does not reflect the reinvestment of dividends.

The GARS representative account is the GARS Cayman Master portfolio. This account is available to US investors. Performance may differ based on factors which include exchange rate fluctuations, cash flows, fees, product structure differences, etc.

The GARS sample account is the GARS £, Institutional Pooled Pension Portfolio. This account is not available to US investors.

Important Information

The following benchmarks are broad based indices are used for comparative/illustrative purposes only and have been selected as they are well known and are easily recognizable by investors. Comparisons to benchmarks have limitations because benchmarks have volatility and other material characteristics that may differ from the portfolio. For example, investments made for the portfolio may differ significantly in terms of security holdings, industry weightings and asset allocation from those of the benchmark. Accordingly, investment results and volatility of the portfolio may differ from those of the benchmark. Also, the indices noted in this presentation are unmanaged, are not available for direct investment, and are not subject to management fees, transaction costs or other types of expenses that the portfolio may incur. In addition, the performance of the indices reflects reinvestment of dividends and, where applicable, capital gain distributions. Therefore, investors should carefully consider these limitations and differences when evaluating the comparative benchmark data performance.

1 Month USD LIBID

Bloomberg Code: LIBMBO1M

London Interbank Bid Rate – LIBID is the average interest rate at which participating London banks are willing to borrow eurocurrency deposits from other banks. It is calculated by the British Bankers Association on the daily basis as the average of the interest rates at which London banks bid for borrowed eurocurrency portfolios from other banks.

MSCI World Index
MSCI World Index is a free float-adjusted market capitalization weighted index of over 1600 world stocks that is designed to measure the equity market performance of developed markets. The MSCI World Index consists of the following 23 developed market country indices: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

The US GARS composite is comprised of portfolios whose objective is to achieve a target of cash + 5% by investing in securities that perform over a 2-5 year time horizon. While the strategy's objective is to seek to provide consistent returns with 4-8% tracking error, it does not imply that this strategy shall share, or attempt to share, the same or similar characteristics of the benchmark or attempt to track the benchmark. Sub-advised and portfolios constrained by guidelines and restrictions are excluded from the composite. Standard Life Investments maintains a complete list and description of composites, which is available upon request.

An investment in the portfolio is speculative and involves certain risks. Prospective investors should ensure that they: (1) understand the nature of the investment and the extent of their exposure to risk; (2) have sufficient knowledge, experience and access to professional advisors to make their own legal, tax, accounting, and financial evaluation of the merits and risks of participating in an investment in the portfolio; and (3) consider the suitability of investing in the portfolio in light of their own circumstances and financial condition. The portfolio investment program is not suitable as the sole investment vehicle for an investor and should be part of an overall investment strategy. Investors should only invest if total off of the investment may be sustained.

Due to among other things, the volatile nature of the markets and the investment strategies discussed herein, they may only be suitable for certain investors. No investment strategy or risk management technique can guarantee return or eliminate risk in any market environment. Further, this information may be amended or revoked at any time without notice.

The strategy may use alternative investment techniques (such as leverage, short selling, and the use of derivatives) which carry additional risks. The low initial margin deposits normally required to establish a position in such instruments may permit a high degree of leverage. As a result, a relatively small movement in the price of a contract may result in a profit or loss that is high proportion to the amount of portfolios actually places as initial margin and may result in a disproportionate loss exceeding any margin deposited.

Transactions on over-the-counter derivatives may involve additional risk as there is no exchange on which to close out a position, only the original counterparty. Such transactions may therefore be difficult to liquidate, to value, or to assess the exposure.

The strategy may at times use certain types of investment derivatives, such as options, futures, forwards and swaps. These instruments involve risks different from, and in certain cases, greater than, the risks presented by more traditional investments.

To the extent the portfolio invests in foreign securities, its performance will be influenced by political, social and economic factors affecting investments in foreign companies. Special risks associated with investments in foreign companies include exposure to currency fluctuations and controls, less liquidity, less developed or less efficient trading markets, less governmental supervisor and regulation, lack of comprehensive company information, political instability, greater market volatility, and differing auditing and legal standards.

Important Information

Equity securities are generally subject to varying degrees of market factors, including but not limited to, market sector, market liquidity, issuer and investment style risk

The foregoing list of certain factors does not claim to be a complete list or explanation of the risks involved in an investment in the portfolio. Investors should read the strategy's documents and consult with his/her own advisors before deciding to invest. In addition, as the investment markets and portfolio develop and change over time, an investment may be subject to additional and different risk factors. No assurance can be made that profits will be achieved or that substantial losses will not be incurred. Risks are also described in the Standard Life Investments (Corporate Fund) ADV Form Part II and may vary depending on the type of investment.

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NEPC, LLC

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Ventura County Employees' Retirement Association

Investment Performance Analysis for the period ending March 31, 2015

May 18, 2015

Dan LeBeau, Consultant
Allan Martin, Partner
Tony Ferrara, CAIA, Senior Analyst

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Contents

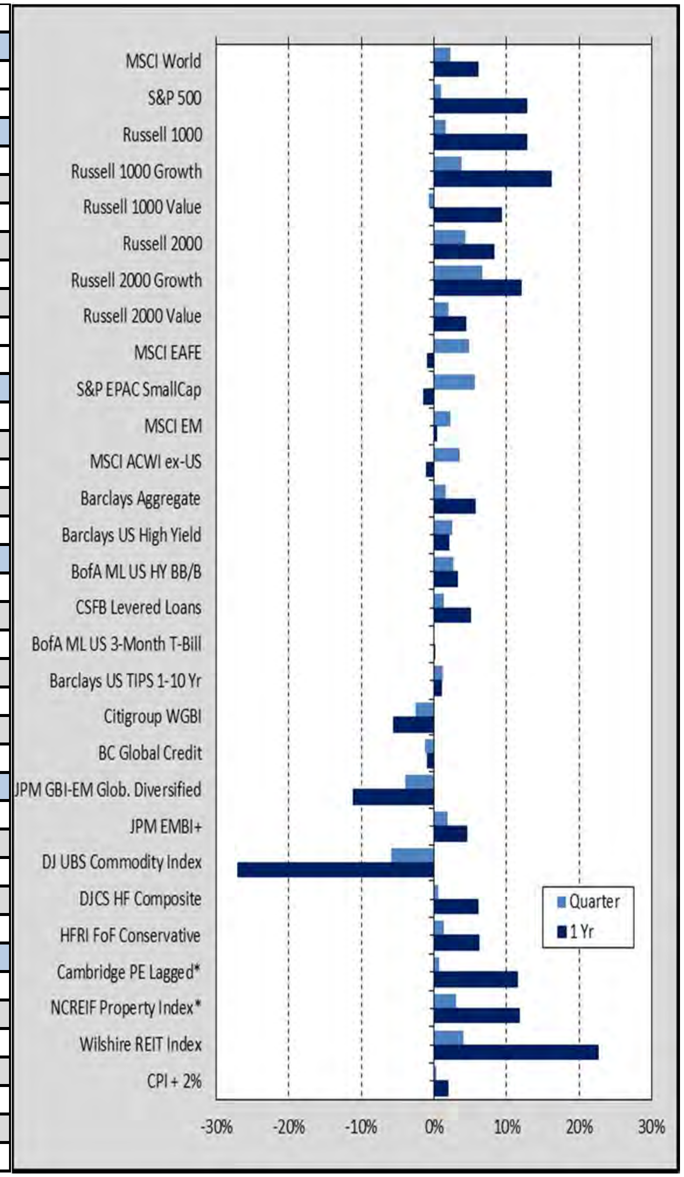
Market Environment Update and Outlook

Economic Environment

- **First quarter "advance" estimate of GDP growth increased at a weak +0.2% after increasing by +2.2% in the fourth quarter of 2014.**
  - Retail sales ended the first quarter at +0.5% on a year-over-year growth rate basis.
  - The inventory-to-sales ratio increased slightly to 1.4 in February and has remained relatively flat since early 2010.
  - Corporate profits as a percent of GDP declined in the fourth quarter, but remain elevated relative to historical levels.
  - The U.S. trade deficit decreased slightly in February.
- **The unemployment rate fell to 5.5% in Q1, down from 5.8% at the end of December 2014; U-6, a broader measure of unemployment, fell to 10.9% during the first quarter.**
- **The Case-Shiller Home Price Index (as of 2/28) increased slightly to 166.8 from fourth quarter levels and is currently higher than that of pre-financial crisis levels of 150.92.**
- **Rolling 12-month seasonally adjusted CPI decreased to -0.1% from +0.8% at the end of December; Capacity Utilization declined slightly to 77.1% in March.**
- **Fed Funds rate remains at 0.25%, while the 10-year Treasury Yield finished Q1 at 1.94%.**
- **The Fed balance sheet declined slightly in Q1 2015, while the European Central Bank balance sheet increased.**
  - ECB began asset purchases of €60 billion per month.
- **S&P valuations increased in March, remaining above the 10-year and long-term averages**
  - Cyclically adjusted Shiller PE ratio is above the long-term average of 16.4x and above the 10-year average of 22.9x.
- **The U.S. Dollar continues to strengthen against a basket of major currencies as the Fed ends its quantitative easing program and the ECB ramps up its easing program.**

Market Environment – Q1 2015 Overview

		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
World Equity Benchmarks						
MSCI World	World	2.3%	6.0%	12.2%	10.0%	6.4%
		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
Domestic Equity Benchmarks						
S&P 500	Large Core	1.0%	12.7%	16.1%	14.5%	8.0%
Russell 1000	Large Core	1.6%	12.7%	16.5%	14.7%	8.3%
Russell 1000 Growth	Large Growth	3.8%	16.1%	16.3%	15.6%	9.4%
Russell 1000 Value	Large Value	-0.7%	9.3%	16.4%	13.8%	7.2%
Russell 2000	Small Core	4.3%	8.2%	16.3%	14.6%	8.8%
Russell 2000 Growth	Small Growth	6.6%	12.1%	17.7%	16.6%	10.0%
Russell 2000 Value	Small Value	2.0%	4.4%	14.8%	12.5%	7.5%
		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
International Equity Benchmarks						
MSCI EAFE	International Developed	4.9%	-0.9%	9.0%	6.2%	5.0%
S&P EPAC SmallCap	Small Cap Int'l	5.6%	-1.5%	11.4%	9.2%	7.1%
MSCI EM	Emerging Equity	2.2%	0.4%	0.3%	1.8%	8.5%
MSCI ACWI ex-US	World ex-US	3.5%	-1.0%	6.4%	4.8%	5.5%
		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
Domestic Fixed Income Benchmarks						
Barclays Aggregate	Core Bonds	1.6%	5.7%	3.1%	4.4%	4.9%
Barclays US High Yield	High Yield	2.5%	2.0%	7.5%	8.6%	8.2%
BofA ML US HY BB/B	High Yield	2.7%	3.2%	7.4%	8.4%	7.5%
CSFB Levered Loans	Bank Loans	1.3%	5.0%	5.3%	12.2%	5.0%
BofA ML US 3-Month T-Bill	Cash	0.0%	0.0%	0.1%	0.1%	1.5%
Barclays US TIPS 1-10 Yr	Inflation	1.2%	1.1%	-0.1%	2.9%	4.0%
		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
Global Fixed Income Benchmarks						
Citigroup WGBI	World Gov. Bonds	-2.5%	-5.5%	-1.6%	3.4%	4.1%
BC Global Credit	Global Bonds	-1.2%	-0.9%	2.8%	4.4%	4.4%
JPM GBI-EM Glob. Diversified	Em. Mkt. Bonds (Local)	-4.0%	-11.1%	-3.9%	0.7%	6.3%
JPM EMBI+	Em. Mkt. Bonds	1.9%	4.5%	4.0%	6.6%	8.0%
		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
Alternative Benchmarks						
DJ UBS Commodity Index	Commodity	-6.0%	-27.1%	-11.6%	-5.8%	-4.9%
DJCS HF Composite	Hedge Fund	0.6%	6.1%	2.4%	4.9%	3.1%
HFRI FoF Conservative	Fund of Funds	1.3%	6.2%	2.8%	4.6%	2.6%
Cambridge PE Lagged*	Private Equity	0.7%	11.5%	15.3%	15.4%	13.6%
NCREIF Property Index*	Real Estate	3.0%	11.8%	11.1%	12.1%	8.4%
Wilshire REIT Index	REIT	4.0%	22.7%	14.0%	15.4%	6.7%
CPI + 2%	Inflation/Real Assets	0.3%	2.0%	3.0%	3.7%	4.1%



* As of 12/31/2014

Positives

- **With Fed asset purchases coming to an end, divergence in monetary policies signals different investment environments globally**

- **ECB monetary easing begins with €60 billion in monthly asset purchases**
  - ECB commits €1.3 trillion in asset purchases in the Eurozone
  - Global risk assets respond positively
  - Negative short dated interest rates in Eurozone

- **Developed world inflation is low**
  - In U.S., CPI for all Urban Consumers on a seasonally adjusted basis was negative in Q1, driven by Energy in January

Negatives

- **Geopolitical instability continues to drive volatility**
  - Instability in the Mid-East, Eastern Europe, Greece

- **Fed rate hike uncertainty contributed to volatility in domestic markets**
  - Timing of Fed rate hike is "dependent on market conditions"

- **Europe continues to see ongoing political and economic growth challenges**
  - Negative currency impact for U.S. investors as USD appreciates

- **GDP decelerated, posting a +0.2% estimated growth rate**
  - Consumer spending decelerated, but still growing

- **Valuations remain above 10-year and long-term averages**
  - Developed Equity P/Es above median

Global Equity

- **U.S. equities advanced in the first quarter as global monetary accommodation ramps up.**
- **Small cap stocks outperformed large cap stocks during the quarter, with the Russell 2000 Index returning +4.3% and the S&P 500 Index returning +1.0%.**
- **International equities outperformed U.S. markets during the quarter, returning +3.5%, as measured by the MSCI ACWI ex-U.S. Index.**
  - Developed markets returned +4.9% as measured by the MSCI EAFE Index; Japan was the top performer returning approximately +10%.
  - Emerging markets returned +2.2% as measured by the MSCI Emerging Markets Index; India and Russia bolstered returns, with Russia returning +18%. Commodity driven markets, such as Brazil, lagged on the back of continued pressure on energy prices.

Private Equity

- **New private equity commitments totaled $83.1 billion in Q1 2015.**
  - $83.1 billion represents 23% of total PE raised in 2014 and suggests fundraising in 2015 could equal or exceed the $350 billion raised in 2014, the most prolific year for fundraising since 2007.
- **Buyout and growth equity fund deal volume in both the U.S. and Europe continues to decelerate.**
  - Buyout and growth equity funds raised $36.7 billion in the first quarter, with U.S. buyout and growth equity activity experiencing a sharp reduction in Q1.
- **Venture capital raised $11.8 billion during the quarter.**
  - At 14% of total private equity raised, commitments are just below the 10-year historic relative average and are buoyed by strong IPO and M&A environment in 2014.
- **Energy funds raised $3.2 billion during the quarter, representing 16% of capital raised.**
  - Investors are opportunistically approaching the energy market dislocation.
- **Asian private equity commitments slowed to total 8% of total funds raised, down from 10% in 2014.**
- **European commitments comprised 14% of all new PE commitments in Q1 2015**
  - 72% of European funds raised were based in the United Kingdom

Fixed Income

- **As yields fell amid declining inflation and monetary easing, global sovereign debt gained in the first quarter.**

- **The spread between 2 and 10-year rates fell 12 basis points to 1.38%; Treasury Inflation-Protected Securities, or TIPS, returned +1.4% during the quarter, as measured by the Barclays U.S. TIPS Index.**

- **The Barclays Long Duration Credit Index gained +3.1%, bolstered by declining Treasury yields.**

- **Agency mortgage-backed securities benefitted from a decrease in mortgage rates in January and March, posting a gain of +1.1% during the quarter.**

- **Investment grade credit spreads continued to widen, ending March at 129 basis points.**

- **High yield bonds returned +2.5% as spreads increased slightly to 433 basis points, up from 429 basis points.**
  - High yield markets were most significantly impacted by the decline of oil prices as Energy makes up approximately 14% of the Barclays U.S. High Yield Bond Index.

- **Emerging markets debt continued to slow in local currency, posting a -4.0% return as measured by the JP Morgan GBI-EM Global Diversified Index.**
  - Hard-currency emerging market debt trumped local currency debt, with the JP Morgan EMBI Global Diversified Index returning +2.0%.
  - After plunging at year-end, Russian debt outperformed as oil prices stabilized and geopolitical tensions cooled.
  - Brazilian debt underperformed amid disappointing growth, high inflation, and concerns around the mismanagement of the state-run oil giant Petrobras.

Real Assets / Inflation-Linked Assets

- **Massive energy market dislocation.**
  - Oil prices stabilized mid-quarter.
  - Private equity and private debt opportunities attractive.
  - Potential for public stressed/distressed credit, equity and commodity plays.
- **OPEC and Saudi Arabia have indicated a willingness to allow lower oil prices to persist in efforts to cement market share and reduce marginal supply.**
- **Select infrastructure opportunities are attractive.**
  - Target opportunistic strategies in niche sub-sectors to take advantage of market dislocations.
- **NEPC continues to believe in the long-term demand drivers in agriculture.**
  - Long-term commodity prices driven by growing emerging market demand.
- **Timber opportunity set limited, but warrants further review.**
  - 45% increase in housing starts forecasted; timber prices highly correlated

Commodities

- **Commodities continued their losing streak, with the Bloomberg Commodity Index posting a loss (-5.9%) for the third straight quarter.**
  - Volatility in commodities trumped other asset classes, including equities, bonds and the US dollar during the quarter.
  - Brent crude dropped -9.9% in January, then sharply recovered, gaining +14.8% in February, and slipped again in March, losing -12.3%, posting a -9.3% loss in Q1.

Real Estate

- **NEPC continues to be neutral on core real estate in the U.S. and remains positive on non-core real estate, that is, value-add and opportunistic strategies.**

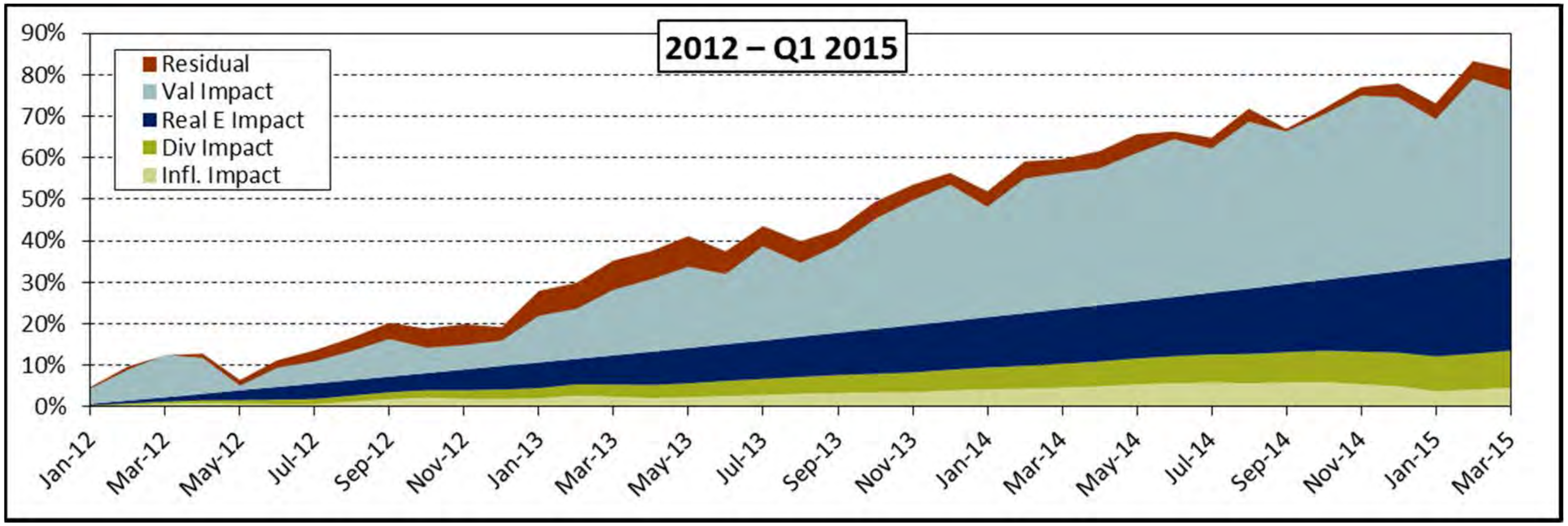
- **Within U.S. core real estate, strong fundamentals continue to be the story along with attractive income spreads relative to interest rates.**
  - The concerns for U.S. core real estate (and U.S. real estate, broadly) continue to be 1) plentiful capital that is driving up pricing, and 2) the market's expectation for higher future interest rates and their impact on capitalization rates and capital values.

- **U.S. REITs posted a strong quarter with a +4.0% return.**
  - REITs are trading at slight premiums to NAV
  - FFO multiples are up to approximately 18x, remaining considerably above the average of 12.5x since 2000.

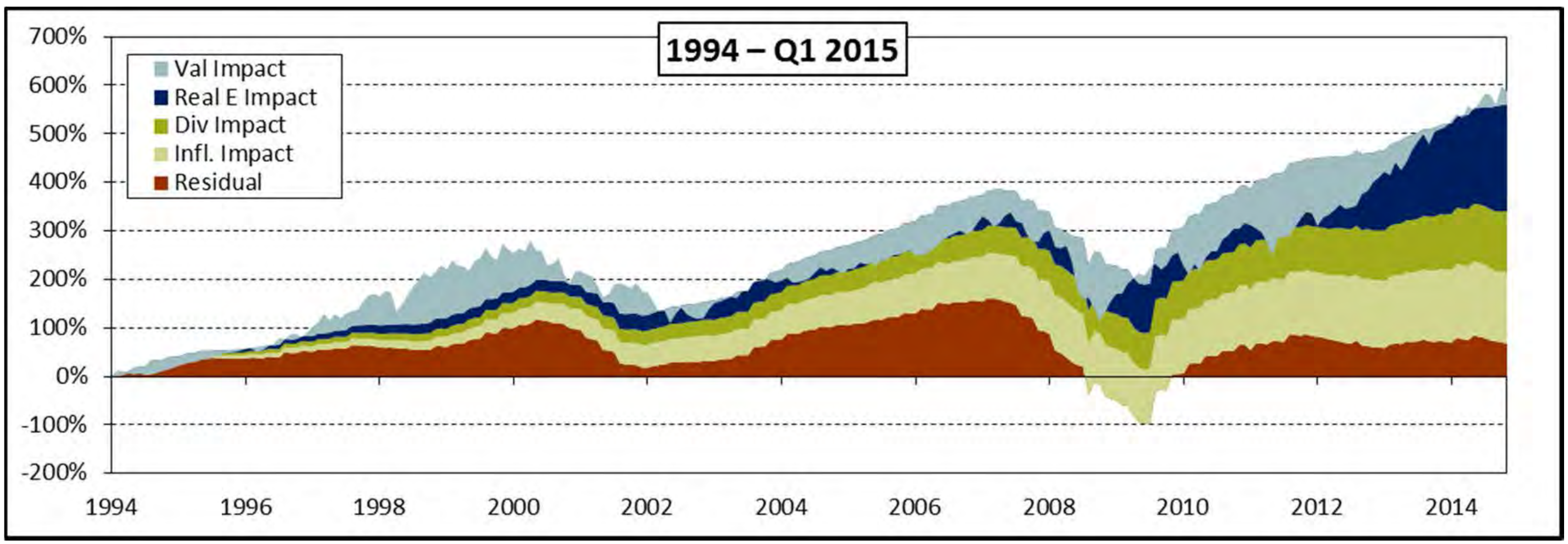
- **Overall, the non-core real estate investment environment in the U.S. is normalizing; however, select areas remain attractive.**

- **Europe is viewed as the best place for a marginal dollar of non-core real estate investment.**
  - Europe is emerging from a multi-year recession, but recovery is slow and uneven with global markets experiencing large capital inflows.
  - Banks in EU are still overleveraged and have significant real estate exposure to jettison.

Building Blocks for U.S. Equities

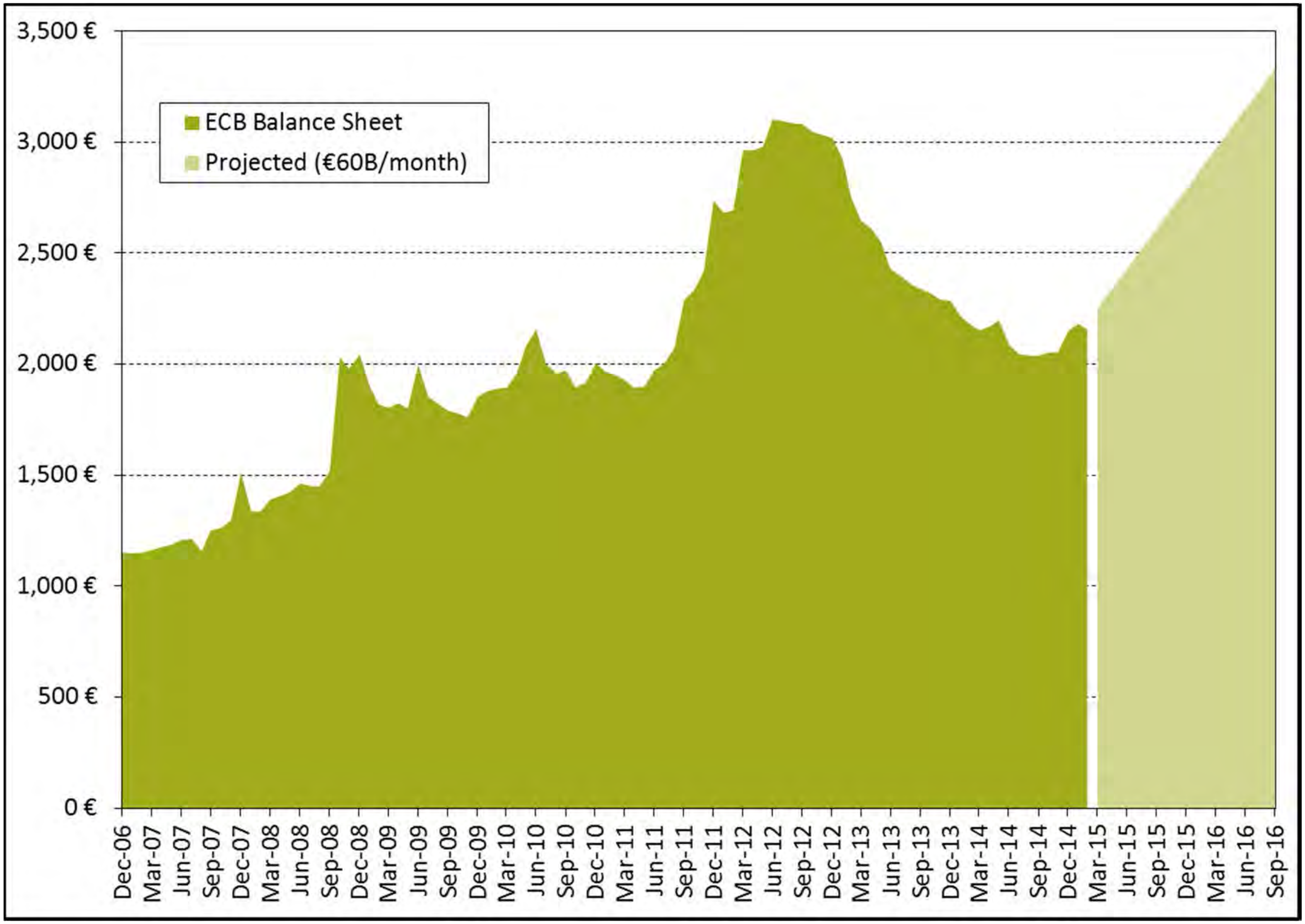


Source: Bloomberg, NEPC

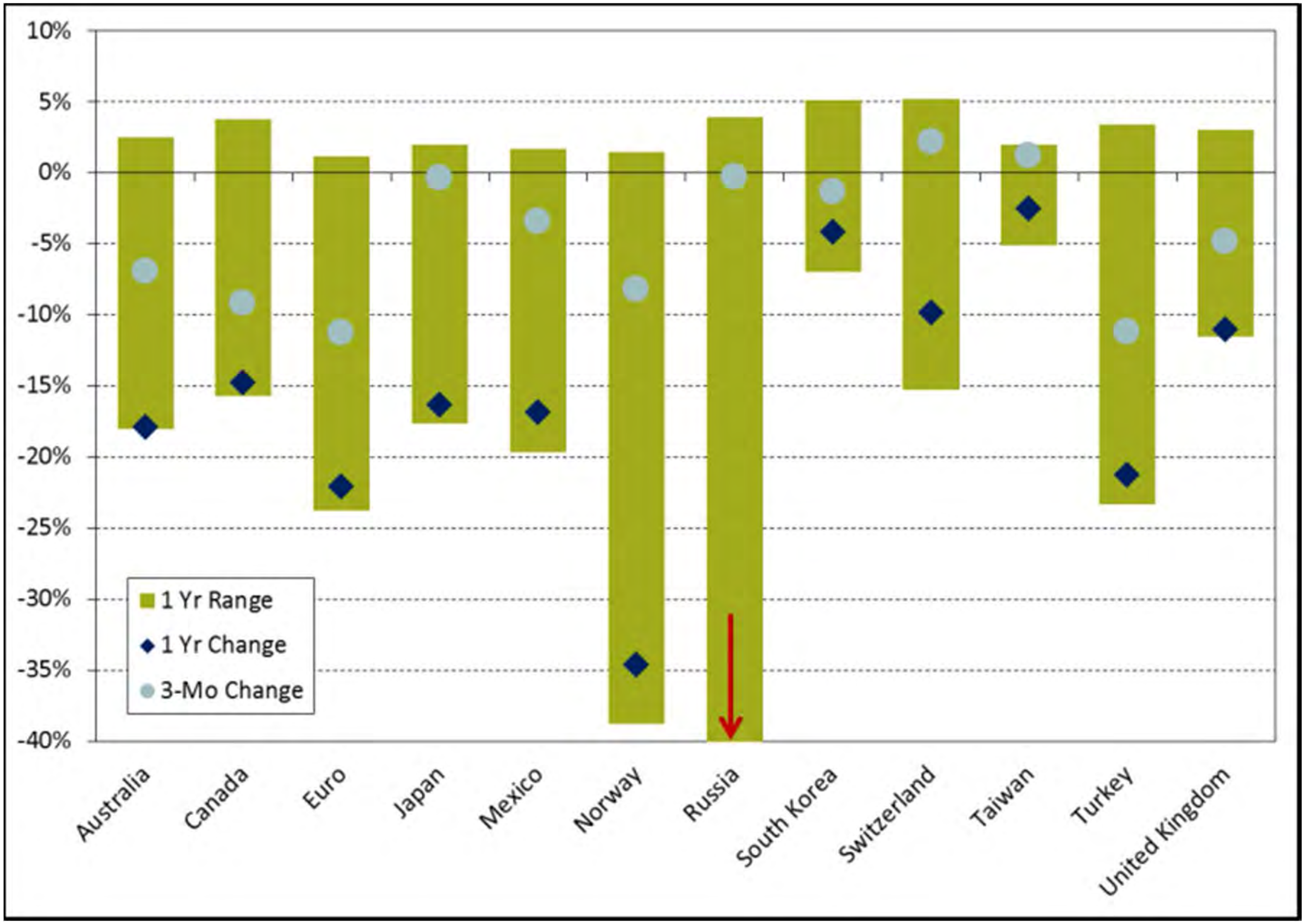


Source: Bloomberg, NEPC

Launch of Quantitative Easing in Eurozone is a New Catalyst for International Equities

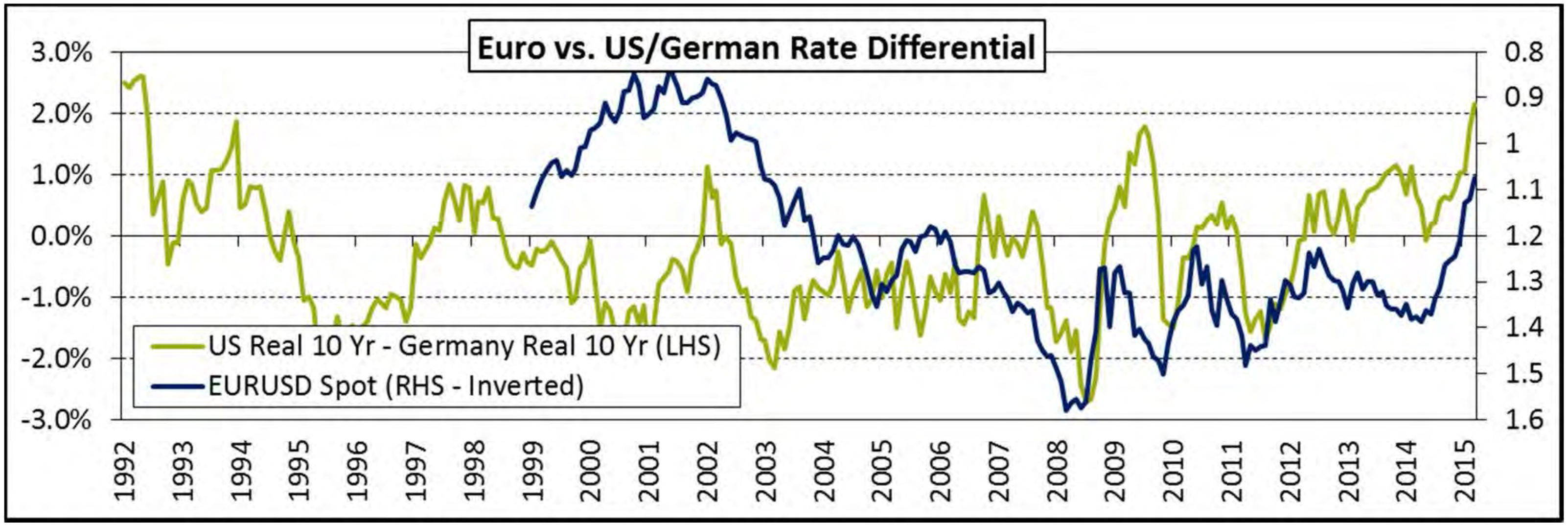


Currencies Have Been Volatile (and mostly negative versus the US Dollar)

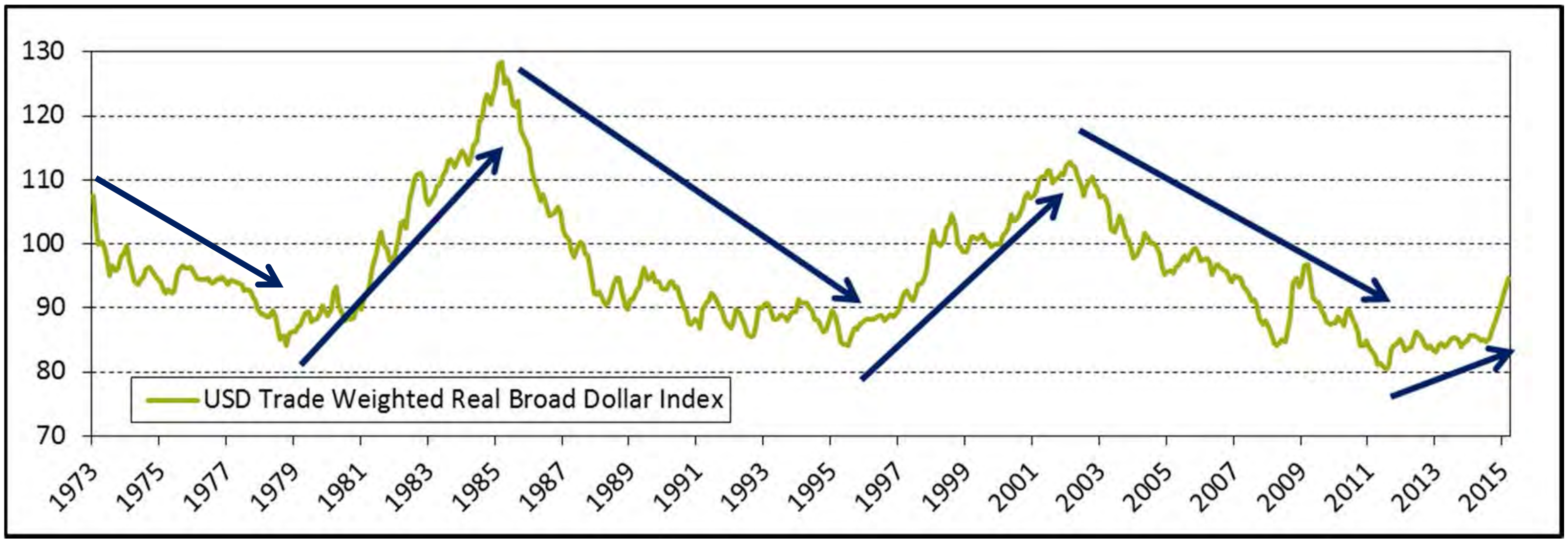


Source: Bloomberg

Currency Pressure Remains; Historic Movements Exhibit Persistence

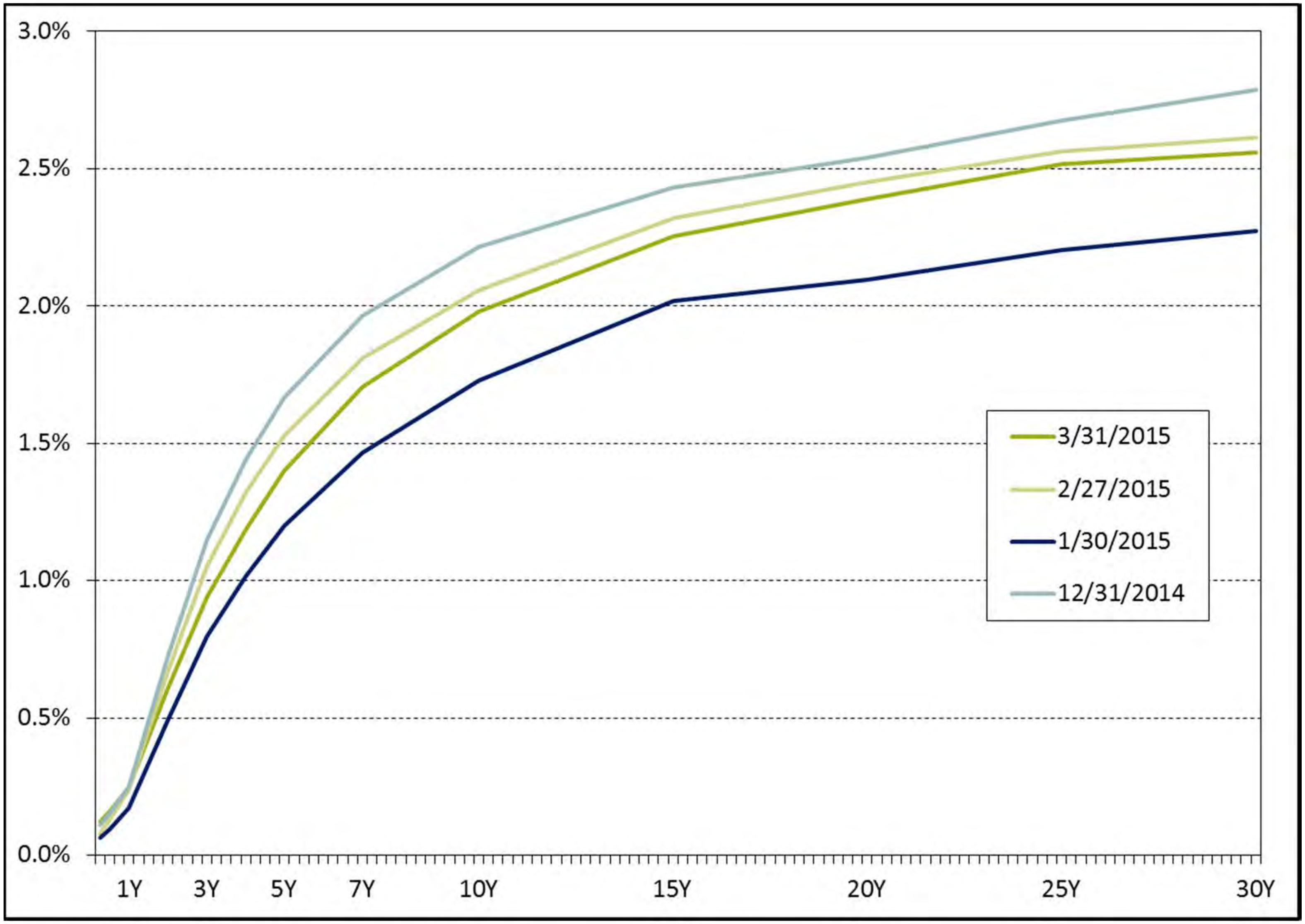


Source: Bloomberg



Source: Bloomberg

Treasury Curve Has Been in Flux - Seesawing in the First Quarter



Source: Bloomberg

Market Outlook and Recommendations

- **Be judicious with risk**
  - Avoid chasing risk for only marginal return enhancements
  - Less liquid opportunities may provide the best risk-adjusted approach, but liquidity needs should be incorporated (e.g., substituting direct lending for high yield)
- **Catalysts are present to drive international equity markets above pre-financial crisis highs**
  - Encourage equal exposure to international developed and U.S. equities
  - If currency hedged, encourage larger international developed equity exposure relative to U.S. equities
- **Question the "traditional" approach; different investment environments require different perspectives of risk and return**
  - An expected low return environment may require a fresh perspective
  - Continue to remove traditional portfolio constraints by adding active managers with skill to exploit inefficiencies within and across asset classes (e.g., flexible global equity, global asset allocation, absolute return fixed income)
- **Rethink fixed income portfolio structure in light of current market environment**
  - Use of an unconstrained/multi-sector fixed income portfolio may provide sound diversification and enhanced liquidity
  - Examine if alternatives are available to traditional portfolio positions (e.g., combining cash and long treasuries vs. holding core bond portfolio)

NEPC Updates

First Quarter 2015

Highlights of First Quarter Happenings at NEPC

NEPC Research

Recent White Papers Posted

- *Six Years Later: A Time for Moderation? NEPC's 2015 Asset Allocation (January 2015)* - NEPC's Asset Allocation Committee
- *A Primer on US Equity REITs and Their Role in an Institutional Investment Portfolio (April 2015)* - Sean Ruhmann, Director of Real Assets Research; Tim Bruce, Director of Traditional Research; Matt Ritter, Research Analyst, Real Assets Research; Larissa Davy, Research Associate, Traditional Research - The NEPC research paper provides an overview of US REITs and examines their place in institutional portfolios.

Professional Staff Updates

- We are also pleased to announce that Aarish Patell has joined NEPC as a Research Consultant located in our Boston, MA office. Aarish will be focusing on private markets research.
- NEPC has also added two new Research Analysts to our hedge fund research team, Christian Pieri and Victoria Margosian.

NEPC Client Recognitions

- We are immensely gratified to consistently achieve your favorable client satisfaction ratings in relation to our peers. Last year, you ranked NEPC #1 among the 10 largest firms in the investment consulting business, as measured by the Greenwich Quality Index (GQI). We remain the only firm among the 10 largest investment consultancies with rankings in the top three in 10 of the last 11 years, according to Greenwich Associates' annual survey of over 1,000 large plan sponsors regarding their investment consulting relationships.[1]
- Orange County Employees' Retirement System has won the Government Finance Officers Association's Award for Excellence in Government Finance, for its investment fee transparency and management initiatives.

Upcoming Events

- NEPC's 20th Annual Client Conference – May 19-20, 2015 in Boston at the Boston Convention & Exhibition Center (BCEC)
- Headline Speakers:
  - Liz Ann Sonders, Senior Vice President, Chair of the Investment Committee, Windhaven Investment Management, Inc.
  - Don Yaeger, Sports Journalist
  - Rick Rieder, Chief Investment Officer, Fundamental Fixed Income, BlackRock
- Register at www.nepc.com

[1]Source: Greenwich Associates, 2014 Evaluations by U.S. Institutional Investors.
Greenwich Associates is an independent research firm. Its rankings do not represent an endorsement of NEPC. Past performance is no guarantee of future results.

Total Fund Performance

Note: All of the data shown on the following pages is as of March 31, 2015 and reflects the deduction of investment manager fees, unless otherwise noted.

Total Fund Performance Summary (Net)

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank	Return	Since
Total Fund	**$4,365,835,058**	**2.0%**	**73**	**1.8%**	**60**	**6.2%**	**41**	**10.3%**	**16**	**10.1%**	**9**	**6.8%**	**29**	**8.3%**	**Apr-94**
Policy Index		*2.0%*	*65*	*3.1%*	*20*	*7.1%*	*18*	*10.1%*	*25*	*9.7%*	*30*	*6.9%*	*25*	*8.2%*	*Apr-94*
Allocation Index		*1.8%*	*80*	*2.5%*	*41*	*6.9%*	*24*	*9.5%*	*39*	*9.2%*	*45*	*6.6%*	*43*	*--*	*Apr-94*
InvestorForce Public DB > $1B Net Median		*2.2%*		*2.2%*		*5.6%*		*9.3%*		*9.1%*		*6.4%*		*7.8%*	*Apr-94*

For the one-year period ending March 31, 2015, the Fund produced a net investment gain of $274.6 million, which includes a net investment gain of $89.2 million in the quarter. Assets increased from $4.12 billion one year ago to $4.37 billion on March 31, 2015 with $31.2 million in net distributions during the year.

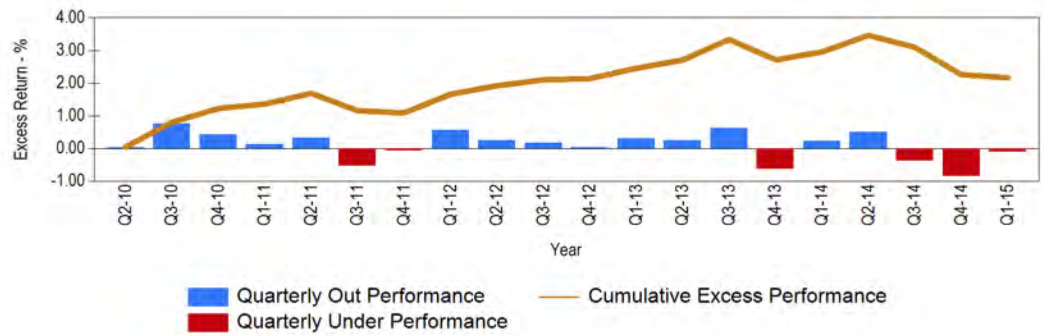
For the one-year period ending March 31, 2015, the Fund returned 6.2%, trailing the policy index by 0.9% and ranking in the 41st percentile of the InvestorForce Public Funds > $1 Billion Universe (Net of Fees).

For the three-year period ending March 31, 2015, the Fund returned 10.3%, outperforming the policy index by 0.2% and ranking in the 16th percentile of its peers. The Fund's volatility, as measured by standard deviation, ranked in the 71st percentile of its peers, and the risk-adjusted return, or Sharpe Ratio, ranks in the 39th percentile. This means that the Fund has earned more return per unit of risk taken than 61% of its peers.

For the five-year period ending March 31, 2015, the Fund returned 10.1%, outperforming the policy index by 0.4% and ranking in the 9th percentile of its peers. The Fund's volatility ranks in the bottom quartile of its peers over this period, with the Fund's Sharpe Ratio being slightly below the median Fund in the universe.

*Please see the appendix for additional performance disclosures.

Quarterly and Cumulative Excess Performance



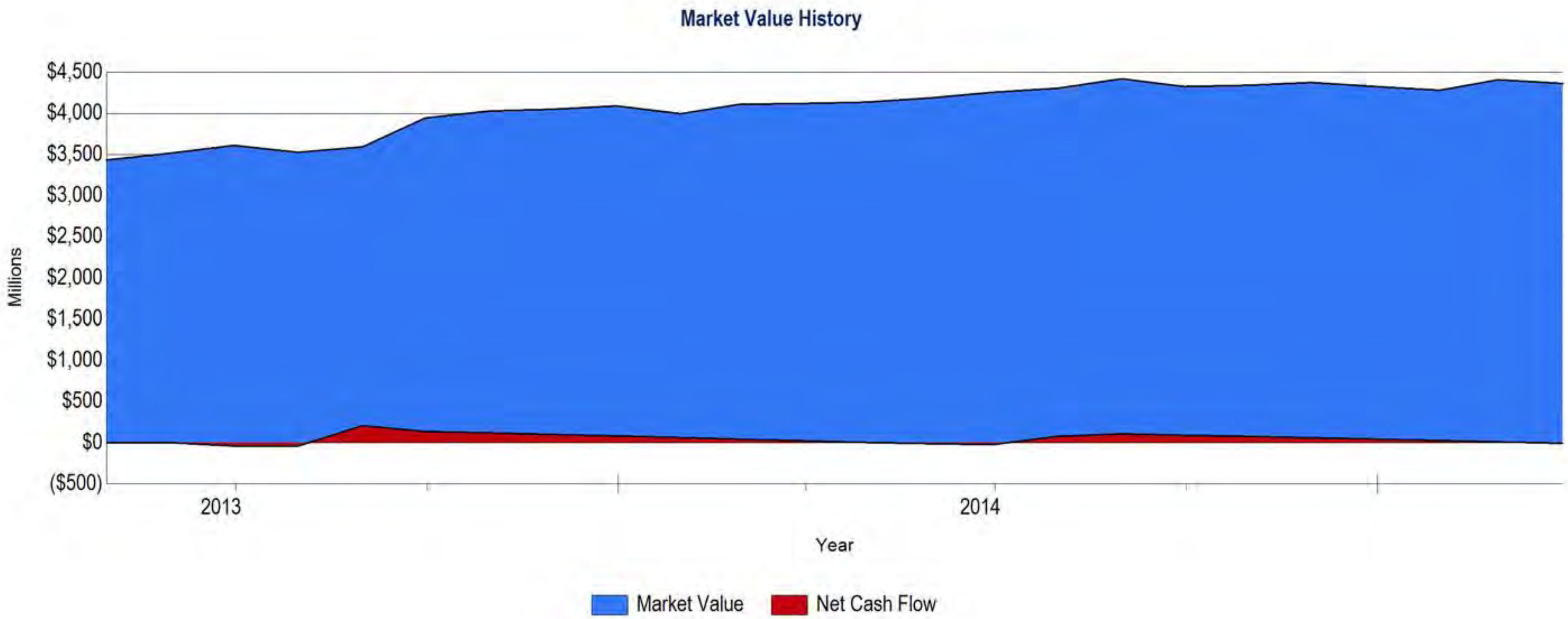
3 Years Ending March 31, 2015

	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Total Fund	10.3%	16	6.5%	71	1.6	39	2.3	28
Policy Index	10.1%	25	6.4%	66	1.6	40	2.2	45
InvestorForce Public DB > $1B Net Median	9.3%	--	6.1%	--	1.5	--	2.1	--

5 Years Ending March 31, 2015

	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Rank	Sortino Ratio RF	Rank
Total Fund	10.1%	9	9.1%	84	1.1	52	1.7	48
Policy Index	9.7%	30	8.9%	75	1.1	58	1.6	49
InvestorForce Public DB > $1B Net Median	9.1%	--	7.9%	--	1.1	--	1.6	--

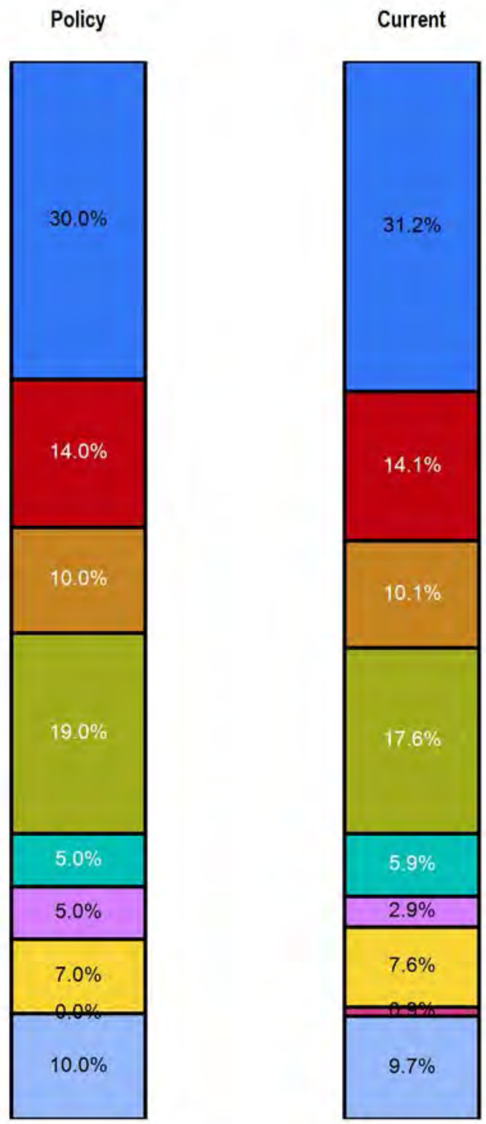
Total Fund Asset Growth Summary



Summary of Cash Flows

Sources of Portfolio Growth	First Quarter	Fiscal Year-To-Date	One Year
Beginning Market Value	$4,328,232,756	$4,258,489,574	$4,122,353,883
Net Additions/Withdrawals	-$51,572,390	$15,360,038	-$31,158,326
Investment Earnings	$89,174,692	$91,985,446	$274,639,500
Ending Market Value	$4,365,835,058	$4,365,835,058	$4,365,835,058

Total Fund Asset Allocation vs. Policy Targets



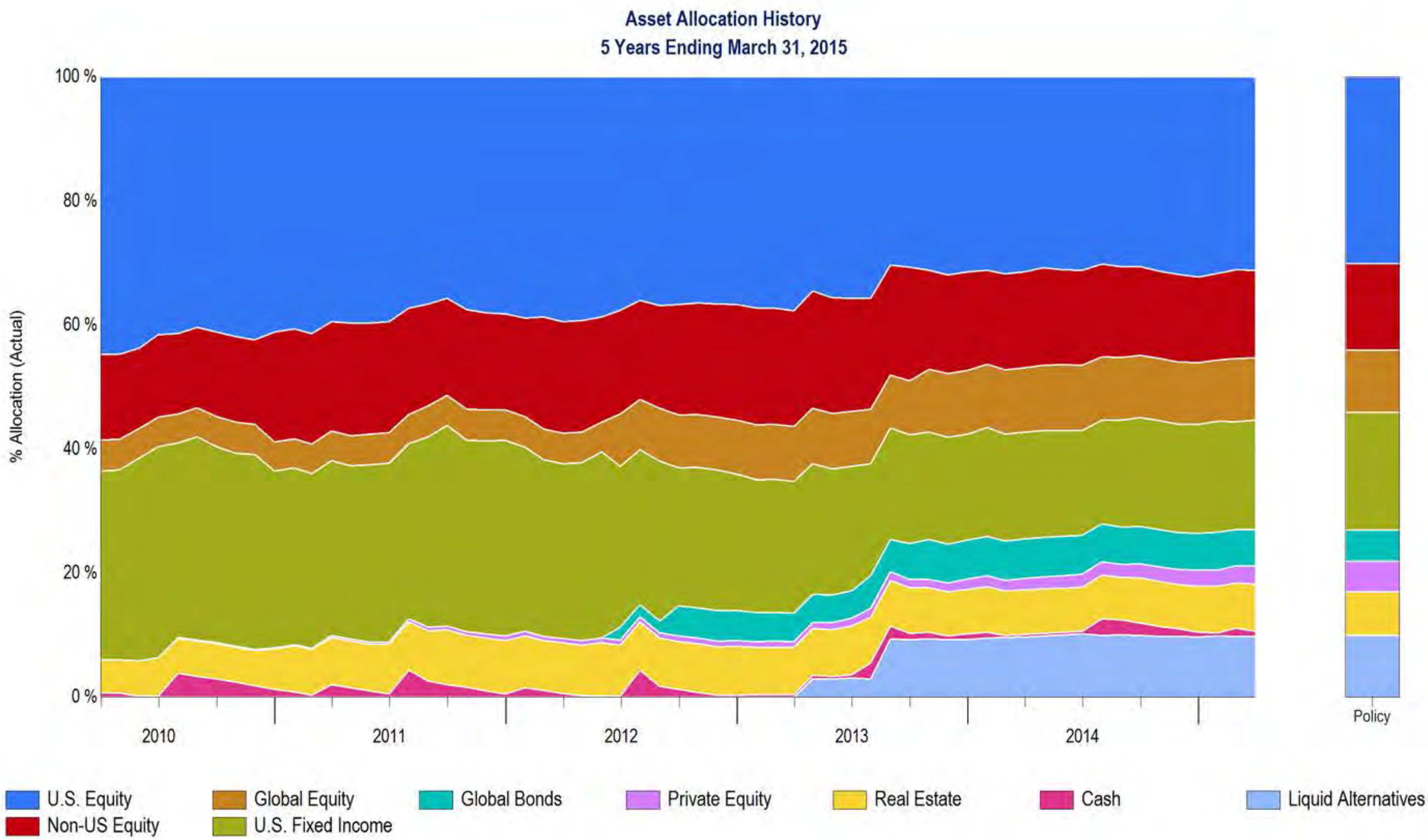
Asset Allocation vs. Target

	Current	Current	Policy	Difference *	Policy Range	Within Range
U.S. Equity	$1,360,896,365	31.2%	30.0%	1.2%	26.0% - 34.0%	**Yes**
Non-US Equity	$617,229,438	14.1%	14.0%	0.1%	11.0% - 17.0%	**Yes**
Global Equity	$440,946,810	10.1%	10.0%	0.1%	7.0% - 13.0%	**Yes**
U.S. Fixed Income	$767,452,669	17.6%	19.0%	-1.4%	15.0% - 23.0%	**Yes**
Global Bonds	$258,135,292	5.9%	5.0%	0.9%	3.0% - 7.0%	**Yes**
Private Equity	$126,461,444	2.9%	5.0%	-2.1%	3.0% - 7.0%	**No**
Real Estate	$330,958,239	7.6%	7.0%	0.6%	4.0% - 10.0%	**Yes**
Cash	$38,833,449	0.9%	0.0%	0.9%	0.0% - 3.0%	**Yes**
Liquid Alternatives	$424,921,353	9.7%	10.0%	-0.3%	7.0% - 13.0%	**Yes**
Total	**$4,365,835,058**	**100.0%**	**100.0%**			

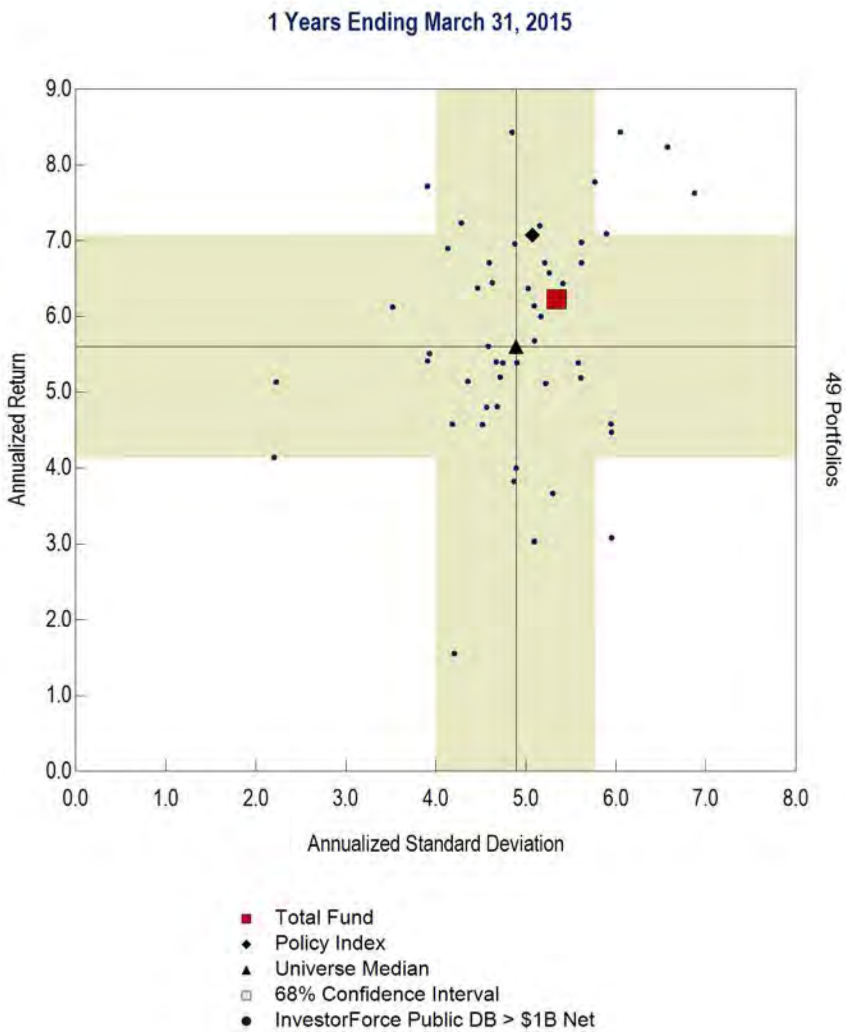
*Difference between Policy and Current Allocation

Cash represents assets in Clifton Group Overlay

Total Fund Allocation History



Total Fund Risk/Return



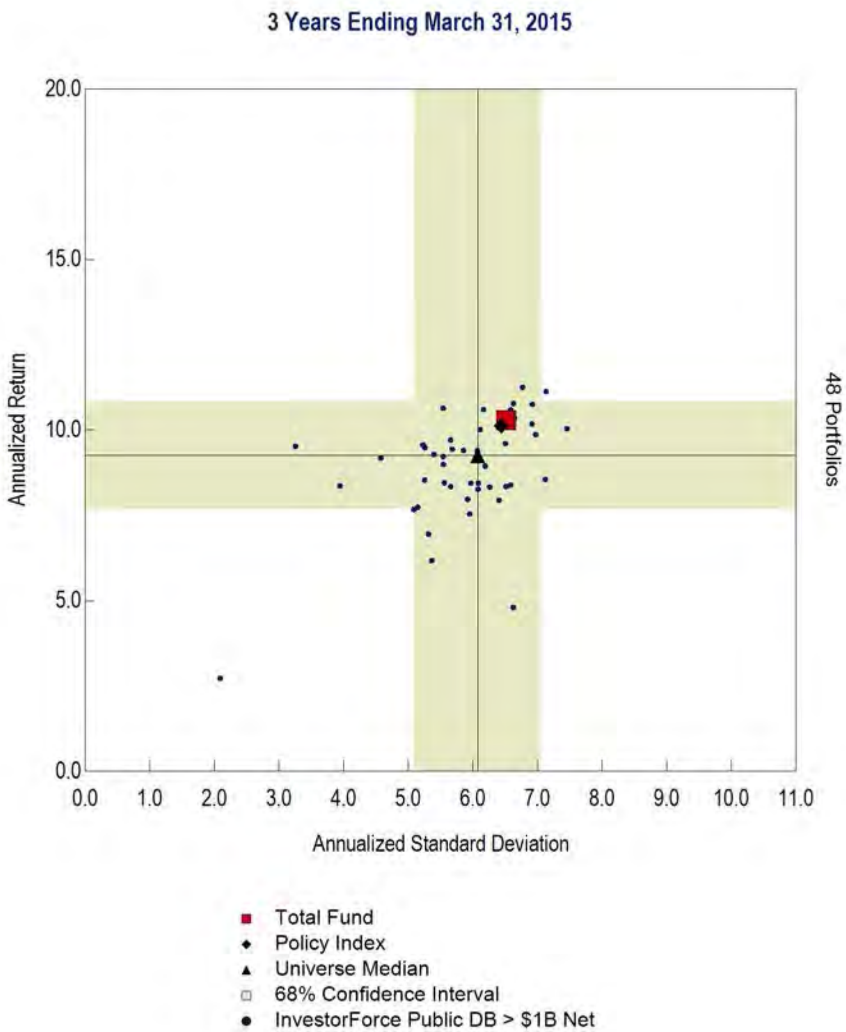
1 Years Ending March 31, 2015

	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Total Fund	6.2%	41	5.3%	74
Policy Index	7.1%	18	5.1%	56
InvestorForce Public DB > $1B Net Median	5.6%	--	4.9%	--

1 Years Ending March 31, 2015

	Sharpe Ratio	Rank	Sortino Ratio	Rank
Total Fund	1.2	56	3.6	7
Policy Index	1.4	26	3.7	5
InvestorForce Public DB > $1B Net Median	1.2	--	2.2	--

Total Fund Risk/Return



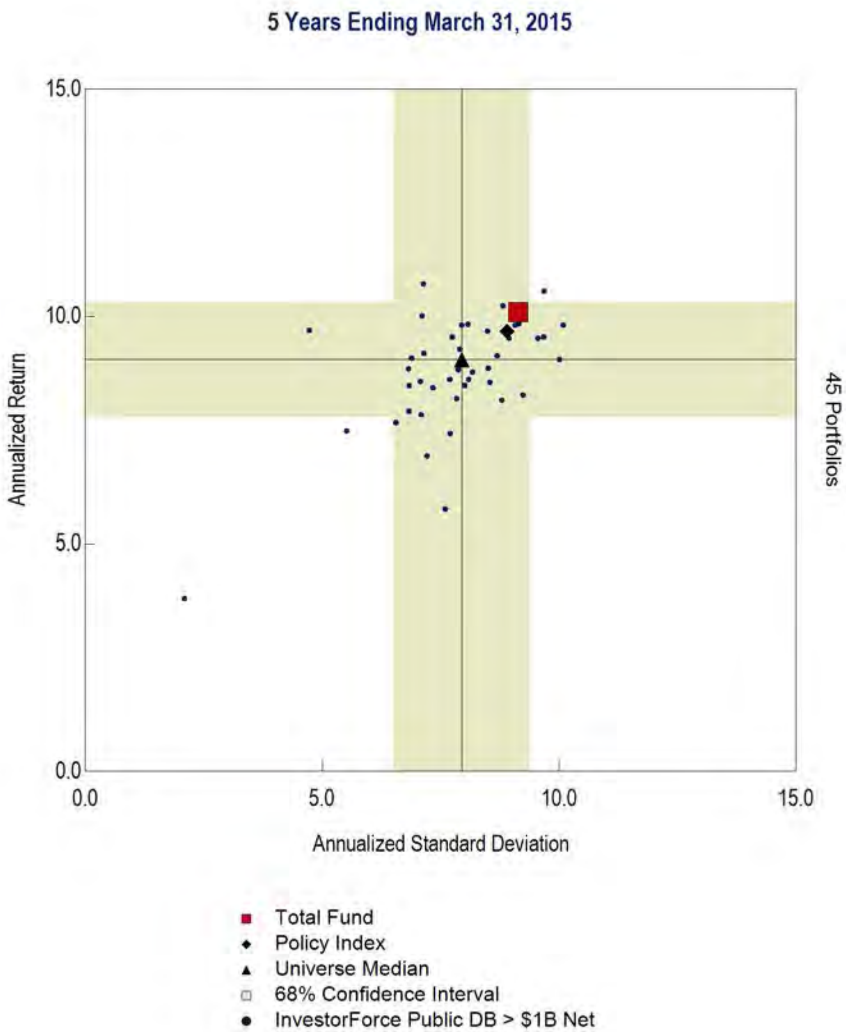
3 Years Ending March 31, 2015

	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Total Fund	10.3%	16	6.5%	71
Policy Index	10.1%	25	6.4%	66
InvestorForce Public DB > $1B Net Median	9.3%	--	6.1%	--

3 Years Ending March 31, 2015

	Sharpe Ratio	Rank	Sortino Ratio	Rank
Total Fund	1.6	39	2.4	28
Policy Index	1.6	40	2.2	45
InvestorForce Public DB > $1B Net Median	1.5	--	2.1	--

Total Fund Risk/Return



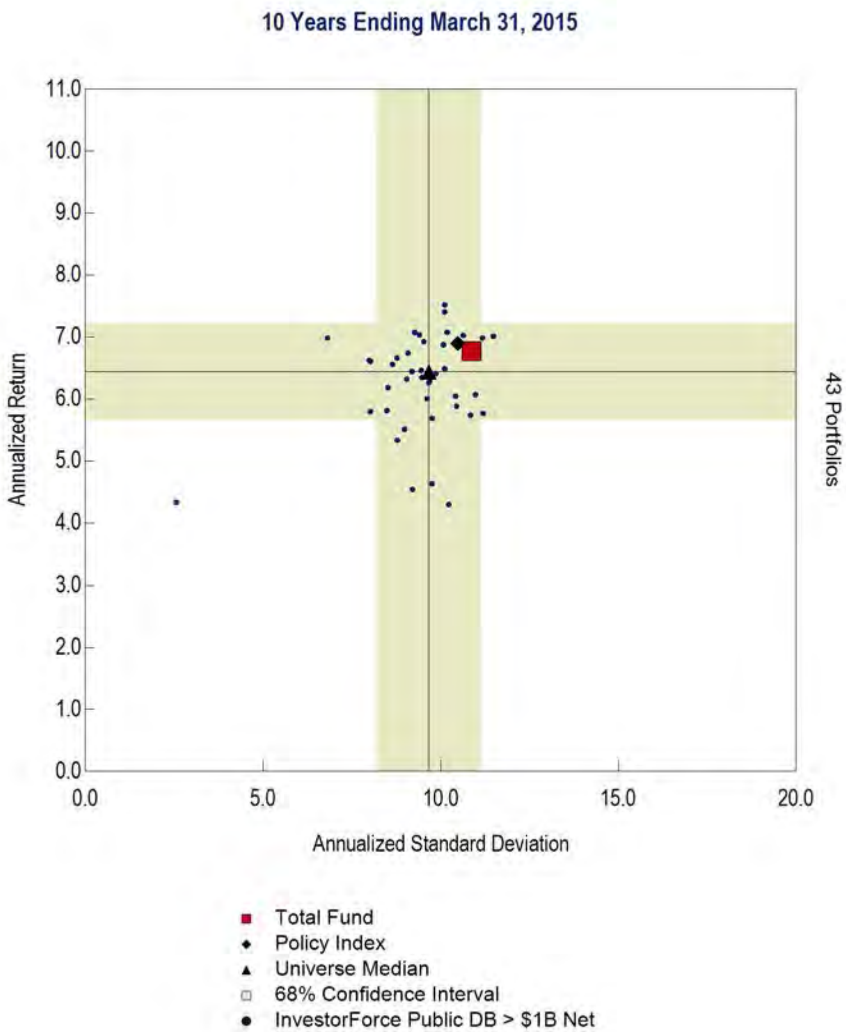
5 Years Ending March 31, 2015

	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Total Fund	10.1%	9	9.1%	84
Policy Index	9.7%	30	8.9%	75
InvestorForce Public DB > $1B Net Median	9.1%	--	7.9%	--

5 Years Ending March 31, 2015

	Sharpe Ratio	Rank	Sortino Ratio	Rank
Total Fund	1.1	52	1.7	48
Policy Index	1.1	58	1.7	49
InvestorForce Public DB > $1B Net Median	1.1	--	1.7	--

Total Fund Risk/Return



10 Years Ending March 31, 2015

	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Total Fund	6.8%	29	10.9%	89
Policy Index	6.9%	25	10.5%	82
InvestorForce Public DB > $1B Net Median	6.4%	--	9.7%	--

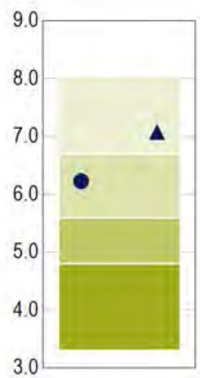
10 Years Ending March 31, 2015

	Sharpe Ratio	Rank	Sortino Ratio	Rank
Total Fund	0.5	67	0.7	64
Policy Index	0.5	49	0.8	45
InvestorForce Public DB > $1B Net Median	0.5	--	0.8	--

Total Fund Risk Statistics vs. Peer Universe

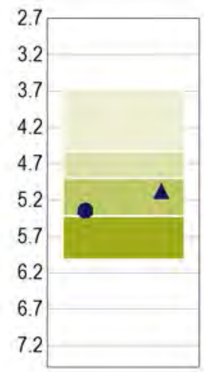
Total Fund vs. InvestorForce Public DB > $1B Net
1 Year

Anlzd Return



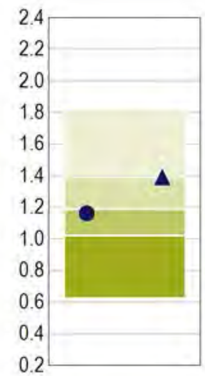
● Total Fund	
Value	6.2
%tile	41
▲ Policy Index	
Value	7.1
%tile	18
Universe	
5th %tile	8.1
25th %tile	6.7
Median	5.6
75th %tile	4.8
95th %tile	3.3

Anlzd Standard Deviation



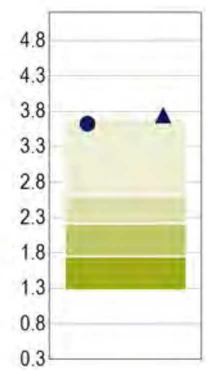
● Total Fund	
Value	5.3
%tile	74
▲ Policy Index	
Value	5.1
%tile	56
Universe	
5th %tile	3.7
25th %tile	4.5
Median	4.9
75th %tile	5.4
95th %tile	6.0

Sharpe Ratio



● Total Fund	
Value	1.2
%tile	56
▲ Policy Index	
Value	1.4
%tile	26
Universe	
5th %tile	1.8
25th %tile	1.4
Median	1.2
75th %tile	1.0
95th %tile	0.6

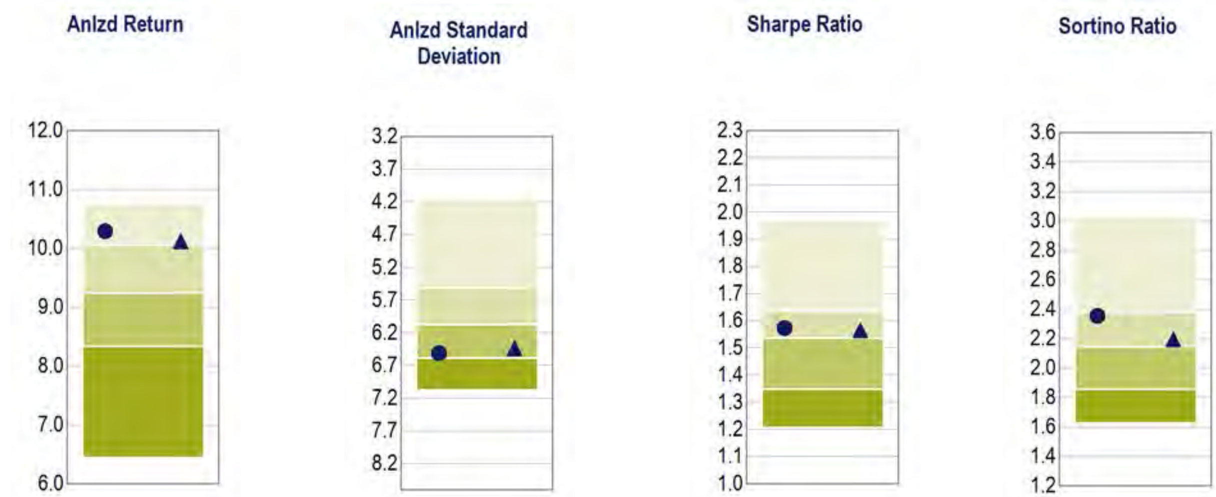
Sortino Ratio



● Total Fund	
Value	3.6
%tile	7
▲ Policy Index	
Value	3.7
%tile	5
Universe	
5th %tile	3.7
25th %tile	2.6
Median	2.2
75th %tile	1.8
95th %tile	1.3

Total Fund Risk Statistics vs. Peer Universe

Total Fund vs. InvestorForce Public DB > $1B Net
3 Years

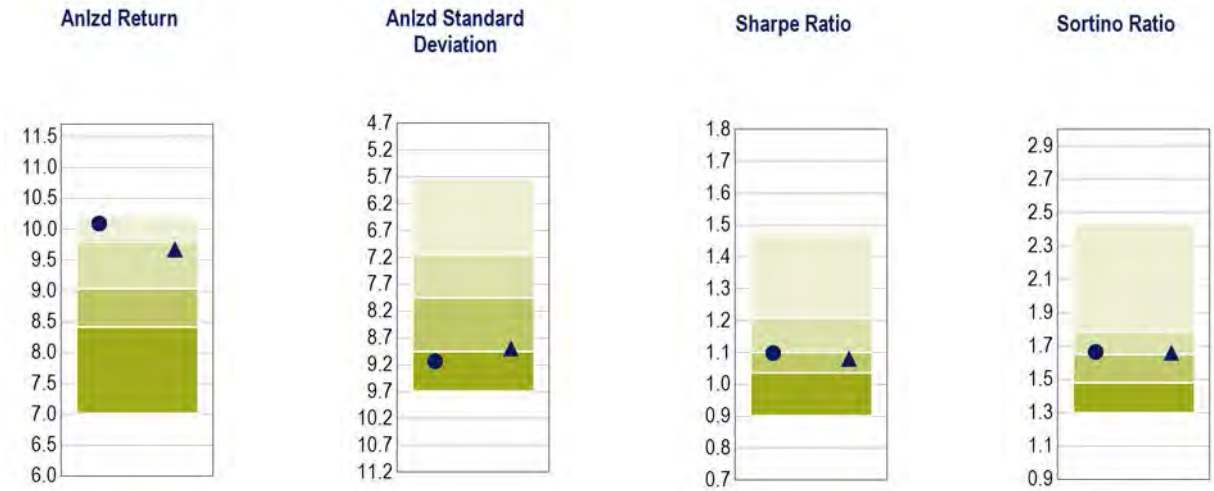


	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Sortino Ratio
● Total Fund				
Value	10.3	6.5	1.6	2.4
%tile	16	71	39	28
▲ Policy Index				
Value	10.1	6.4	1.6	2.2
%tile	25	66	40	45
Universe				
5th %tile	10.8	4.2	2.0	3.0
25th %tile	10.1	5.5	1.6	2.4
Median	9.3	6.1	1.5	2.1
75th %tile	8.3	6.6	1.3	1.9
95th %tile	6.4	7.1	1.2	1.6

Ventura County Employees' Retirement Association

Total Fund Risk Statistics vs. Peer Universe

Total Fund vs. InvestorForce Public DB > $1B Net
5 Years

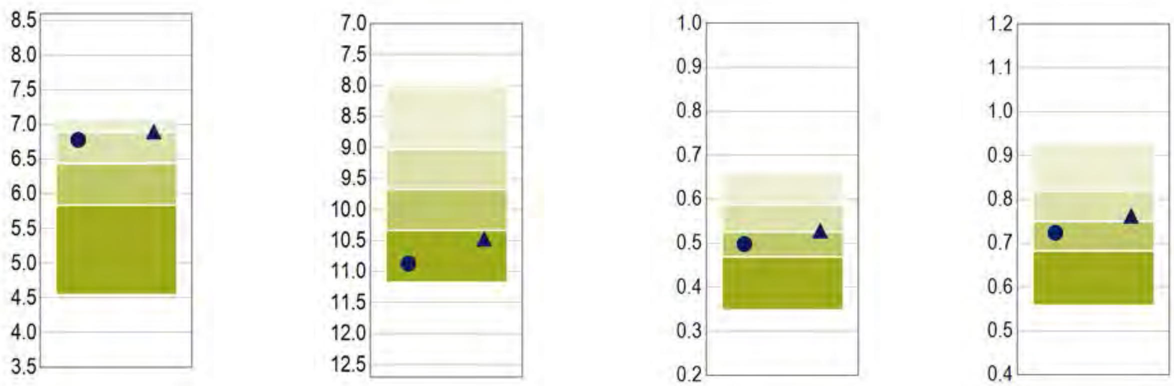


	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Sortino Ratio
● Total Fund				
Value	10.1	9.1	1.1	1.7
%tile	9	84	52	48
▲ Policy Index				
Value	9.7	8.9	1.1	1.7
%tile	30	75	58	49
Universe				
5th %tile	10.2	5.7	1.5	2.4
25th %tile	9.8	7.1	1.2	1.8
Median	9.1	7.9	1.1	1.7
75th %tile	8.4	8.9	1.0	1.5
95th %tile	7.0	9.7	0.9	1.3

Total Fund Risk Statistics vs. Peer Universe

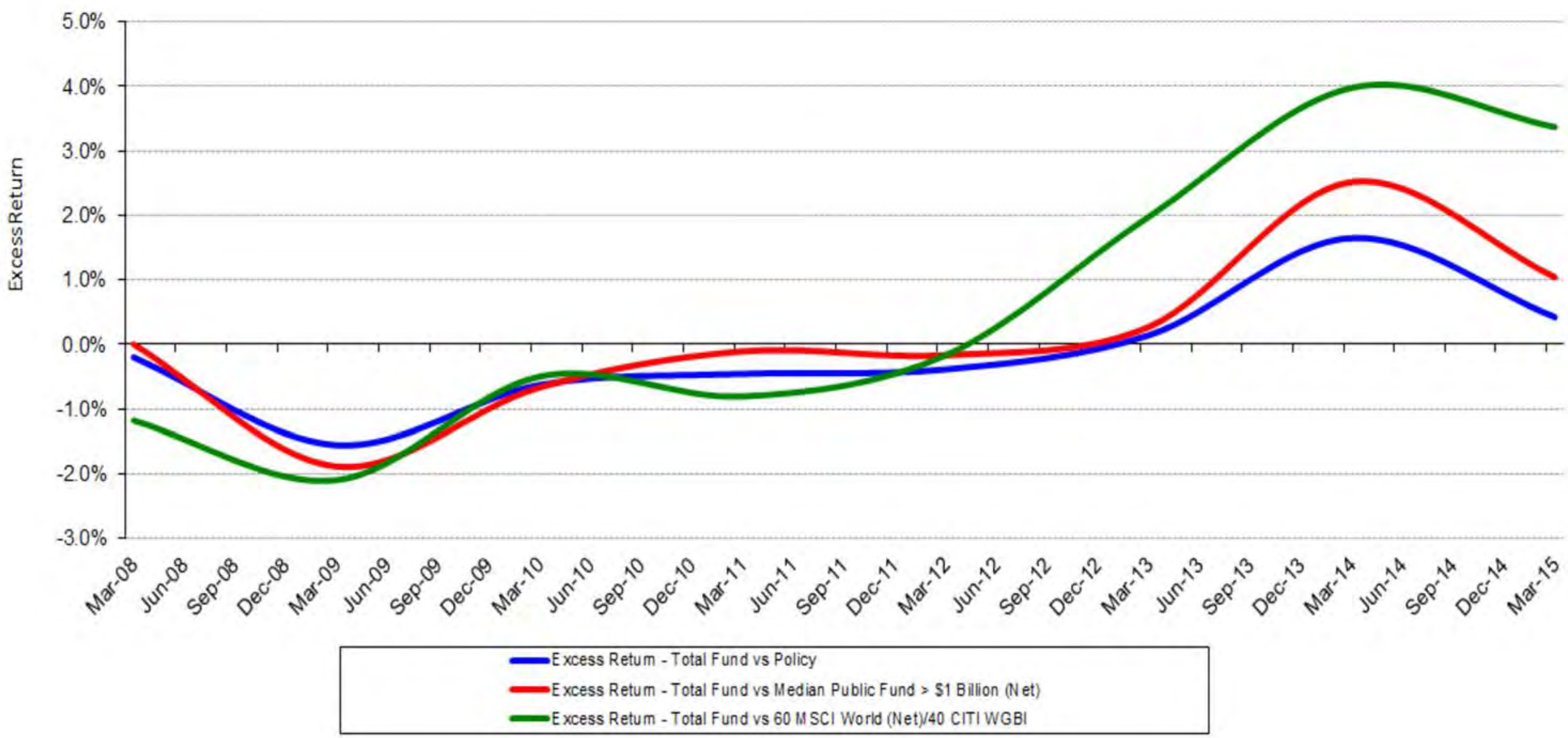
Total Fund vs. InvestorForce Public DB > $1B Net
10 Years

Anlzd Return | Anlzd Standard Deviation | Sharpe Ratio | Sortino Ratio

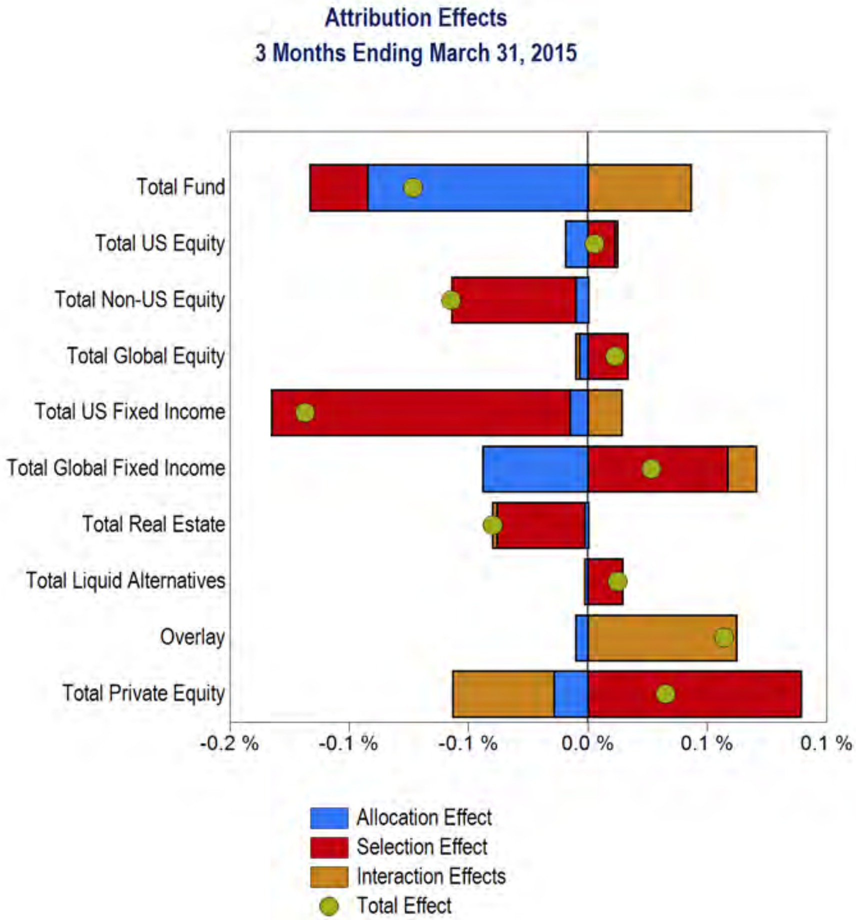


	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Sortino Ratio
● Total Fund				
Value	6.8	10.9	0.5	0.7
%tile	29	89	67	64
▲ Policy Index				
Value	6.9	10.5	0.5	0.8
%tile	25	82	49	45
Universe				
5th %tile	7.1	8.0	0.7	0.9
25th %tile	6.9	9.0	0.6	0.8
Median	6.4	9.7	0.5	0.8
75th %tile	5.8	10.3	0.5	0.7
95th %tile	4.5	11.2	0.4	0.6

Rolling 5 Year Excess Returns



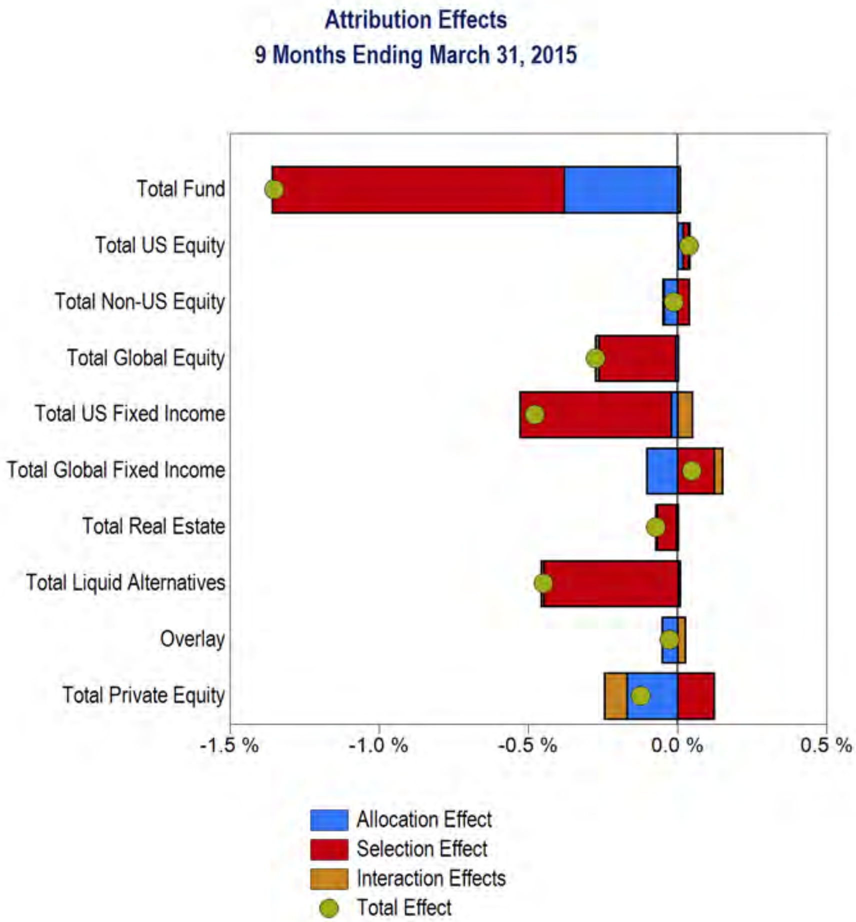
Total Fund Attribution Analysis



Attribution Summary
3 Months Ending March 31, 2015

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total US Equity	1.9%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Non-US Equity	3.1%	3.5%	-0.4%	-0.1%	0.0%	0.0%	-0.1%
Total Global Equity	2.5%	2.3%	0.2%	0.0%	0.0%	0.0%	0.0%
Total US Fixed Income	1.0%	1.6%	-0.6%	-0.1%	0.0%	0.0%	-0.1%
Total Global Fixed Income	-0.8%	-1.9%	1.1%	0.1%	0.0%	0.0%	0.0%
Total Real Estate	2.9%	3.4%	-0.5%	0.0%	0.0%	0.0%	0.0%
Total Liquid Alternatives	1.7%	1.5%	0.2%	0.0%	0.0%	0.0%	0.0%
Overlay	3.4%	0.0%	3.3%	0.0%	0.0%	0.1%	0.1%
Total Private Equity	4.5%	2.6%	1.9%	0.1%	0.0%	0.0%	0.0%
Total	**2.0%**	**2.1%**	**-0.1%**	**0.0%**	**-0.1%**	**0.0%**	**-0.1%**

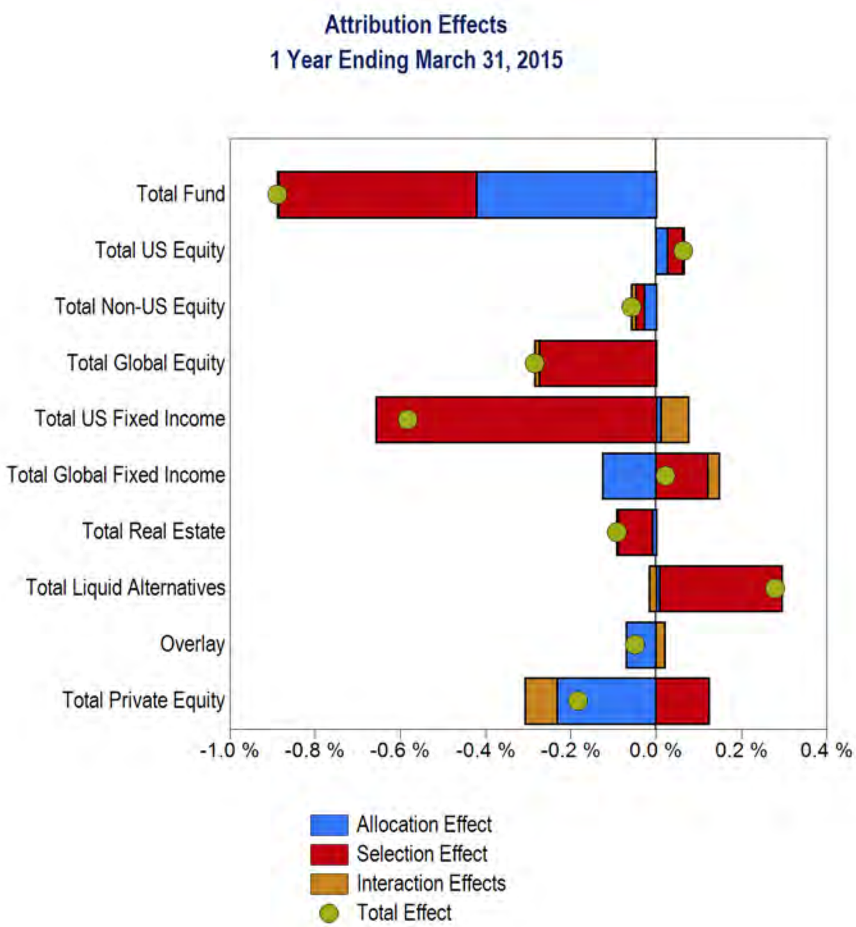
Total Fund Attribution Analysis



Attribution Summary
9 Months Ending March 31, 2015

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total US Equity	7.1%	7.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Total Non-US Equity	-5.5%	-5.8%	0.3%	0.0%	0.0%	0.0%	0.0%
Total Global Equity	-2.2%	0.4%	-2.5%	-0.3%	0.0%	0.0%	-0.3%
Total US Fixed Income	1.0%	3.6%	-2.6%	-0.5%	0.0%	0.0%	-0.5%
Total Global Fixed Income	-3.7%	-6.0%	2.3%	0.1%	-0.1%	0.0%	0.0%
Total Real Estate	9.3%	10.2%	-1.0%	-0.1%	0.0%	0.0%	-0.1%
Total Liquid Alternatives	-2.5%	2.0%	-4.6%	-0.4%	0.0%	0.0%	-0.4%
Overlay	5.1%	0.0%	5.1%	0.0%	-0.1%	0.0%	0.0%
Total Private Equity	12.3%	9.4%	2.8%	0.1%	-0.2%	-0.1%	-0.1%
Total	**1.8%**	**3.1%**	**-1.4%**	**-1.0%**	**-0.4%**	**0.0%**	**-1.4%**

Total Fund Attribution Analysis



Attribution Summary
1 Year Ending March 31, 2015

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Total US Equity	12.3%	12.2%	0.1%	0.0%	0.0%	0.0%	0.1%
Total Non-US Equity	-1.1%	-1.0%	-0.1%	0.0%	0.0%	0.0%	-0.1%
Total Global Equity	2.7%	5.4%	-2.7%	-0.3%	0.0%	0.0%	-0.3%
Total US Fixed Income	2.4%	5.7%	-3.3%	-0.7%	0.0%	0.1%	-0.6%
Total Global Fixed Income	-1.4%	-3.7%	2.2%	0.1%	-0.1%	0.0%	0.0%
Total Real Estate	12.3%	13.4%	-1.2%	-0.1%	0.0%	0.0%	-0.1%
Total Liquid Alternatives	6.5%	3.9%	2.6%	0.3%	0.0%	0.0%	0.3%
Overlay	2.5%	0.0%	2.4%	0.0%	-0.1%	0.0%	0.0%
Total Private Equity	18.5%	15.6%	2.9%	0.1%	-0.2%	-0.1%	-0.2%
Total	**6.2%**	**7.1%**	**-0.9%**	**-0.5%**	**-0.4%**	**0.0%**	**-0.9%**

Total Fund Risk Statistics

1 Year Ending March 31, 2015

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Tracking Error	Rank	Info Ratio	Rank	Anlzd AJ	Rank	Beta
Total Fund	100.0%	6.2%	41	5.3%	74	1.2	0.7%	20	-1.1	84	-1.2%	75	1.0
Policy Index	--	7.1%	18	5.1%	56	1.4	0.0%	1	--	--	0.0%	38	1.0
Total Equity	55.4%	6.9%	42	8.6%	40	0.8	1.3%	3	1.2	14	1.5%	45	1.0
MSCI ACWI	--	5.4%	55	8.5%	37	0.6	0.0%	1	--	--	0.0%	55	1.0
Total US Equity	31.2%	12.3%	36	9.4%	28	1.3	0.1%	1	1.9	4	0.1%	33	1.0
Total U.S. Equity Benchmark	--	12.2%	37	9.4%	28	1.3	0.0%	1	--	--	0.0%	34	1.0
Total Non-US Equity	14.1%	-1.1%	54	8.6%	33	-0.1	1.2%	1	-0.1	57	-0.2%	55	0.9
Total Non-US Equity Benchmark	--	-1.0%	54	9.3%	64	-0.1	0.0%	1	--	--	0.0%	54	1.0
Total Global Equity	10.1%	2.7%	72	9.1%	52	0.3	1.3%	3	-2.0	94	-3.0%	73	1.1
MSCI ACWI	--	5.4%	55	8.5%	37	0.6	0.0%	1	--	--	0.0%	55	1.0
Total Fixed Income	23.5%	1.4%	39	1.6%	6	0.9	2.3%	30	2.2	31	2.8%	52	0.4
Barclays Global Aggregate	--	-3.7%	82	3.6%	48	-1.0	0.0%	1	--	--	0.0%	78	1.0
Total US Fixed Income	17.6%	2.4%	68	1.2%	21	2.0	2.3%	55	-1.4	62	0.8%	23	0.3
Barclays Aggregate	--	5.7%	27	3.0%	67	1.9	0.0%	1	--	--	0.0%	52	1.0
Total Global Fixed Income	5.9%	-1.4%	63	3.1%	29	-0.5	0.9%	8	2.6	21	1.6%	62	0.8
Barclays Global Aggregate	--	-3.7%	82	3.6%	48	-1.0	0.0%	1	--	--	0.0%	78	1.0
Total Real Estate	7.6%	12.3%	--	5.0%	--	2.4	0.5%	--	-2.2	--	0.0%	--	0.9
Total Real Estate Benchmark	--	13.4%	--	5.5%	--	2.5	0.0%	--	--	--	0.0%	--	1.0
Total Liquid Alternatives	9.7%	6.5%	--	8.6%	--	0.8	8.3%	--	0.3	--	0.0%	--	1.7
CPI + 4% (Unadjusted)	--	3.9%	--	1.4%	--	2.8	0.0%	--	--	--	0.0%	--	1.0

Total Fund Risk Statistics

3 Year Ending March 31, 2015

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Tracking Error	Rank	Info Ratio	Rank	Anlzd AJ	Rank	Beta
Total Fund	100.0%	10.3%	16	6.5%	71	1.6	0.7%	7	0.3	42	0.1%	40	1.0
Policy Index	--	10.1%	25	6.4%	66	1.6	0.0%	1	--	--	0.0%	49	1.0
Total Equity	55.4%	--	--	--	--	--	--	--	--	--	--	--	--
MSCI ACWI	--	10.7%	67	10.6%	37	1.0	0.0%	1	--	--	0.0%	73	1.0
Total US Equity	31.2%	16.7%	38	9.8%	17	1.7	0.3%	1	1.0	5	0.3%	31	1.0
Total U.S. Equity Benchmark	--	16.4%	42	9.8%	16	1.7	0.0%	1	--	--	0.0%	35	1.0
Total Non-US Equity	14.1%	6.9%	87	11.6%	20	0.6	1.3%	1	0.4	76	0.9%	84	0.9
Total Non-US Equity Benchmark	--	6.4%	91	12.5%	53	0.5	0.0%	1	--	--	0.0%	91	1.0
Total Global Equity	10.1%	9.7%	78	10.3%	28	0.9	1.2%	2	-0.8	92	-0.7%	77	1.0
MSCI ACWI	--	10.7%	67	10.6%	37	1.0	0.0%	1	--	--	0.0%	73	1.0
Total Fixed Income	23.5%	3.1%	53	2.4%	7	1.2	2.3%	23	1.4	38	3.1%	53	0.5
Barclays Global Aggregate	--	-0.2%	85	3.9%	32	-0.1	0.0%	1	--	--	0.0%	85	1.0
Total US Fixed Income	17.6%	3.4%	52	2.3%	39	1.5	1.9%	43	0.2	55	1.5%	33	0.6
Barclays Aggregate	--	3.1%	57	2.9%	54	1.1	0.0%	1	--	--	0.0%	81	1.0
Total Global Fixed Income	5.9%	--	--	--	--	--	--	--	--	--	--	--	--
Barclays Global Aggregate	--	-0.2%	85	3.9%	32	-0.1	0.0%	1	--	--	0.0%	85	1.0
Total Real Estate	7.6%	10.5%	--	4.3%	--	2.4	1.0%	--	-2.2	--	-0.1%	--	0.8
Total Real Estate Benchmark	--	12.7%	--	5.1%	--	2.5	0.0%	--	--	--	0.0%	--	1.0
Total Liquid Alternatives	9.7%	--	--	--	--	--	--	--	--	--	--	--	--
CPI + 4% (Unadjusted)	--	5.0%	--	1.2%	--	4.1	0.0%	--	--	--	0.0%	--	1.0

Total Fund Risk Statistics

5 Year Ending March 31, 2015

	% of Tot	Anlzd Ret	Rank	Anlzd Std Dev	Rank	Sharpe Ratio	Tracking Error	Rank	Info Ratio	Rank	Anlzd AJ	Rank	Beta
Total Fund	100.0%	10.1%	9	9.1%	84	1.1	0.8%	10	0.5	30	0.2%	40	1.0
Policy Index	--	9.7%	30	8.9%	75	1.1	0.0%	1	--	--	0.0%	48	1.0
Total Equity	55.4%	--	--	--	--	--	--	--	--	--	--	--	--
MSCI ACWI	--	9.0%	71	14.4%	40	0.6	0.0%	1	--	--	0.0%	72	1.0
Total US Equity	31.2%	15.1%	41	13.5%	27	1.1	0.3%	1	1.0	1	0.2%	34	1.0
Total U.S. Equity Benchmark	--	14.8%	48	13.4%	25	1.1	0.0%	1	--	--	0.0%	37	1.0
Total Non-US Equity	14.1%	5.5%	80	15.5%	26	0.4	1.4%	1	0.5	61	0.9%	78	1.0
Total Non-US Equity Benchmark	--	4.8%	88	16.3%	49	0.3	0.0%	1	--	--	0.0%	86	1.0
Total Global Equity	10.1%	8.8%	73	13.4%	21	0.7	2.3%	6	-0.1	75	0.5%	67	0.9
MSCI ACWI	--	9.0%	71	14.4%	40	0.6	0.0%	1	--	--	0.0%	72	1.0
Total Fixed Income	23.5%	5.3%	43	2.8%	9	1.9	3.2%	35	0.9	30	4.2%	34	0.4
Barclays Global Aggregate	--	2.3%	85	4.8%	30	0.5	0.0%	1	--	--	0.0%	84	1.0
Total US Fixed Income	17.6%	5.5%	38	2.7%	40	2.0	2.0%	41	0.5	38	2.5%	25	0.7
Barclays Aggregate	--	4.4%	57	2.8%	48	1.6	0.0%	1	--	--	0.0%	82	1.0
Total Global Fixed Income	5.9%	--	--	--	--	--	--	--	--	--	--	--	--
Barclays Global Aggregate	--	2.3%	85	4.8%	30	0.5	0.0%	1	--	--	0.0%	84	1.0
Total Real Estate	7.6%	12.7%	--	5.4%	--	2.4	1.1%	--	-1.7	--	-0.3%	--	0.9
Total Real Estate Benchmark	--	14.5%	--	5.9%	--	2.4	0.0%	--	--	--	0.0%	--	1.0
Total Liquid Alternatives	9.7%	--	--	--	--	--	--	--	--	--	--	--	--
CPI + 4% (Unadjusted)	--	5.7%	--	1.2%	--	4.8	0.0%	--	--	--	0.0%	--	1.0

Total Fund Performance Detail (Net)

	Market Value ($)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
Total Fund	**4,365,835,058**	**100.0**	**100.0**	**2.0**	**73**	**1.8**	**60**	**6.2**	**41**	**10.3**	**16**	**10.1**	**9**	**6.8**	**29**	**8.3**	**Apr-94**
Policy Index				*2.0*	*65*	*3.1*	*20*	*7.1*	*18*	*10.1*	*25*	*9.7*	*30*	*6.9*	*25*	*8.2*	*Apr-94*
Over/Under				0.0		-1.3		-0.9		0.2		0.4		-0.1		0.1	
Allocation Index				*1.8*	*80*	*2.5*	*41*	*6.9*	*24*	*9.5*	*39*	*9.2*	*45*	*6.6*	*43*	*--*	*Apr-94*
InvestorForce Public DB > $1B Net Median				*2.2*		*2.2*		*5.6*		*9.3*		*9.1*		*6.4*		*7.8*	*Apr-94*
Total Fund ex Parametric	**4,327,001,609**	**99.1**	**--**	**1.9**	**--**	**1.8**	**--**	**6.3**	**--**	**10.2**	**--**	**9.9**	**--**	**6.7**	**--**	**8.2**	**Apr-94**
Total Fund ex Private Equity	**4,239,373,614**	**97.1**	**--**	**1.9**	**77**	**1.6**	**66**	**5.9**	**47**	**9.3**	**48**	**--**	**--**	**--**	**--**	**11.4**	**Jan-12**
Policy Index				*2.0*	*65*	*3.1*	*20*	*7.1*	*18*	*10.1*	*25*	*9.7*	*30*	*6.9*	*25*	*12.0*	*Jan-12*
Over/Under				-0.1		-1.5		-1.2		-0.8						-0.6	
InvestorForce Public DB > $1B Net Median				*2.2*		*2.2*		*5.6*		*9.3*		*9.1*		*6.4*		*10.8*	*Jan-12*
Total US Equity	**1,360,896,365**	**31.2**	**30.0**	**1.9**	**67**	**7.1**	**46**	**12.3**	**36**	**16.7**	**38**	**15.1**	**41**	**8.0**	**73**	**9.1**	**Dec-93**
Total U.S. Equity Benchmark				*1.8*	*68*	*7.1*	*46*	*12.2*	*37*	*16.4*	*42*	*14.8*	*48*	*8.5*	*61*	*9.5*	*Dec-93*
Over/Under				0.1		0.0		0.1		0.3		0.3		-0.5		-0.4	
eA All US Equity Net Median				*3.2*		*6.7*		*10.4*		*15.8*		*14.6*		*8.9*		*10.7*	*Dec-93*
BlackRock Equity Market Fund	1,171,040,708	26.8		1.8	68	7.1	46	12.3	36	16.4	41	14.8	47	--	--	7.7	Dec-07
Dow Jones U.S. Total Stock Market				*1.8*	*69*	*7.1*	*46*	*12.2*	*37*	*16.4*	*42*	*14.7*	*48*	*8.5*	*59*	*7.6*	*Dec-07*
Over/Under				0.0		0.0		0.1		0.0		0.1				0.1	
eA All US Equity Net Median				*3.2*		*6.7*		*10.4*		*15.8*		*14.6*		*8.9*		*8.0*	*Dec-07*
Western U.S. Index Plus	140,787,690	3.2		1.2	76	7.3	45	13.2	28	17.4	28	16.4	21	--	--	3.6	May-07
S&P 500				*1.0*	*79*	*7.1*	*46*	*12.7*	*33*	*16.1*	*45*	*14.5*	*52*	*8.0*	*72*	*6.2*	*May-07*
Over/Under				0.2		0.2		0.5		1.3		1.9				-2.6	
eA All US Equity Net Median				*3.2*		*6.7*		*10.4*		*15.8*		*14.6*		*8.9*		*6.9*	*May-07*
BlackRock Extended Equity Index	49,067,966	1.1		5.3	43	6.7	48	10.3	39	17.4	25	16.0	34	10.3	35	12.8	Oct-02
Dow Jones U.S. Completion Total Stock Market				*5.3*	*44*	*6.7*	*48*	*10.2*	*39*	*17.2*	*29*	*15.8*	*37*	*10.2*	*36*	*12.8*	*Oct-02*
Over/Under				0.0		0.0		0.1		0.2		0.2		0.1		0.0	
eA US Small-Mid Cap Equity Net Median				*5.0*		*6.3*		*9.2*		*15.5*		*14.8*		*9.8*		*12.2*	*Oct-02*

Color Coding: PERFORMANCE: Green-Over performance, Red-Under performance / Color Coding: RANKS: 1 - 25 Green - Positive Result, 26 - 50 Yellow, 50 - 75 Orange, 76 - 100 Red - Negative Result

Policy Index: Currently, 30% Total U.S. Equity Benchmark, 19% Barclays Aggregate, 14% MSCI ACWI ex U.S., 10% MSCI ACWI, 5% Barclays Global Aggregate, 5% DJ U.S. Total Stock Market Index + 3%, 10% CPI+4% Index, and 7% NCREIF ODCE Real Estate Index

Total U.S. Equity Benchmark: The Benchmark is a dynamic hybrid using the respective managers' market value weights within the U.S. Equity component toward their benchmark. Prior to May 2013, the Dow Jones U.S. Total Stock Market Index. Prior to May 2007, the Russell 3000 Index

Total Fund Performance Detail (Net)

	Market Value ($)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
Total Non-US Equity	**617,229,438**	**14.1**	**14.0**	**3.1**	**91**	**-5.5**	**71**	**-1.1**	**54**	**6.9**	**87**	**5.5**	**80**	**5.5**	**57**	**6.6**	**Mar-94**
Total Non-US Equity Benchmark				*3.5*	*87*	*-5.8*	*73*	*-1.0*	*54*	*6.4*	*91*	*4.8*	*88*	*5.5*	*61*	*5.4*	*Mar-94*
Over/Under				-0.4		0.3		-0.1		0.5		0.7		0.0		1.2	
eA All EAFE Equity Net Median				*4.9*		*-4.0*		*-0.8*		*9.5*		*7.3*		*5.8*		*6.4*	*Mar-94*
BlackRock ACWI ex-U.S. Index	258,178,876	5.9		3.6	61	-5.8	77	-1.2	75	6.7	78	5.2	85	--	--	1.8	Mar-07
MSCI ACWI ex USA				*3.5*	*63*	*-5.8*	*77*	*-1.0*	*74*	*6.4*	*80*	*4.8*	*87*	*5.5*	*76*	*1.4*	*Mar-07*
Over/Under				0.1		0.0		-0.2		0.3		0.4				0.4	
eA ACWI ex-US All Cap Equity Net Median				*3.9*		*-3.3*		*0.4*		*8.2*		*7.3*		*6.3*		*2.4*	*Mar-07*
Sprucegrove	184,158,765	4.2		2.0	96	-6.8	77	-3.2	77	7.0	78	6.5	58	5.8	37	8.0	Mar-02
MSCI EAFE				*4.9*	*48*	*-4.8*	*61*	*-0.9*	*48*	*9.0*	*55*	*6.2*	*63*	*4.9*	*67*	*6.5*	*Mar-02*
Over/Under				-2.9		-2.0		-2.3		-2.0		0.3		0.9		1.5	
MSCI ACWI ex USA				*3.5*	*78*	*-5.8*	*65*	*-1.0*	*48*	*6.4*	*86*	*4.8*	*83*	*5.5*	*46*	*7.1*	*Mar-02*
eA EAFE All Cap Equity Net Median				*4.8*		*-4.0*		*-1.2*		*9.2*		*6.9*		*5.4*		*7.6*	*Mar-02*
Hexavest	80,358,439	1.8		3.7	74	-4.3	56	0.0	46	7.6	72	--	--	--	--	4.9	Dec-10
MSCI EAFE				*4.9*	*48*	*-4.8*	*61*	*-0.9*	*48*	*9.0*	*55*	*6.2*	*63*	*4.9*	*67*	*5.6*	*Dec-10*
Over/Under				-1.2		0.5		0.9		-1.4						-0.7	
eA EAFE All Cap Equity Net Median				*4.8*		*-4.0*		*-1.2*		*9.2*		*6.9*		*5.4*		*6.1*	*Dec-10*
Walter Scott	94,533,357	2.2		3.4	65	-2.6	44	2.5	24	6.2	84	--	--	--	--	4.8	Dec-10
MSCI ACWI ex USA				*3.5*	*63*	*-5.8*	*77*	*-1.0*	*74*	*6.4*	*80*	*4.8*	*87*	*5.5*	*76*	*3.5*	*Dec-10*
Over/Under				-0.1		3.2		3.5		-0.2						1.3	
eA ACWI ex-US All Cap Equity Net Median				*3.9*		*-3.3*		*0.4*		*8.2*		*7.3*		*6.3*		*5.5*	*Dec-10*

Total Non-U.S. Equity Benchmark: MSCI ACWI ex US Free, prior to May 2002, the MSCI EAFE

Total Fund Performance Detail (Net)

	Market Value ($)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
Total Global Equity	**440,946,810**	**10.1**	**10.0**	**2.5**	**62**	**-2.2**	**76**	**2.7**	**72**	**9.7**	**78**	**8.8**	**73**	**--**	**--**	**5.7**	**May-05**
MSCI ACWI				*2.3*	*65*	*0.4*	*60*	*5.4*	*55*	*10.7*	*67*	*9.0*	*71*	*6.4*	*65*	*6.7*	*May-05*
Over/Under				0.2		-2.6		-2.7		-1.0		-0.2				-1.0	
eA All Global Equity Net Median				*3.0*		*1.3*		*6.0*		*12.1*		*10.5*		*7.3*		*7.7*	*May-05*
BlackRock MSCI ACWI Equity Index	227,794,793	5.2		2.4	64	0.6	58	5.8	52	--	--	--	--	--	--	--	May-12
MSCI ACWI				*2.3*	*65*	*0.4*	*60*	*5.4*	*55*	*10.7*	*67*	*9.0*	*71*	*6.4*	*65*	*15.6*	*May-12*
Over/Under				0.1		0.2		0.4									
eA All Global Equity Net Median				*3.0*		*1.3*		*6.0*		*12.1*		*10.5*		*7.3*		*16.3*	*May-12*
GMO Global Equity	213,152,017	4.9		2.5	61	-5.0	86	-0.4	84	8.8	85	8.4	76	--	--	6.7	Apr-05
MSCI ACWI				*2.3*	*65*	*0.4*	*60*	*5.4*	*55*	*10.7*	*67*	*9.0*	*71*	*6.4*	*65*	*6.7*	*Apr-05*
Over/Under				0.2		-5.4		-5.8		-1.9		-0.6				0.0	
eA All Global Equity Net Median				*3.0*		*1.3*		*6.0*		*12.1*		*10.5*		*7.3*		*7.7*	*Apr-05*

Total Fund Performance Detail (Net)

	Market Value ($)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
Total Private Equity	**126,461,444**	**2.9**	**5.0**	**4.5**	**--**	**12.3**	**--**	**18.5**	**--**	**16.0**	**--**	**--**	**--**	**--**	**--**	**--**	**Jul-10**
DJ U.S. Total Stock Market Index + 3%				*2.6*	--	*9.4*	--	*15.6*	--	*19.8*	--	*18.2*	--	--	--	*20.6*	*Jul-10*
Over/Under				1.9		2.9		2.9		-3.8							
Adams Street Partners	77,594,905	1.8		3.2	--	10.5	--	16.5	--	14.8	--	--	--	--	--	--	Jul-10
DJ U.S. Total Stock Market Index + 3%				*2.6*	--	*9.4*	--	*15.6*	--	*19.8*	--	*18.2*	--	--	--	*20.6*	*Jul-10*
Over/Under				0.6		1.1		0.9		-5.0							
Panteon Ventures	14,663,333	0.3		2.2	--	5.5	--	12.7	--	12.1	--	--	--	--	--	--	Aug-10
DJ U.S. Total Stock Market Index + 3%				*2.6*	--	*9.4*	--	*15.6*	--	*19.8*	--	*18.2*	--	--	--	*22.2*	*Aug-10*
Over/Under				-0.4		-3.9		-2.9		-7.7							
Harbourvest	34,203,207	0.8		7.9	--	19.1	--	25.9	--	--	--	--	--	--	--	--	May-13
DJ U.S. Total Stock Market Index + 3%				*2.6*	--	*9.4*	--	*15.6*	--	*19.8*	--	*18.2*	--	--	--	*19.9*	*May-13*
Over/Under				5.3		9.7		10.3									

Private Equity performance is shown on a time-weighted return basis. Values are cash adjusted with current quarter cash flows.

Total Fund Performance Detail (Net)

	Market Value ($)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
Total US Fixed Income	**767,452,669**	**17.6**	**19.0**	**1.0**	**72**	**1.0**	**68**	**2.4**	**68**	**3.4**	**52**	**5.5**	**38**	**6.1**	**27**	**6.3**	**Feb-94**
Barclays Aggregate				*1.6*	*46*	*3.6*	*22*	*5.7*	*27*	*3.1*	*57*	*4.4*	*57*	*4.9*	*49*	*5.8*	*Feb-94*
Over/Under				-0.6		-2.6		-3.3		0.3		1.1		1.2		0.5	
eA All US Fixed Inc Net Median				*1.5*		*2.1*		*3.6*		*3.5*		*4.7*		*4.9*		*5.7*	*Feb-94*
BlackRock U.S. Debt Fund	141,505,104	3.2		1.6	46	3.7	21	5.9	25	3.2	55	4.5	55	5.0	47	5.7	Nov-95
Barclays Aggregate				*1.6*	*46*	*3.6*	*22*	*5.7*	*27*	*3.1*	*57*	*4.4*	*57*	*4.9*	*49*	*5.7*	*Nov-95*
Over/Under				0.0		0.1		0.2		0.1		0.1		0.1		0.0	
eA All US Fixed Inc Net Median				*1.5*		*2.1*		*3.6*		*3.5*		*4.7*		*4.9*		*5.5*	*Nov-95*
Western	272,269,339	6.2		2.2	23	3.9	17	6.7	15	5.0	33	6.5	29	5.8	30	6.7	Dec-96
Barclays Aggregate				*1.6*	*46*	*3.6*	*22*	*5.7*	*27*	*3.1*	*57*	*4.4*	*57*	*4.9*	*49*	*5.7*	*Dec-96*
Over/Under				0.6		0.3		1.0		1.9		2.1		0.9		1.0	
eA All US Fixed Inc Net Median				*1.5*		*2.1*		*3.6*		*3.5*		*4.7*		*4.9*		*5.6*	*Dec-96*
Reams	280,328,425	6.4		-0.7	99	-3.1	99	-4.1	99	1.5	81	4.5	55	6.1	26	5.8	Sep-01
Reams Custom Index				*0.1*	*98*	*0.2*	*84*	*0.2*	*94*	*1.2*	*84*	*3.3*	*75*	*4.4*	*63*	*4.6*	*Sep-01*
Over/Under				-0.8		-3.3		-4.3		0.3		1.2		1.7		1.2	
Barclays Aggregate				*1.6*	*46*	*3.6*	*22*	*5.7*	*27*	*3.1*	*57*	*4.4*	*57*	*4.9*	*49*	*5.0*	*Sep-01*
eA All US Fixed Inc Net Median				*1.5*		*2.1*		*3.6*		*3.5*		*4.7*		*4.9*		*5.0*	*Sep-01*
Loomis Sayles Multi Strategy	73,349,802	1.7		2.1	24	1.5	62	5.1	38	6.9	19	7.9	19	--	--	7.3	Jul-05
Loomis Custom Index				*1.8*	*34*	*2.2*	*50*	*4.3*	*43*	*4.3*	*41*	*5.6*	*37*	*--*	*--*	*5.8*	*Jul-05*
Over/Under				0.3		-0.7		0.8		2.6		2.3				1.5	
Barclays Aggregate				*1.6*	*46*	*3.6*	*22*	*5.7*	*27*	*3.1*	*57*	*4.4*	*57*	*4.9*	*49*	*4.9*	*Jul-05*
eA All US Fixed Inc Net Median				*1.5*		*2.1*		*3.6*		*3.5*		*4.7*		*4.9*		*4.9*	*Jul-05*

Reams Custom Index: Merrill Lynch 3 Month Libor Constant Maturity Index, prior to February 2013 the Barclays Aggregate
Loomis Custom Index: 65% Barclays Aggregate, 30% Citigroup High Yield Market Index and 5% JPM Non-US Hedged Bond Index

Total Fund Performance Detail (Net)

	Market Value ($)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
Total Global Fixed Income	**258,135,292**	**5.9**	**5.0**	**-0.8**	**63**	**-3.7**	**59**	**-1.4**	**63**	**--**	**--**	**--**	**--**	**--**	**--**	**0.7**	**Jun-12**
Barclays Global Aggregate				*-1.9*	*82*	*-6.0*	*80*	*-3.7*	*82*	*-0.2*	*85*	*2.3*	*85*	*3.6*	*84*	*-0.5*	*Jun-12*
Over/Under				1.1		2.3		2.3								1.2	
eA All Global Fixed Inc Net Median				*0.6*		*-2.4*		*0.1*		*3.3*		*4.7*		*5.1*		*3.2*	*Jun-12*
Loomis Sayles Global Fixed Income	90,486,017	2.1		-1.9	85	-6.2	86	-3.8	86	--	--	--	--	--	--	0.0	Jun-12
Barclays Global Aggregate				*-1.9*	*86*	*-6.0*	*85*	*-3.7*	*86*	*-0.2*	*83*	*2.3*	*83*	*3.6*	*76*	*-0.5*	*Jun-12*
Over/Under				0.0		-0.2		-0.1								0.5	
eA Global Fixed Inc Unhedged Net Median				*0.0*		*-3.2*		*-0.7*		*2.4*		*4.2*		*4.5*		*2.6*	*Jun-12*
PIMCO Global Fixed Income	124,955,057	2.9		-0.8	59	-3.6	55	-1.2	59	--	--	--	--	--	--	-1.0	Sep-12
Barclays Global Aggregate				*-1.9*	*86*	*-6.0*	*85*	*-3.7*	*86*	*-0.2*	*83*	*2.3*	*83*	*3.6*	*76*	*-1.8*	*Sep-12*
Over/Under				1.1		2.4		2.5								0.8	
eA Global Fixed Inc Unhedged Net Median				*0.0*		*-3.2*		*-0.7*		*2.4*		*4.2*		*4.5*		*1.3*	*Sep-12*
Loomis Strategic Alpha	42,694,218	1.0		1.6	30	2.0	9	3.4	10	--	--	--	--	--	--	3.3	Jul-13
Barclays Global Aggregate				*-1.9*	*86*	*-6.0*	*85*	*-3.7*	*86*	*-0.2*	*83*	*2.3*	*83*	*3.6*	*76*	*-0.2*	*Jul-13*
Over/Under				3.5		8.0		7.1								3.5	
eA Global Fixed Inc Unhedged Net Median				*0.0*		*-3.2*		*-0.7*		*2.4*		*4.2*		*4.5*		*2.7*	*Jul-13*

Total Fund Performance Detail (Net)

	Market Value ($)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
Total Real Estate	**330,958,239**	**7.6**	**7.0**	**2.9**	**--**	**9.3**	**--**	**12.3**	**--**	**10.5**	**--**	**12.7**	**--**	**5.0**	**--**	**7.8**	**Mar-94**
Total Real Estate Benchmark				*3.4*	--	*10.2*	--	*13.4*	--	*12.7*	--	*14.5*	--	*7.0*	--	*8.9*	*Mar-94*
Over/Under				-0.5		-0.9		-1.1		-2.2		-1.8		-2.0		-1.1	
Prudential Real Estate	111,362,490	2.6		3.2	--	10.4	--	13.8	--	11.8	--	14.9	--	5.9	--	5.4	Jun-04
NCREIF-ODCE				*3.4*	--	*10.2*	--	*13.4*	--	*12.7*	--	*14.5*	--	*7.0*	--	*7.6*	*Jun-04*
Over/Under				-0.2		0.2		0.4		-0.9		0.4		-1.1		-2.2	
UBS Real Estate	213,926,049	4.9		2.7	--	8.7	--	11.1	--	9.6	--	11.6	--	6.4	--	7.4	Mar-03
NCREIF-ODCE				*3.4*	--	*10.2*	--	*13.4*	--	*12.7*	--	*14.5*	--	*7.0*	--	*7.9*	*Mar-03*
Over/Under				-0.7		-1.5		-2.3		-3.1		-2.9		-0.6		-0.5	
RREEF	5,669,699	0.1		2.3	--	9.7	--	24.0	--	21.0	--	26.7	--	--	--	-6.1	Sep-07
NCREIF-ODCE				*3.4*	--	*10.2*	--	*13.4*	--	*12.7*	--	*14.5*	--	*7.0*	--	*3.4*	*Sep-07*
Over/Under				-1.1		-0.5		10.6		8.3		12.2				-9.5	

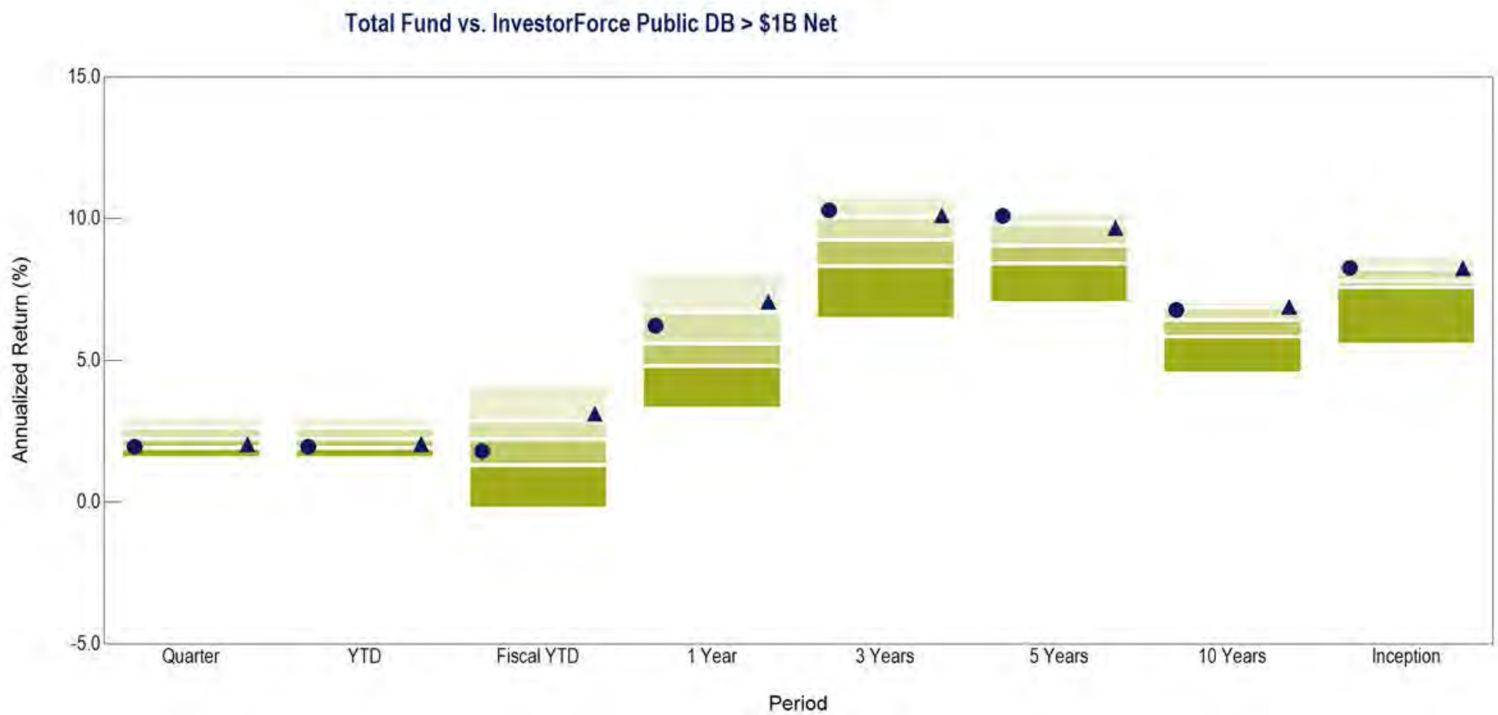
Total Real Estate Benchmark: NCREIF ODCE; prior to January 2006, the NCREIF Property Index

Total Fund Performance Detail (Net)

	Market Value ($)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Return (%)	Since
Total Liquid Alternatives	**424,921,353**	**9.7**	**10.0**	**1.7**	**--**	**-2.5**	**--**	**6.5**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**12.1**	**Apr-13**
CPI + 4% (Unadjusted)				*1.5*	--	*2.0*	--	*3.9*	--	*5.0*	--	*5.7*	--	*6.1*	--	*4.8*	*Apr-13*
Over/Under				0.2		-4.5		2.6								7.3	
Bridgewater All Weather Fund	284,498,548	6.5		3.7	--	1.9	--	7.6	--	--	--	--	--	--	--	9.5	Aug-13
CPI + 5% (Unadjusted)				*1.8*	--	*2.8*	--	*4.9*	--	--	--	--	--	--	--	*5.6*	*Aug-13*
Over/Under				1.9		-0.9		2.7								3.9	
Tortoise Energy Infrastructure	140,422,805	3.2		-2.2	--	-10.5	--	4.3	--	--	--	--	--	--	--	13.4	Apr-13
Wells Fargo MLP Index				*-3.7*	--	*-13.3*	--	*-0.7*	--	*10.5*	--	--	--	--	--	*4.3*	*Apr-13*
Over/Under				1.5		2.8		5.0								9.1	
Overlay	**38,833,449**	**0.9**	**0.0**														
Parametric	38,833,449	0.9															

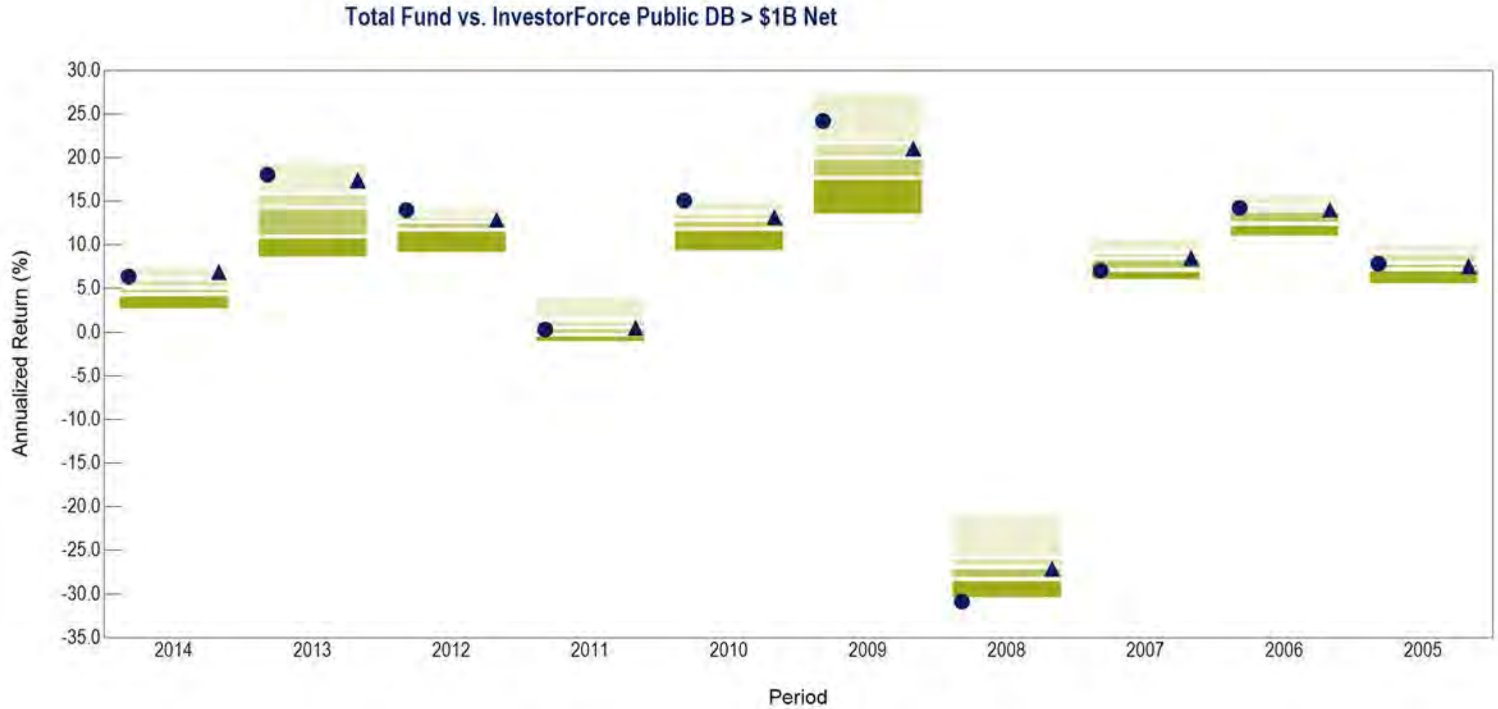
Overlay performance is not applicable on an individual account level

Total Fund Return Summary vs. Peer Universe



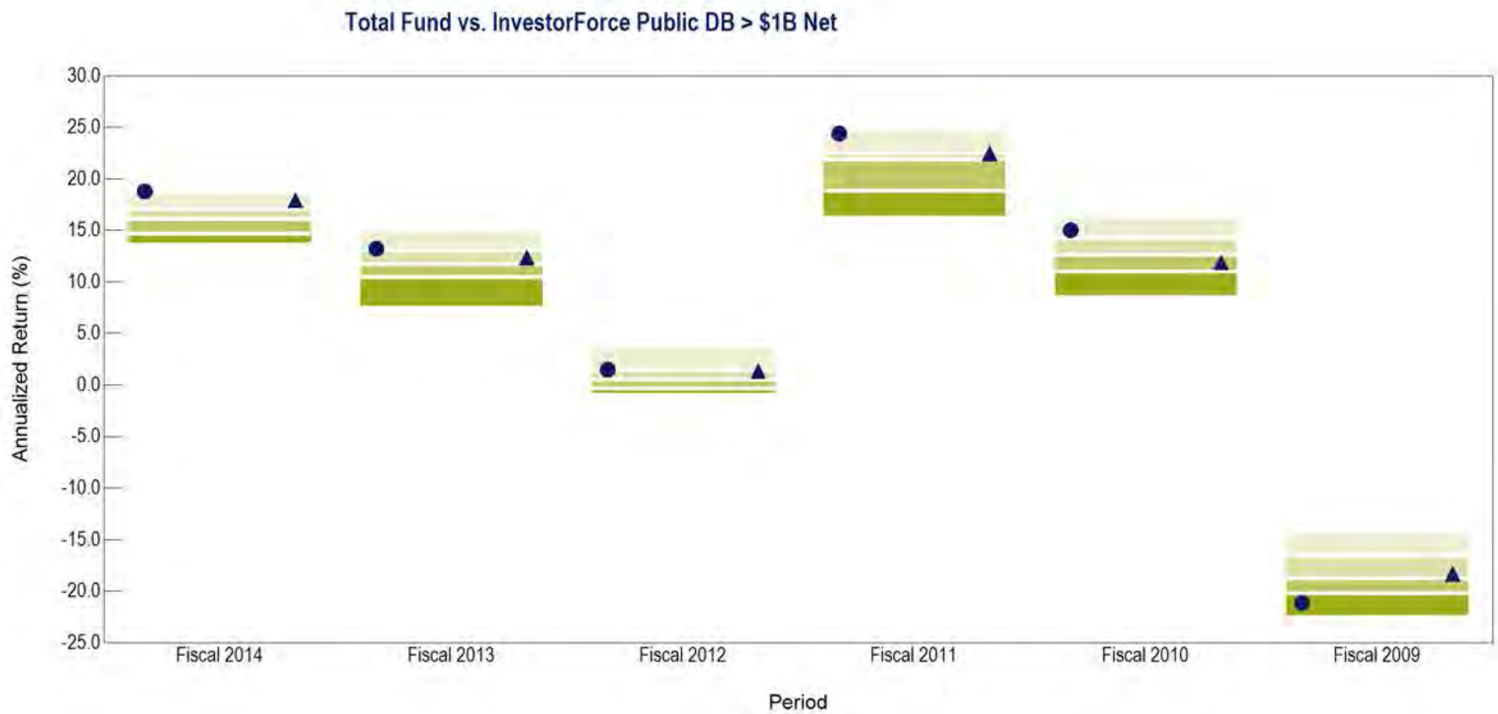
	Return (Rank)															
5th Percentile	3.0		3.0		4.2		8.1		10.8		10.2		7.1		8.7	
25th Percentile	2.6		2.6		2.9		6.7		10.1		9.8		6.9		8.2	
Median	2.2		2.2		2.2		5.6		9.3		9.1		6.4		7.8	
75th Percentile	1.9		1.9		1.3		4.8		8.3		8.4		5.8		7.6	
95th Percentile	1.6		1.6		-0.2		3.3		6.4		7.0		4.5		5.6	
# of Portfolios	49		49		49		49		48		45		43		28	
● Total Fund	2.0	(73)	2.0	(73)	1.8	(60)	6.2	(41)	10.3	(16)	10.1	(9)	6.8	(29)	8.3	(22)
▲ Policy Index	2.0	(65)	2.0	(65)	3.1	(20)	7.1	(18)	10.1	(25)	9.7	(30)	6.9	(25)	8.2	(23)

Total Fund Return Summary vs. Peer Universe



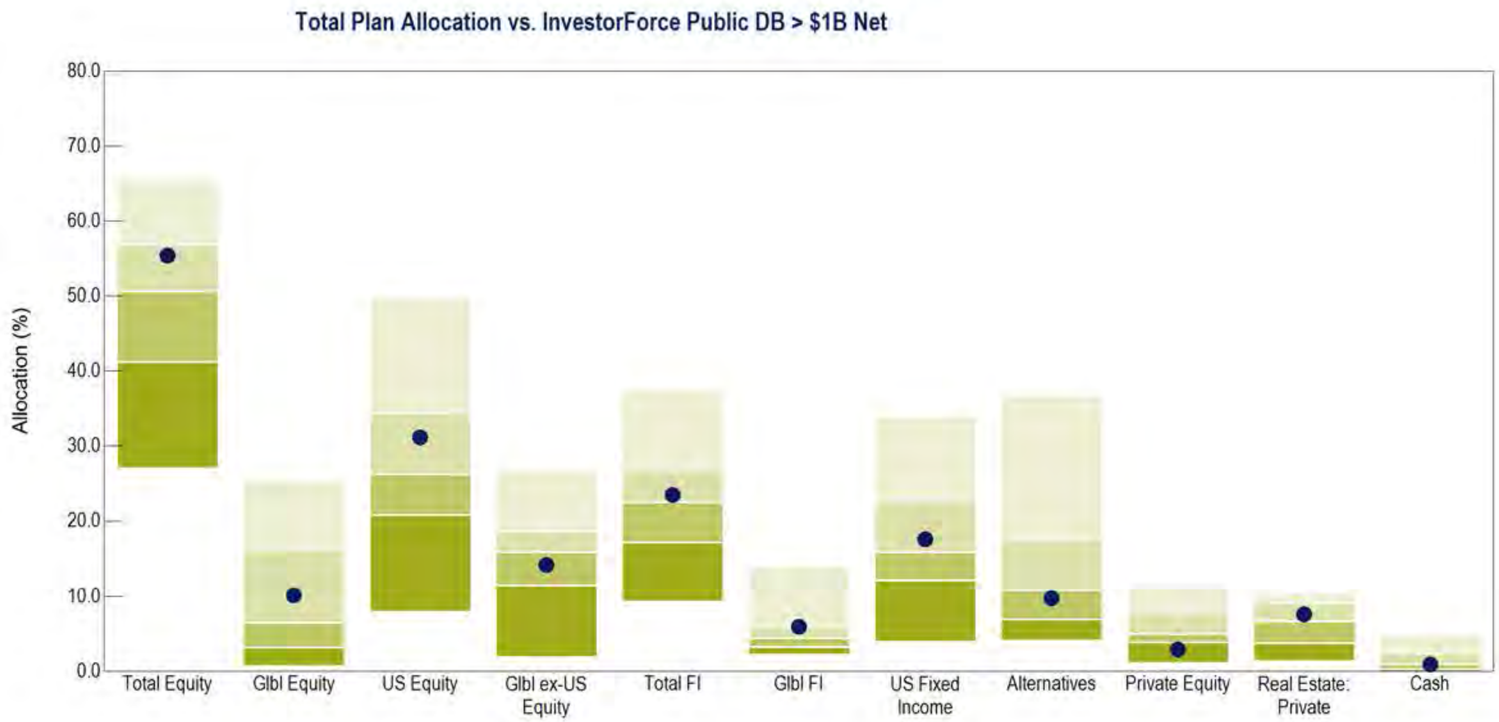
Return (Rank)	2014		2013		2012		2011		2010		2009		2008		2007		2006		2005	
5th Percentile	7.6		19.5		14.3		4.2		15.1		27.5		-20.9		10.7		15.8		10.2	
25th Percentile	6.1		16.0		13.4		1.5		13.8		21.7		-25.7		9.2		14.6		9.1	
Median	5.1		14.3		12.7		0.6		12.8		20.0		-26.9		8.5		14.0		8.0	
75th Percentile	4.4		11.0		11.8		-0.3		11.8		17.7		-28.3		7.1		12.5		7.2	
95th Percentile	2.6		8.5		9.0		-1.2		9.3		13.4		-30.5		5.9		10.9		5.4	
# of Portfolios	55		48		44		42		41		40		39		39		38		37	
● Total Fund	6.4	(19)	18.0	(10)	14.0	(15)	0.3	(61)	15.1	(6)	24.2	(16)	-30.9	(98)	7.0	(77)	14.2	(41)	7.8	(56)
▲ Policy Index	6.9	(11)	17.4	(13)	12.9	(41)	0.5	(55)	13.2	(44)	21.0	(33)	-27.1	(54)	8.5	(50)	14.0	(50)	7.6	(67)

Total Fund Return Summary vs. Peer Universe



	Return (Rank)											
5th Percentile	18.7		15.0		3.7		24.7		16.3		-14.3	
25th Percentile	17.2		13.1		1.5		22.5		14.4		-16.5	
Median	16.1		11.8		0.5		21.9		12.7		-18.7	
75th Percentile	14.7		10.5		-0.3		18.9		11.1		-20.2	
95th Percentile	13.6		7.5		-0.9		16.3		8.6		-22.4	
# of Portfolios	43		56		41		42		41		40	
● Total Fund	18.8	(5)	13.2	(22)	1.5	(25)	24.4	(10)	15.0	(15)	-21.2	(85)
▲ Policy Index	17.9	(17)	12.4	(39)	1.4	(27)	22.5	(30)	11.9	(64)	-18.3	(41)

Total Fund Allocations vs. Peer Universe



	Allocation (Rank)																						
5th Percentile	65.5		25.4		49.7		26.9		37.5		14.0		33.9		36.7		11.5		10.3		4.8		--
25th Percentile	56.9		16.2		34.5		18.7		26.8		6.0		22.7		17.5		7.7		9.1		2.4		--
Median	50.7		6.6		26.4		16.0		22.6		4.5		16.0		10.9		5.0		6.8		1.0		--
75th Percentile	41.3		3.2		20.9		11.5		17.2		3.3		12.2		7.0		3.9		3.8		0.3		--
95th Percentile	27.1		0.7		8.0		1.9		9.4		2.3		4.0		4.2		1.1		1.5		0.0		--
# of Portfolios	46		24		45		45		47		27		44		41		39		39		44		--
● **Total Fund**	55.4	(34)	10.1	(40)	31.2	(28)	14.1	(66)	23.5	(44)	5.9	(28)	17.6	(42)	9.7	(63)	2.9	(81)	7.6	(41)	0.9	(53)	--

Manager Due Diligence

Due Diligence Monitor

The items below summarize the recent quarter's performance and any changes or announcements from the Plan's managers/products. A "-" indicates there were no material announcements. A "Yes" indicates there was an announcement and a brief summary is provided on the following pages. NEPC's Due Diligence Committee meets every two weeks to review events as they relate to investment managers and determine if any action should be taken (by NEPC and/or by our clients). Events are rated: No Action, Watch, Hold, Client Review or Terminate. NEPC's recommendation in view of the recent quarter's developments (performance, manager events, and any of the longer-term trending data) is refreshed quarterly.

Investment Options	Performance (Recent Quarter)	Changes/ Announcements (Recent Quarter)	NEPC Due Diligence Committee Recommendations	Plan Recommendation	Comments
BlackRock Equity Market Index	-	-	-	-	
Western U.S. Index Plus	Bottom Quartile	-	-	-	
BlackRock Extended Equity Index	-	-	-	-	
BlackRock MSCI ACWI ex-U.S. Index	-	-	-	-	
Sprucegrove	Bottom Decile	No	Hold	No Action	3Q 2014 Departure
Hexavest	-	-	-	-	
Walter Scott	-	-	-	-	
BlackRock MSCI ACWI Index	-	-	-	-	
GMO	-	-	-	-	
Adams Street	N/A	-	-	-	
HarbourVest	N/A	-	-	-	
Pantheon	N/A	-	-	-	
BlackRock U.S. Debt Fund	-	-	-	-	
Western	Top Quartile	-	-	-	
Reams	Bottom Decile	-	-	-	
Loomis Sayles Multi-Sector Full Discretion	Top Quartile	-	-	-	
Loomis Sayles Global Fixed Income	Bottom Quartile	-	-	-	
PIMCO Global Fixed Income	-	Yes	Watch	No Action	Continued organizational developments
Loomis Sayles Strategic Alpha	-	-	-	-	

Due Diligence Monitor Continued

Investment Options	Performance (Recent Quarter)	Changes/ Announcements (Recent Quarter)	NEPC Due Diligence Committee Recommendations	Plan Recommendation	Comments
Prudential	N/A	-	-	-	
RREEF	N/A	-	-	-	
UBS	N/A	-	-	-	
Bridgewater	N/A	-	-	-	
Tortoise	N/A	-	-	-	
Parametric/Clifton	N/A	-	-	-	

NEPC Due Diligence Committee Recommendation Key	
No Action	Informational items have surfaced; no action is recommended.
Watch	Issues have surfaced to be concerned over; manager can participate in future searches, but current and prospective clients must be made aware of the issues.
Hold	Serious issues have surfaced to be concerned over; manager cannot participate in future searches unless a client specifically requests, but current and prospective clients must be made aware of the issues.
Client Review	Very serious issues have surfaced with an Investment Manager; manager cannot participate in future searches unless a client specifically requests. Current clients must be advised to review the manager.
Terminate	We have lost all confidence in the product; manager would not be recommended for searches and clients would be discouraged from using. The manager cannot participate in future searches unless a client specifically requests. Current clients must be advised to replace the manager.

Due Diligence Commentary

Below is a summary of manager changes, announcements and due diligence events since the issuance of our last quarterly report.

Manager Changes / Announcements

Sprucegrove Investment Management Ltd.

On September 1, 2014, NEPC was notified that Co-President/Co-Portfolio Manager Peter Ellement resigned from the firm. Sprucegrove did not provide transparency into the exact reason for the departure other than there appeared to be some level of conflict between Mr. Ellement and other members of the firm. Shirley Woo will be joined by Arjun Kumar as the Co-Portfolio Managers on the International Equity Fund going forward. Craig Merrigan will become the sole President of the firm.

NEPC recommends a due diligence status of HOLD for Sprucegrove. We do not recommend any action at this time as a result of Mr. Ellement's departure.

PIMCO

NEPC Research placed PIMCO on Client Review in September 2014 following the sudden departure of Founder and CIO Bill Gross. We felt a Client Review status was necessary given that Mr. Gross' departure was significant from both an investment and business standpoint. Since that time, NEPC Research has conducted an extensive due diligence review in order to gather additional information and ultimately formulate a follow-up recommendation to clients. While outflows continue at PIMCO, particularly from the flagship Total Return strategy, redemptions have slowed and performance has not materially suffered. Additionally, with the exception of a few individuals, PIMCO has retained its leading investment professionals throughout the period. We believe the level of business and investment risk associated with PIMCO as a firm has been reduced considerably as time has passed following the departure of Mr. Gross, although some products continue to exhibit a greater degree of uncertainty. Even with the changes summarized below, NEPC Research will continue to closely monitor PIMCO in the coming months.

As our Due Diligence event process outlines, the Client Review status is reassessed 6-12 months after an event occurs. After conducting analysis on PIMCO at both the firm and individual product level, we have made multiple changes to the Due Diligence status. The changes are summarized below:

- PIMCO Firm DD status will move from Client Review to **Watch**
- Total Return and Unconstrained Bond will maintain **Client Review** status
- All other PIMCO products will be upgraded from Client Review to **Watch**

In the months following the departure of Bill Gross, NEPC maintained a consistent dialogue with PIMCO executives, senior investment personnel, and staff. These interactions included two onsite meetings in Newport Beach, a conference call and in-person discussion with CEO Doug Hodge, several product-specific updates, and constant ad-hoc conversations with PIMCO representatives. Through these Conversations, we gathered information related to Bill Gross' departure, specifically, the impact on investment performance, internal working environment, PIMCO's approach to managing a high level of redemptions, revenue losses and organizational flexibility, and retention of key professionals. The insight gained from these conversations combined with the actual results in the months after the announcement provide us with a basis on which to make a recommendation.

Due Diligence Commentary

Below is a summary of manager changes, announcements and due diligence events since the issuance of our last quarterly report.

Manager Changes/Announcements

PIMCO (continued)

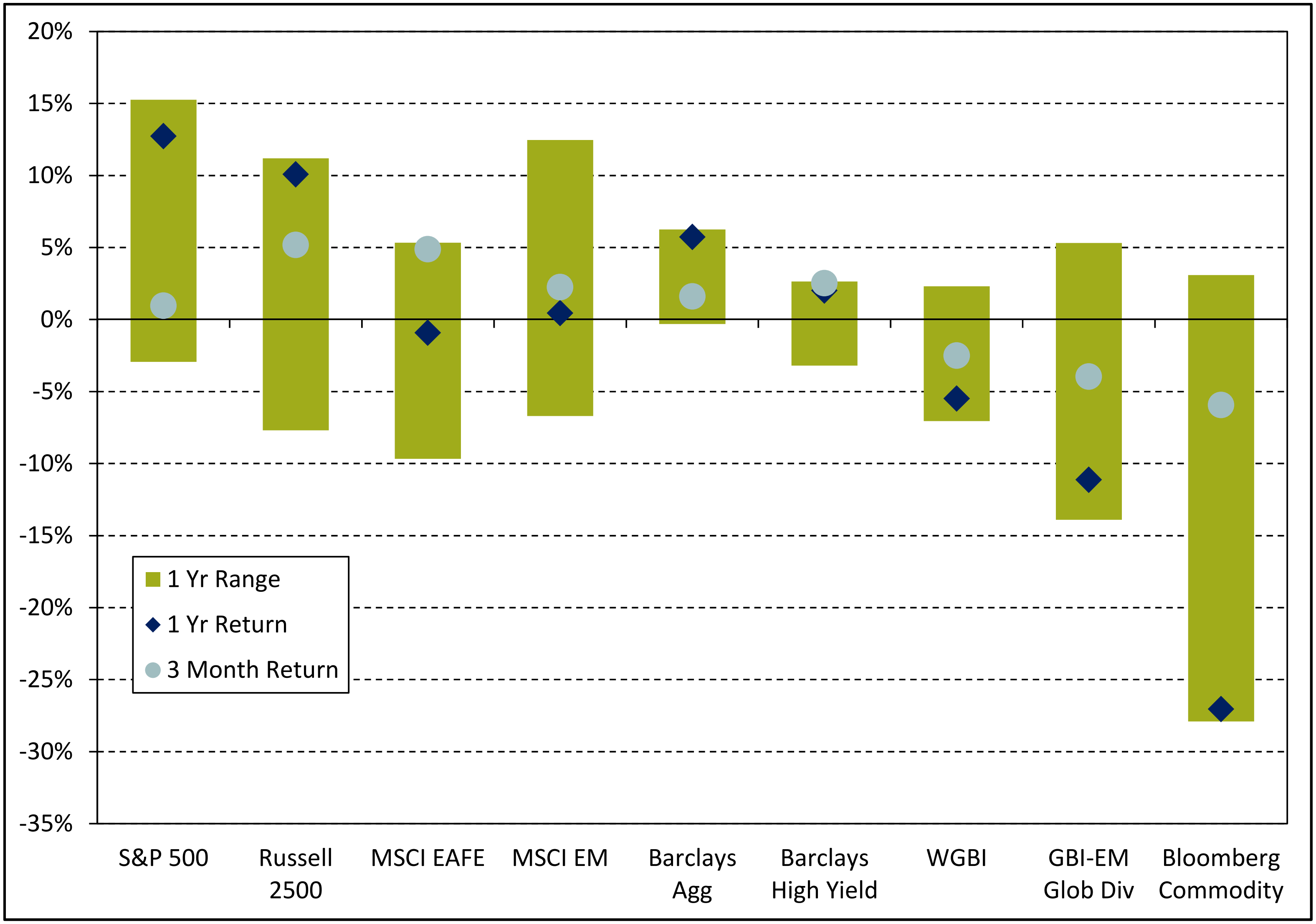
PIMCO - Firm Status: In the period beginning January 1, 2014 through March 31, 2015, PIMCO total assets under management fell by approximately $330 billion. Much of the outflows occurred following Bill Gross's departure and more than half was redeemed from the Total Return strategy. There are signs that asset flows have stabilized outside of Total Return, with several strategies experiencing net inflows in March 2015. In addition, there is no evidence that PIMCO has made any material organizational changes to adjust for the loss in revenue. We believe that PIMCO has a great deal of financial flexibility in this regard through compensation adjustments, employee attrition, and overall financial health. One factor that did not go unnoticed in conversations with members of the investment team is the improvement in the workplace environment since Mr. Gross' departure. By all accounts, it appears the atmosphere is positive and more conducive to a collegial workplace. While it will take time to see if this new PIMCO environment will yield positive results for clients, it is a step in the right direction. For these reasons we are upgrading PIMCO's firm due diligence status to Watch from Client Review.

PIMCO strategies excluding Total Return and Unconstrained Bond: The impact of Bill Gross's departure for a majority of PIMCO strategies is much less significant from an investment standpoint. While outflows did occur across the product platform, redemptions tapered off quickly in the months following the announcement and reversed in some cases. While some strategies may continue to feel a residual impact from the organizational changes, we are comfortable with the investment teams and strategies and see little in terms of product-specific risks going forward. All PIMCO strategies, with the exception of Total Return and Unconstrained Bond, will have their Client Review due diligence status rescinded. These strategies will retain a due diligence status of Watch due to the overall PIMCO Firm rating detailed above.

NEPC recommends a due diligence status of WATCH for PIMCO as a firm and for the Global Fixed Income portfolio in which VCERA currently invests.

Appendix: Market Environment; Performance Disclosures

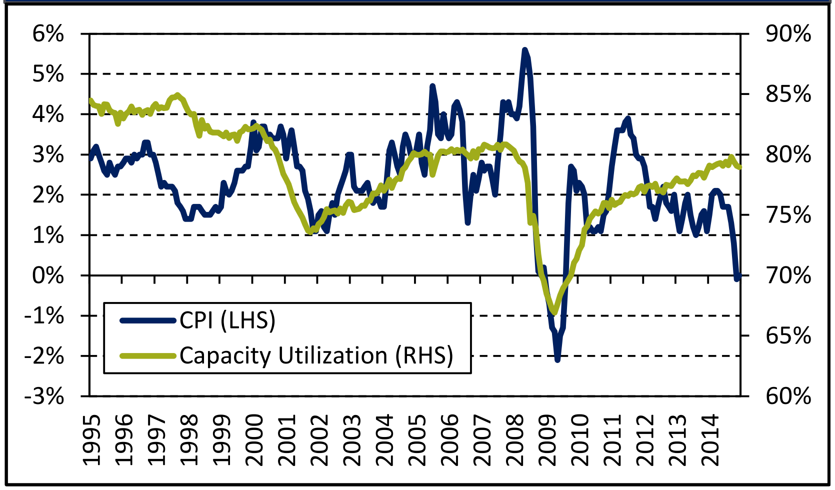
Broad Market Performance Summary as of 3/31/2015



Source: Bloomberg, Standard and Poors, Russell, MSCI, Barclays, Citigroup, JP Morgan
**1 Yr Range: Represents range of cumulative high/low daily index returns for an investment made one year ago*

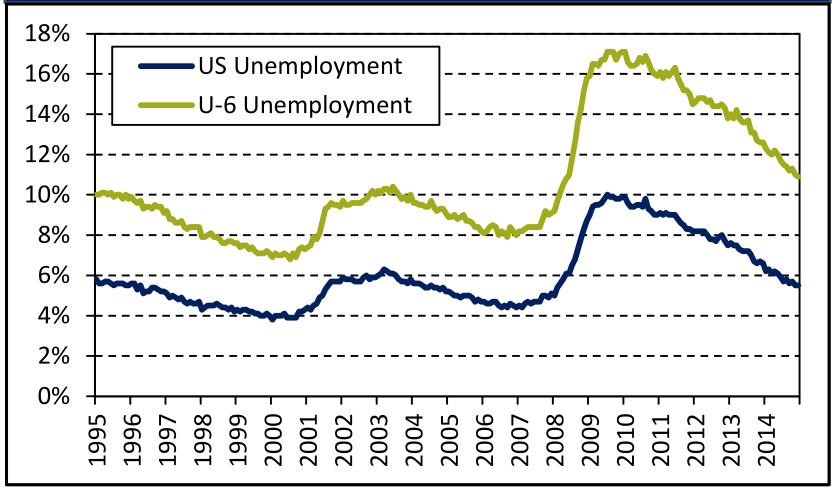
U.S. Economic Indicators

Inflation has stayed low



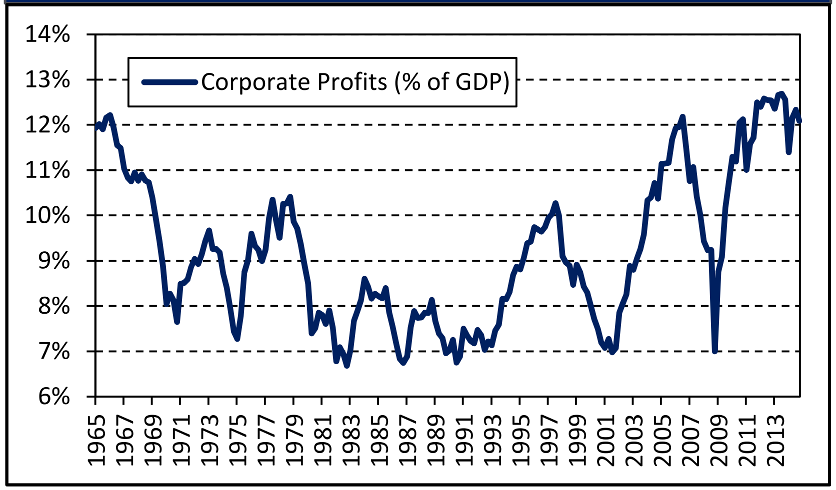
Source: Bloomberg, Federal Reserve, Bureau of Labor Statistics

Unemployment steadily improving



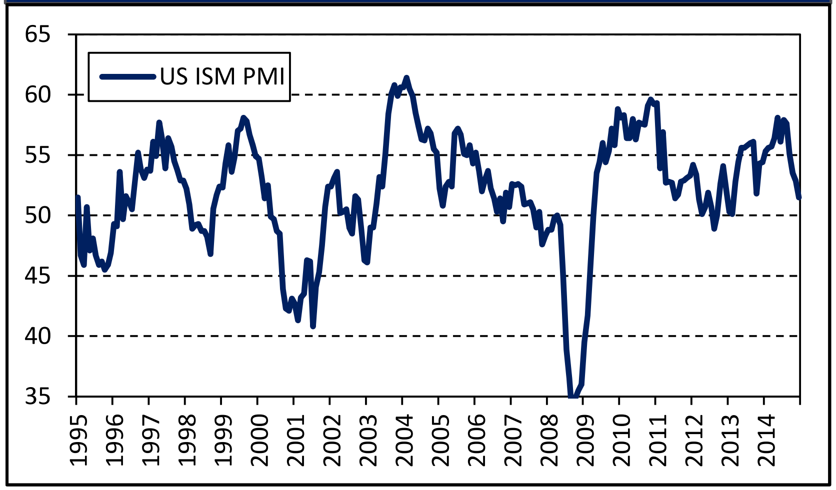
Source: Bloomberg, Bureau of Labor Statistics

Corporate profits at secular highs



Source: Bloomberg, Bureau of Economic Analysis

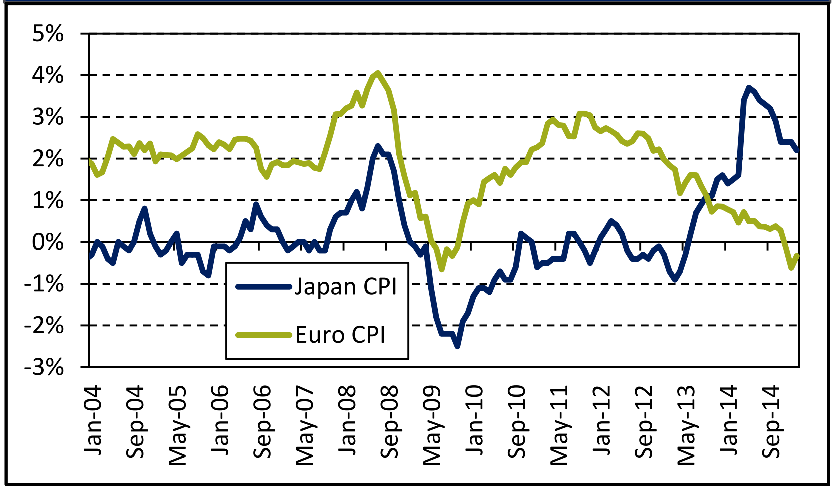
Manufacturing above average but trending down



Source: Bloomberg, Institute for Supply Management

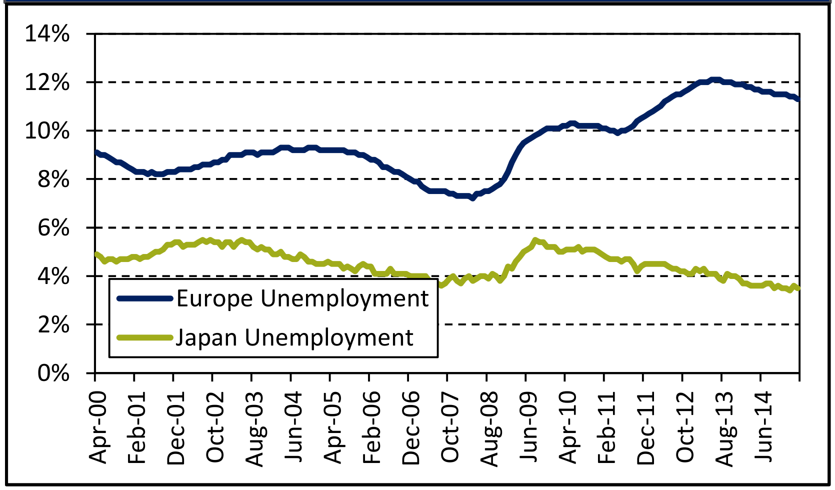
International Economic Indicators

Deflation remains a concern



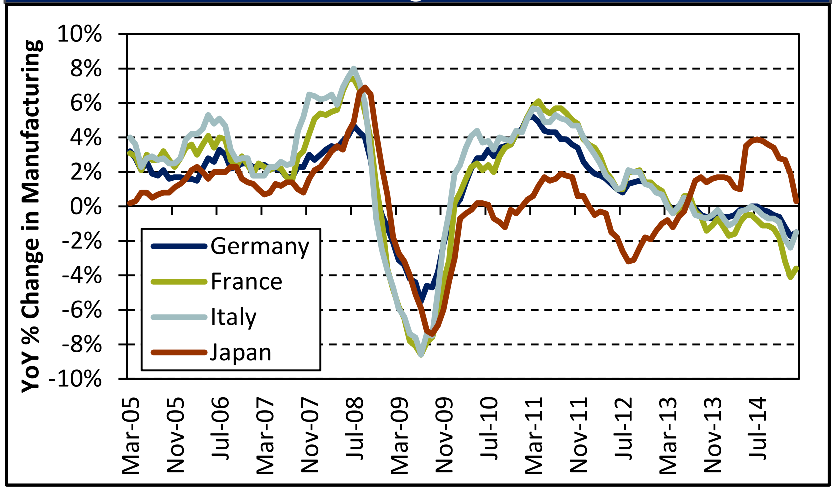
Source: Bloomberg, Japan Ministry of Internal Affairs and Communications, Eurostat

Europe employment recovery lagging

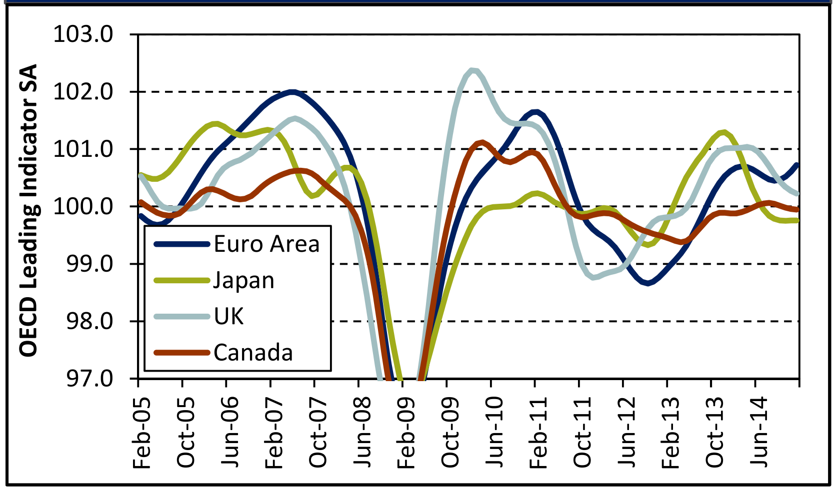


Source: Bloomberg, Japan Ministry of Internal Affairs and Communications, Eurostat

Manufacturing subdued in Europe but rising off lows



Leading indicators neutral to positive

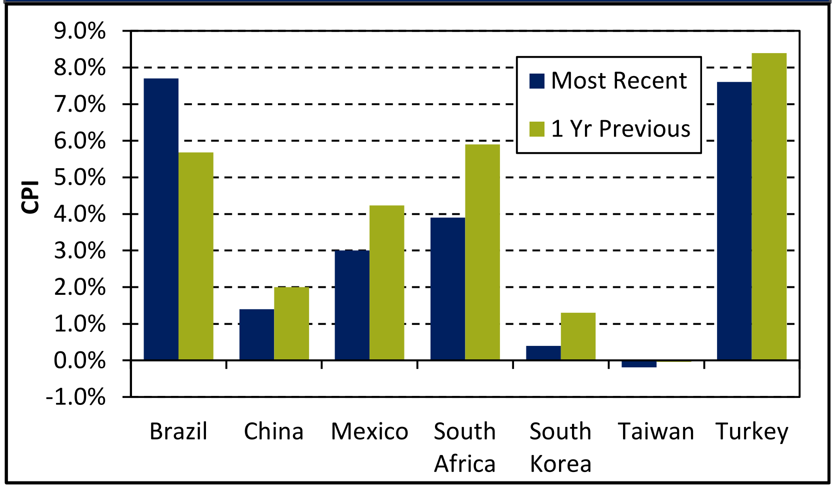


Source: Bloomberg, OECD, Eurostat

Source: Bloomberg, OECD

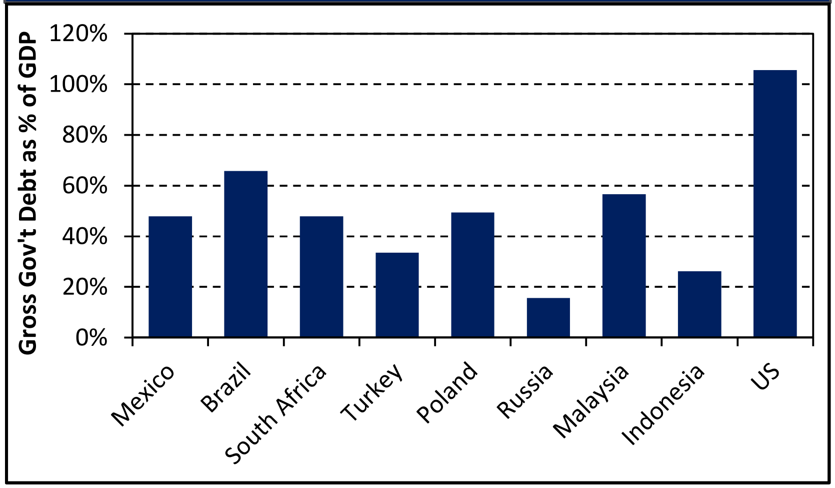
Emerging Market Economic Indicators

EM inflation is varied by country



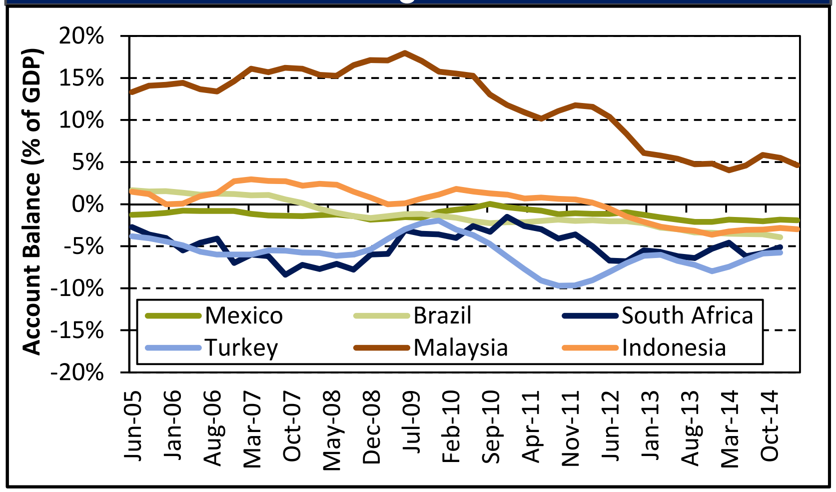
Source: Bloomberg

Relatively healthy Debt/GDP ratios



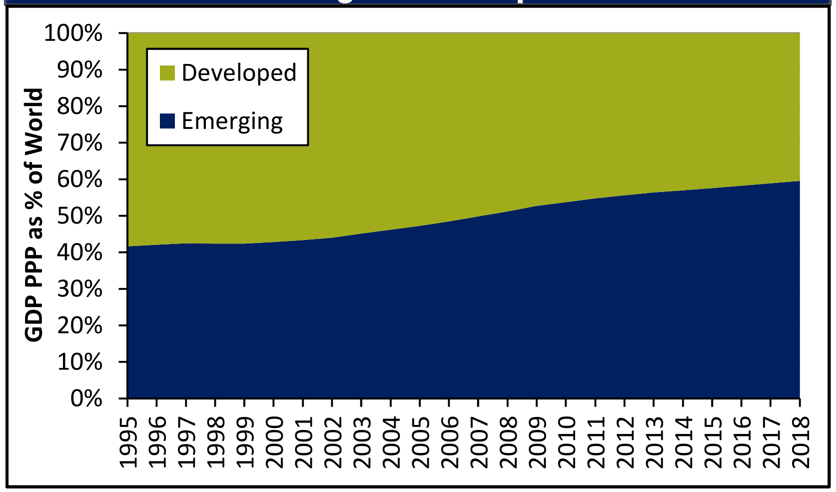
Source: Bloomberg, IMF

Some improvement in account balance challenged countries



Source: Bloomberg

Emerging economies make up >50% of global output



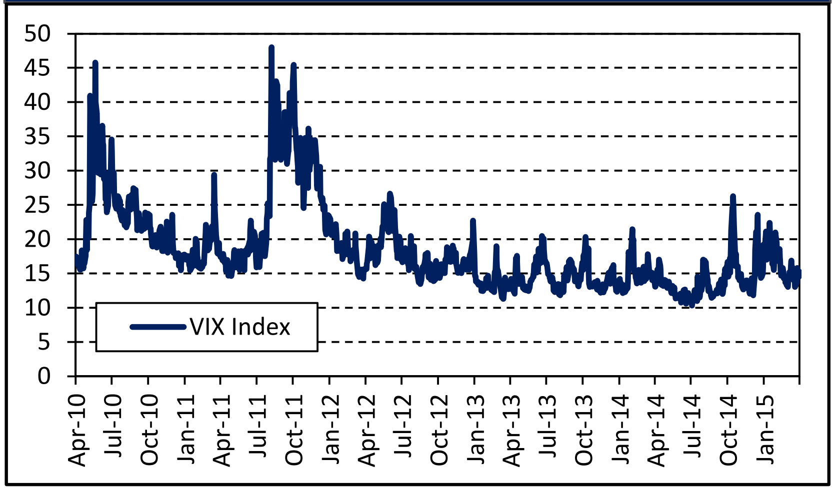
Source: Bloomberg, IMF

NEPC, LLC

March 31, 2015

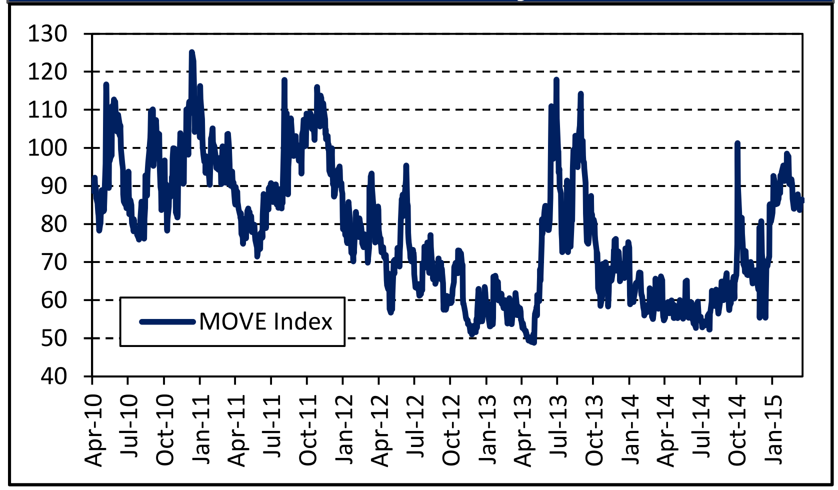
Volatility

Equity volatility remains low



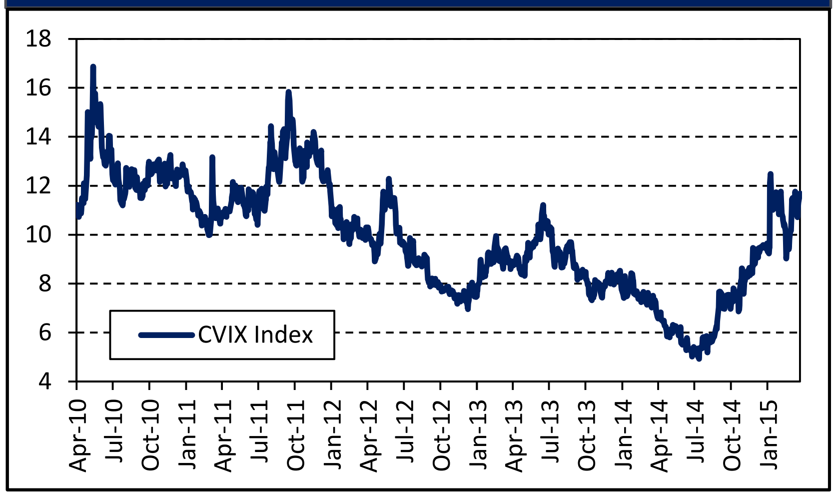
Source: Bloomberg, CBOE

Treasury rates experiencing higher volatility



Source: Bloomberg, Merrill Lynch

Recent uptick in currency volatilities



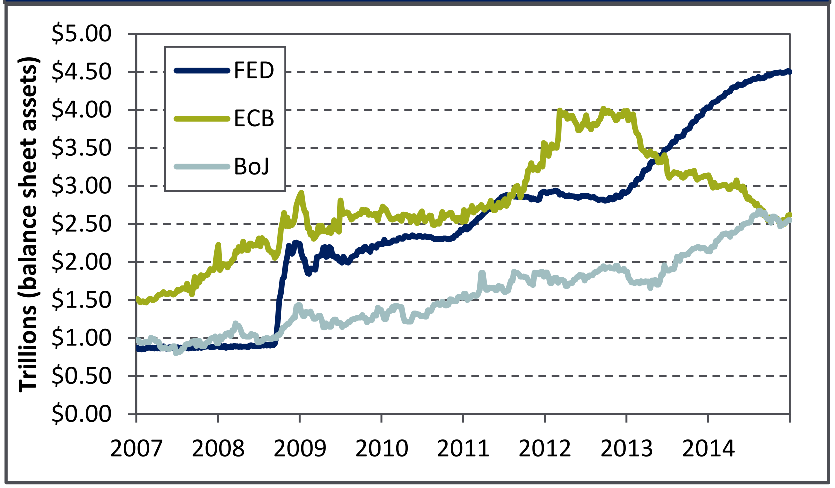
Source: Bloomberg, Deutsche Bank

Commodity pricing volatility has increased

Source: Bloomberg, Merrill Lynch

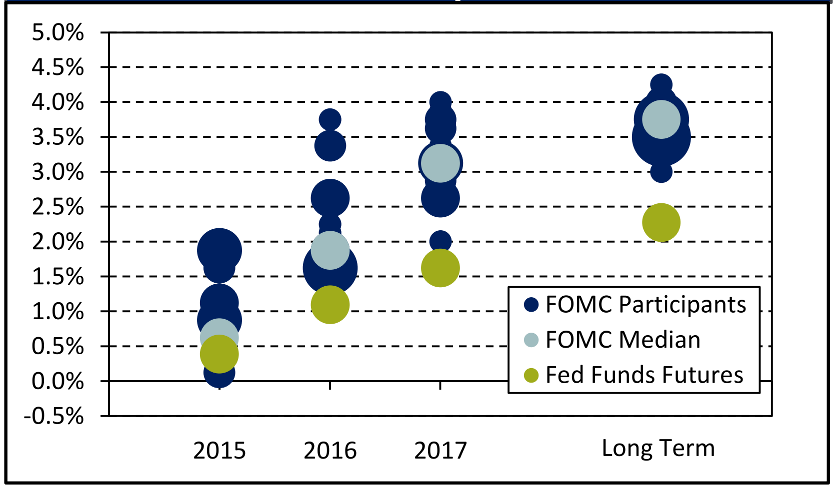
Central Banks

Major central bank policy divergence



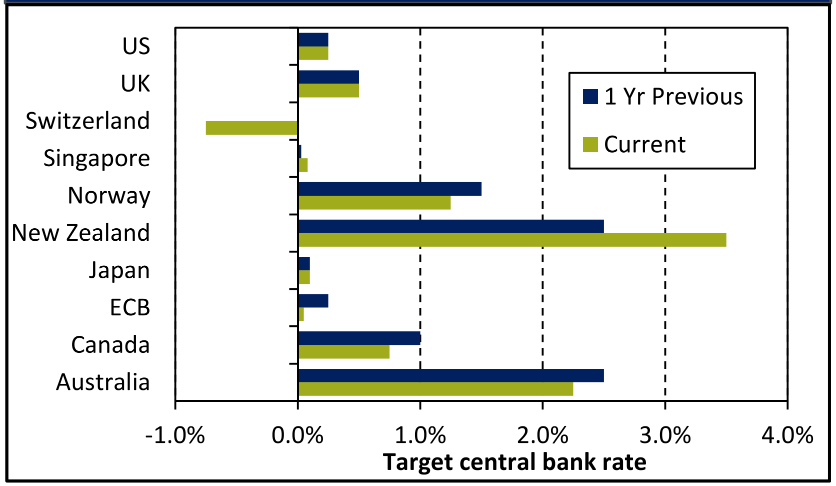
Source: Bloomberg, Federal Reserve, Bank of Japan, ECB, NEPC

Fed's ideal rate of policy firming above market expectations



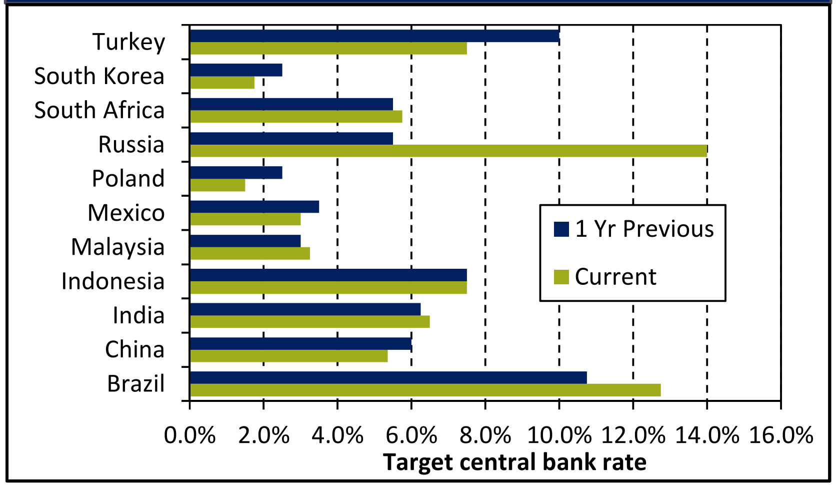
Source: Bloomberg, Federal Reserve, NEPC

Many developed central banks have maintained low interest rates



Source: Bloomberg

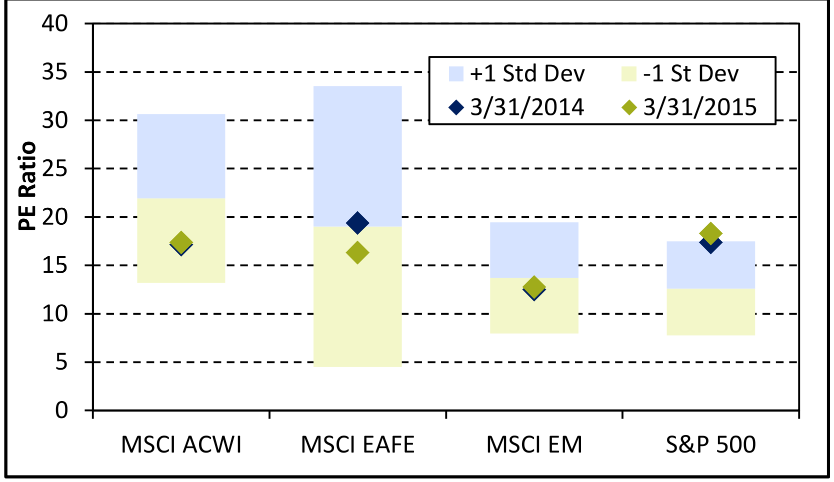
EM central bank policies have varied by circumstance



Source: Bloomberg

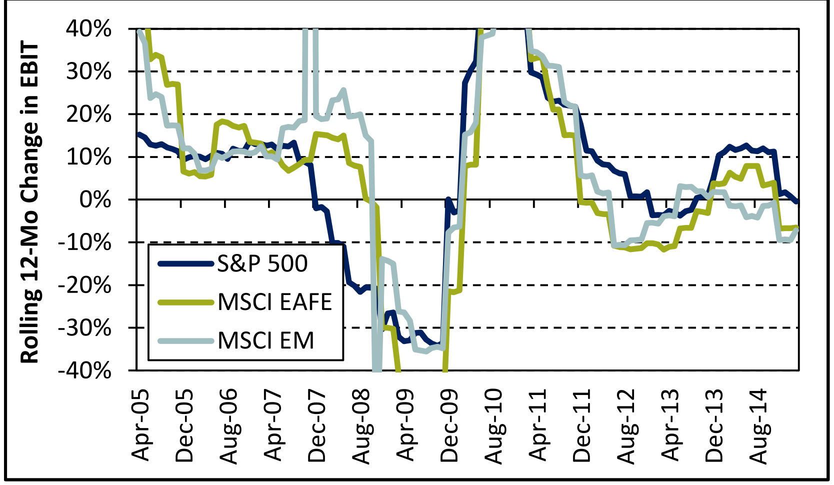
Global Equity

Global valuations are mixed



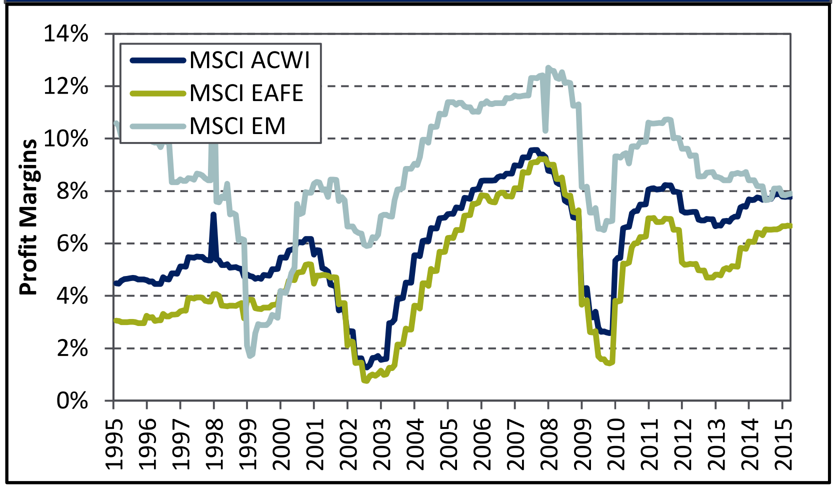
*Source: Bloomberg, Standard and Poors, MSCI *MSCI EAFE is ex UK Telecom*

Earnings growth trending lower in the U.S.



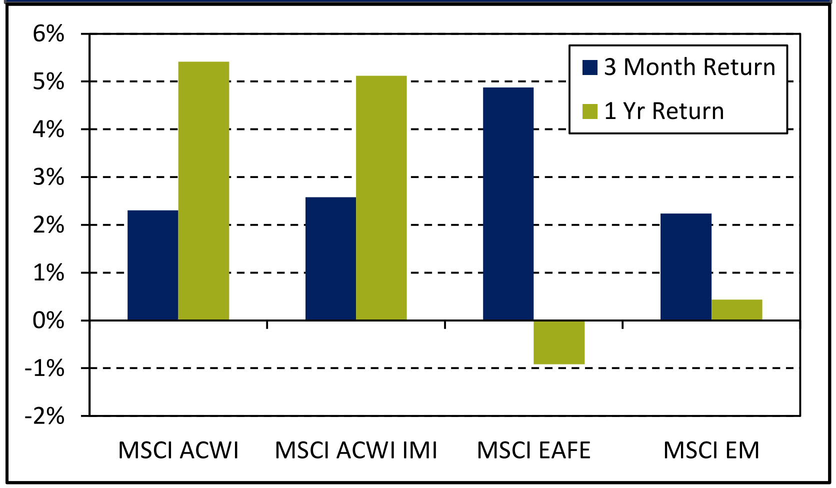
Source: Bloomberg, Standard and Poors, MSCI

Margins elevated, but largely a U.S. story



Source: Bloomberg, MSCI

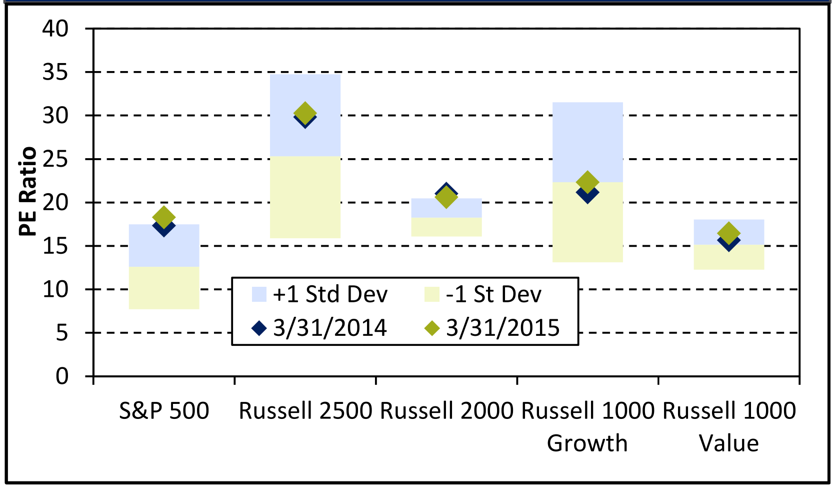
Significant global variance in returns



Source: Bloomberg, MSCI

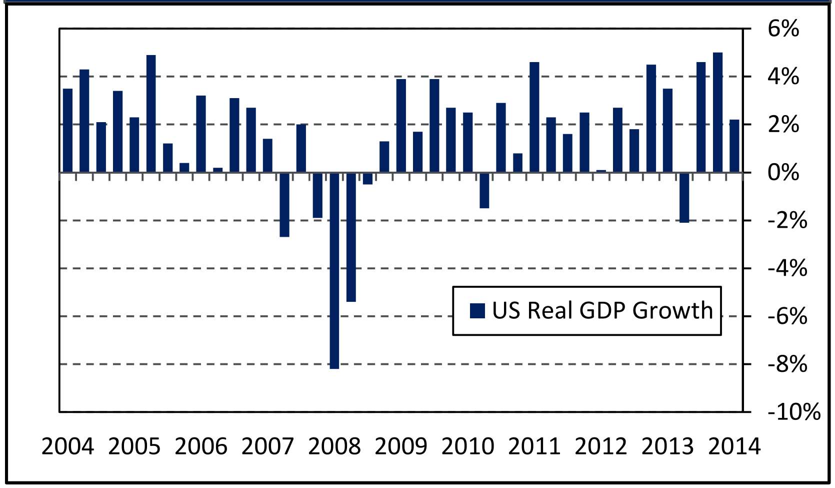
U.S. Equity

Valuations above historical norms



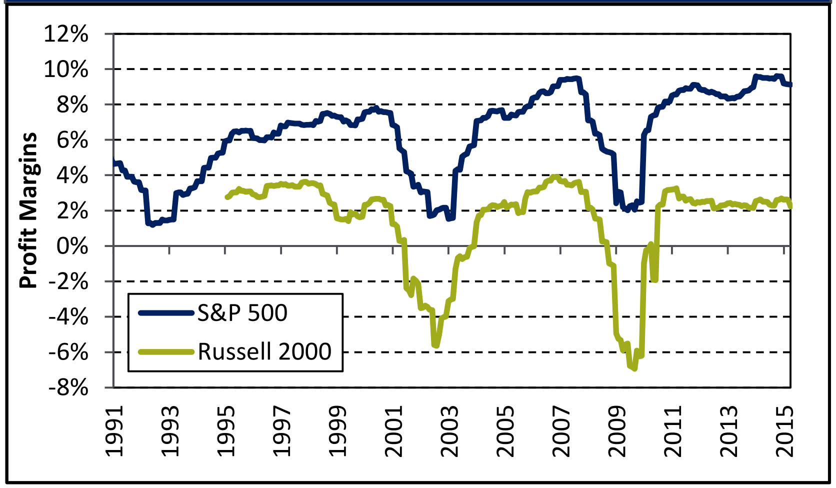
*Source: Bloomberg, Standard and Poors, Russell *Russell 2000 PE is index adjusted positive*

Solid growth recovery



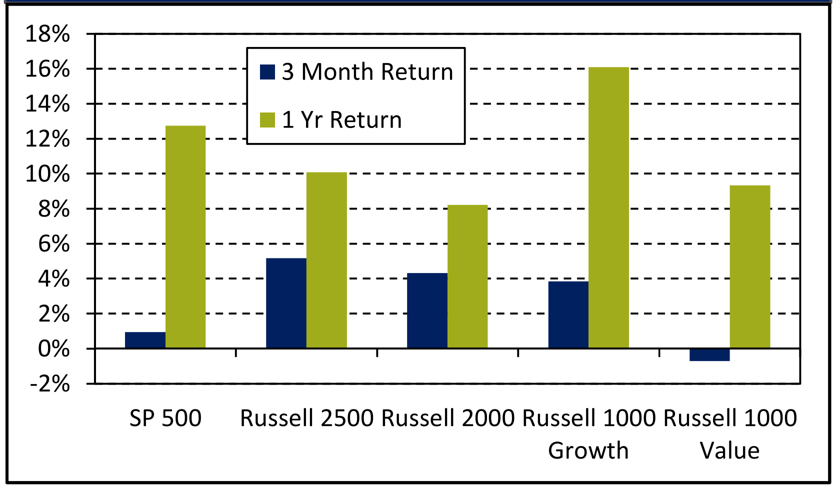
Source: Bloomberg, Bureau of Economic Analysis

Profit margins remain elevated



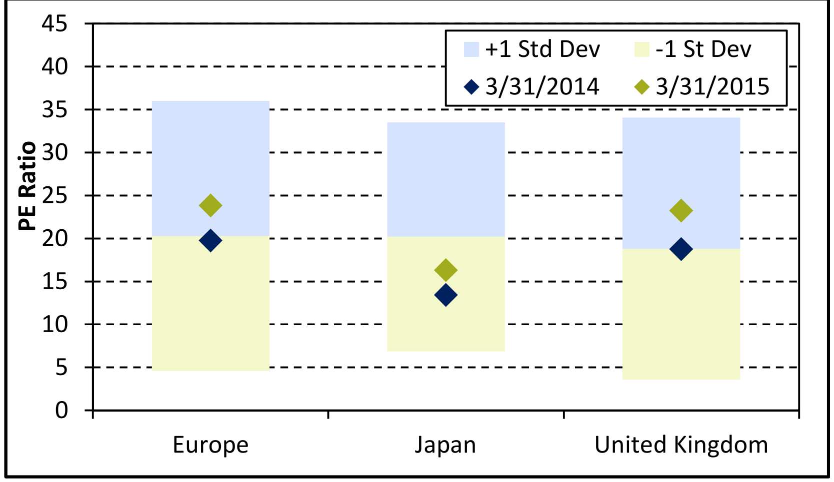
Source: Bloomberg, Standard and Poors, Russell

Trailing performance is positive



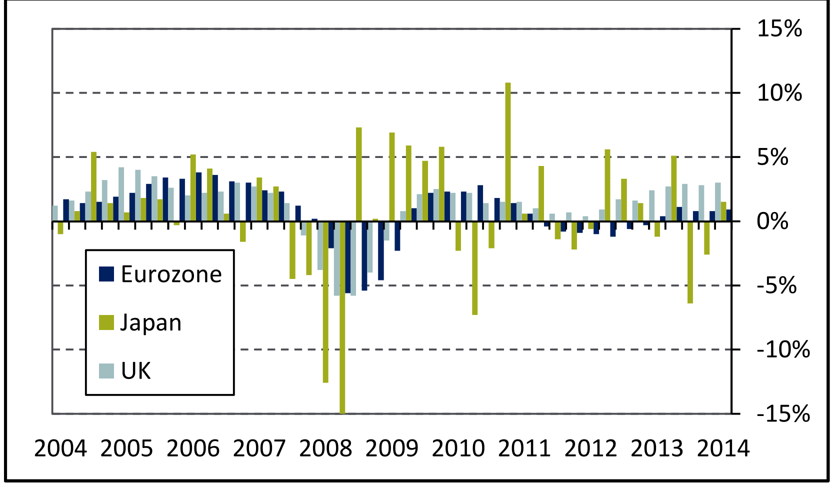
Source: Bloomberg, Standard and Poors, Russell

PEs near or below historical medians



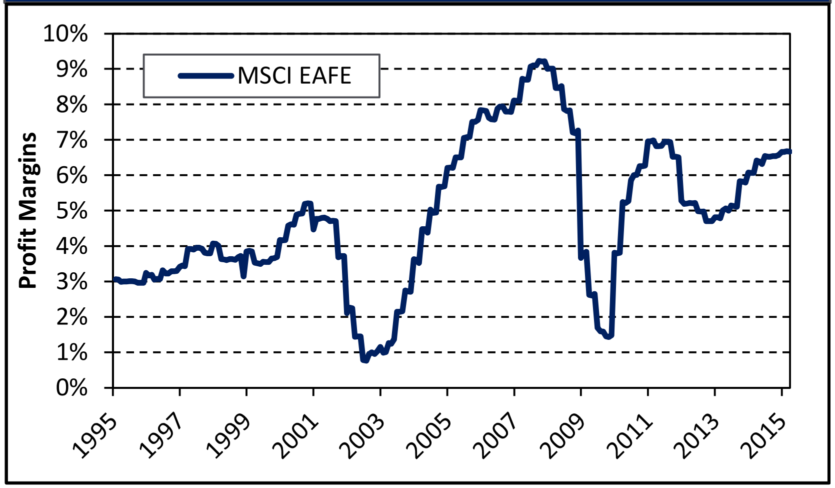
Source: Bloomberg, MSCI, FTSE *UK represented by FTSE 100 Index

Growth dispersion pronounced



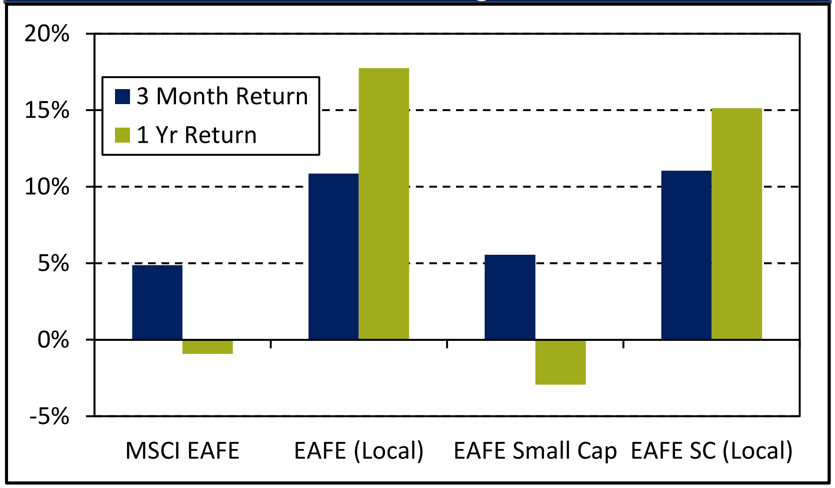
Source: Bloomberg

Margins elevated but not at extremes



Source: Bloomberg, MSCI

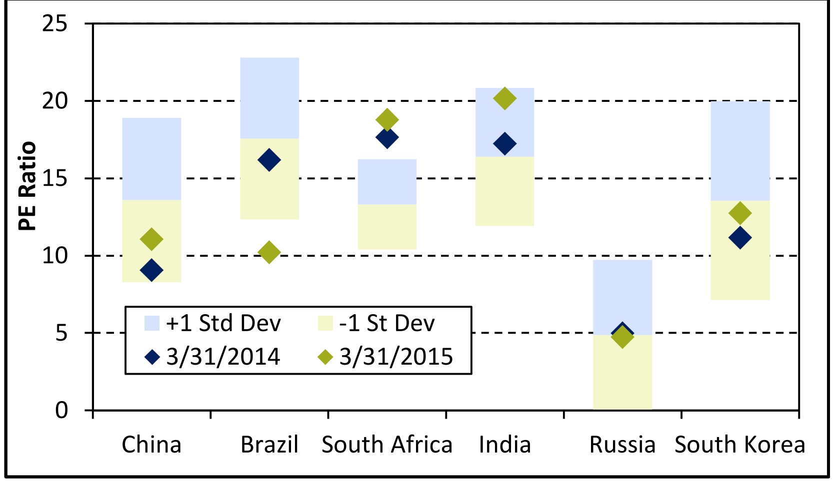
Positive performance muted by dollar strength



Source: Bloomberg, MSCI

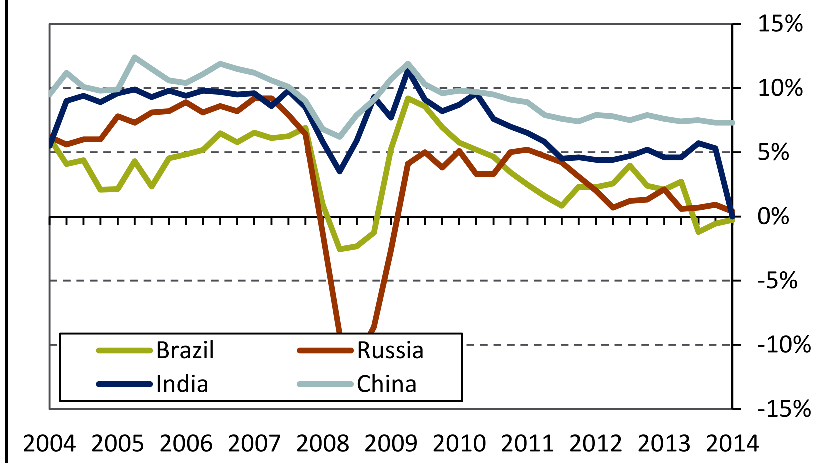
Emerging Markets Equity

Regional valuations show divergence



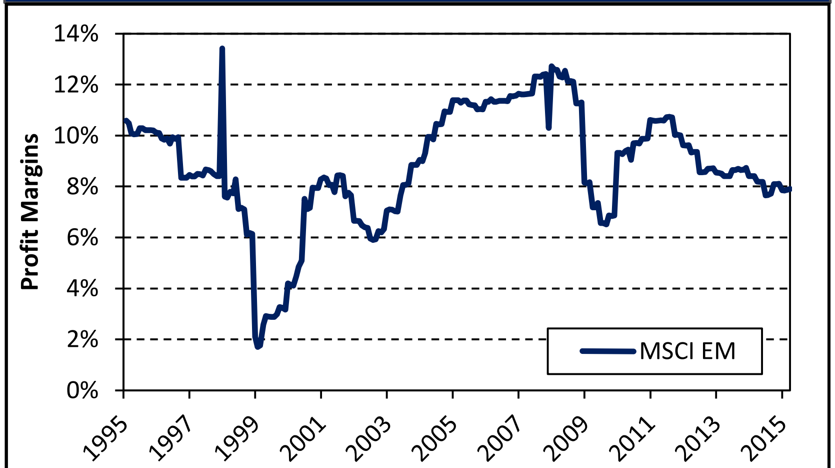
Source: Bloomberg, MSCI

Slowing growth in major economies



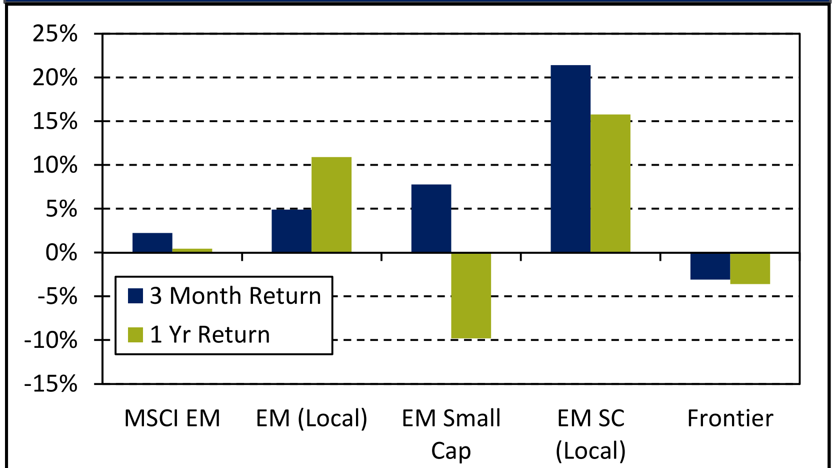
Source: Bloomberg

Profit margins in line with history



Source: Bloomberg, MSCI

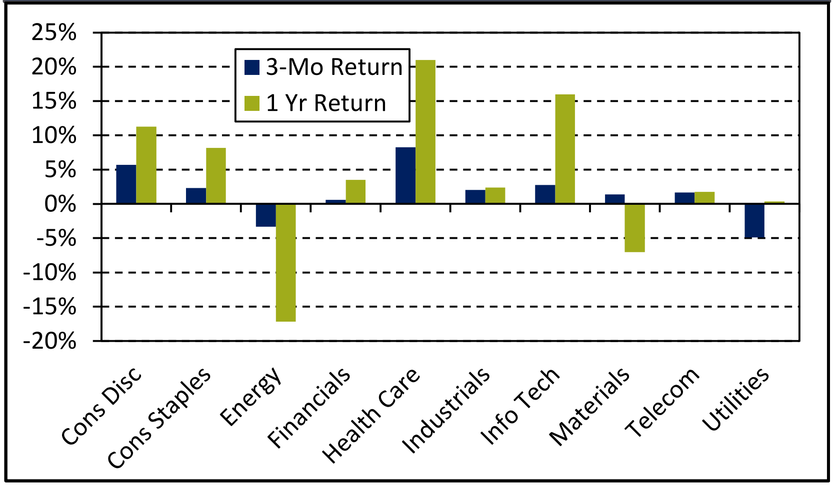
Dollar strength has detracted



Source: Bloomberg, MSCI

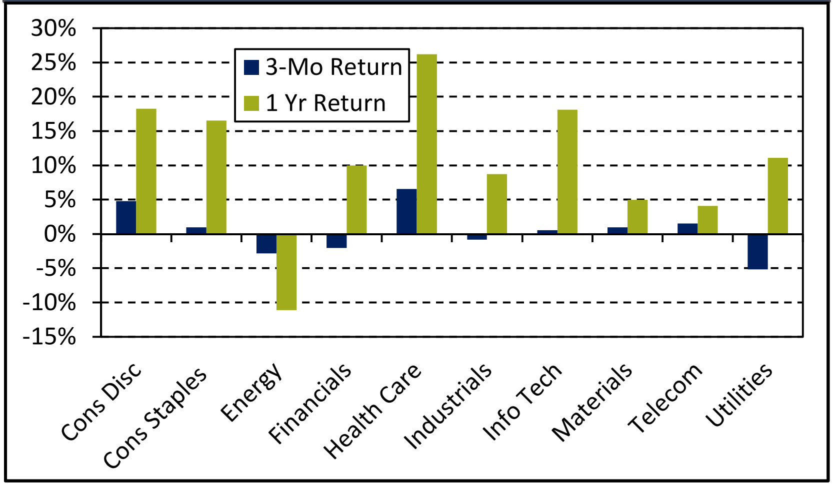
Global Equity by Sector

MSCI ACWI returns led by health care rally



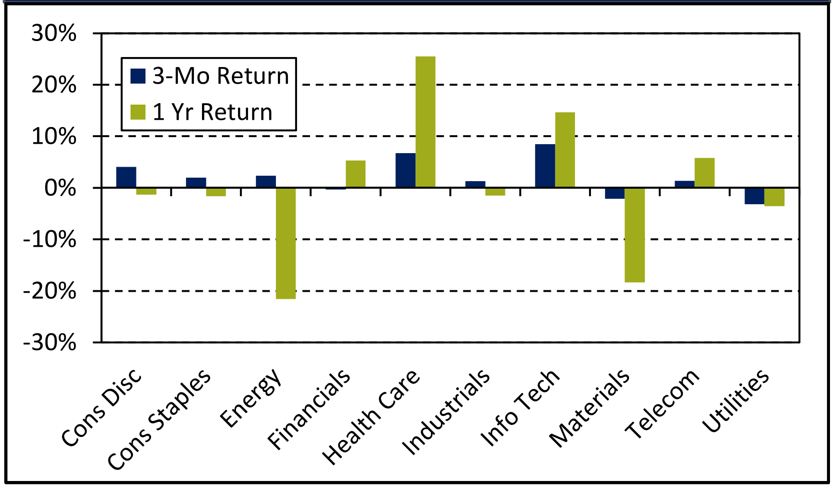
Source: Bloomberg, MSCI

S&P 500 sectors nearly all positive



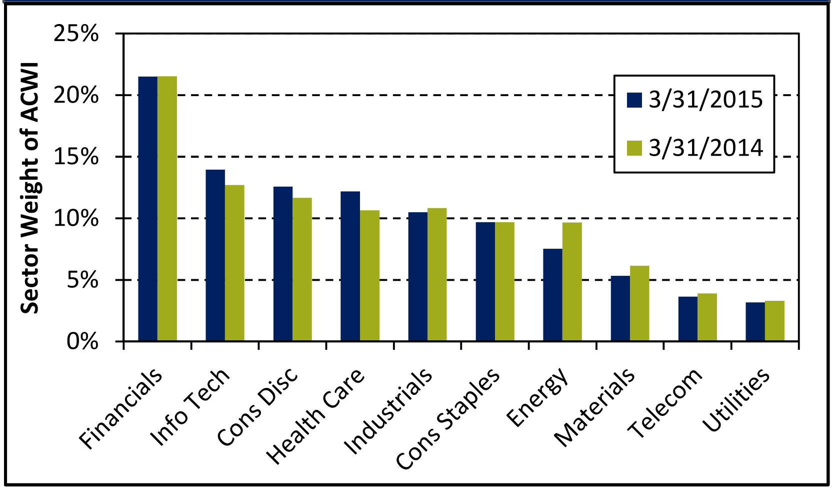
Source: Bloomberg, Standard and Poors

Energy decline especially felt in MSCI EM



Source: Bloomberg, MSCI

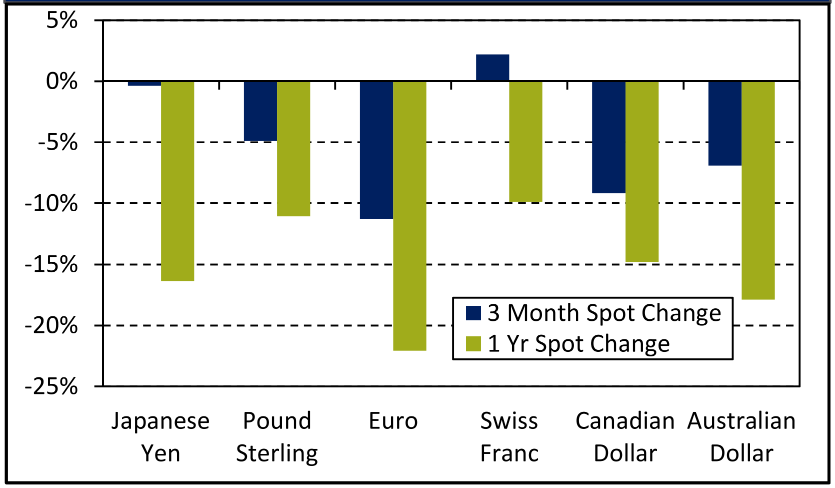
Global energy sector weight has fallen



Source: Bloomberg, MSCI

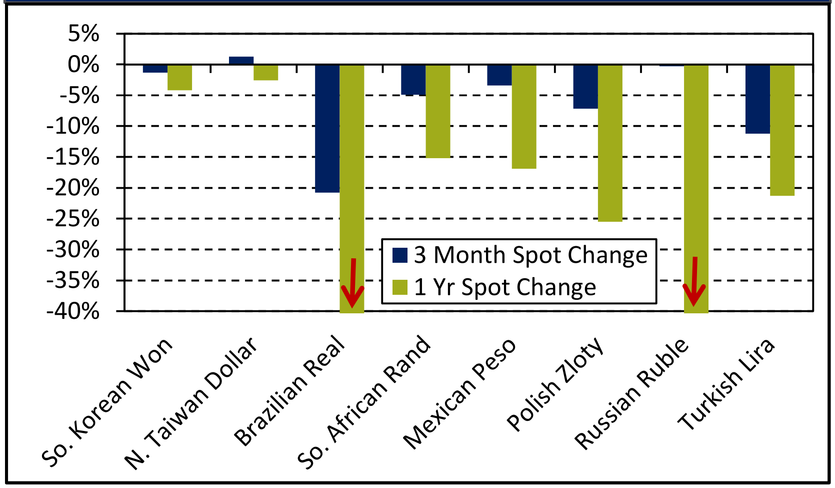
Currencies

Developed currencies broadly declined versus the U.S. dollar



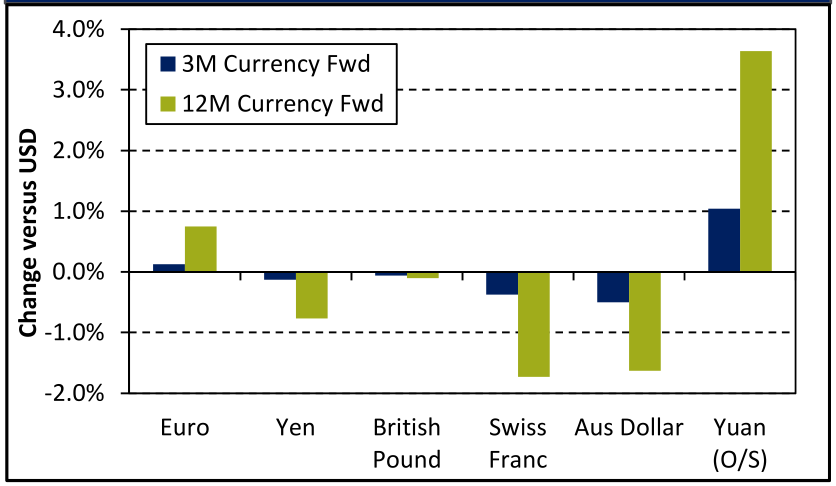
Source: Bloomberg

EM currencies have suffered in unique fashions



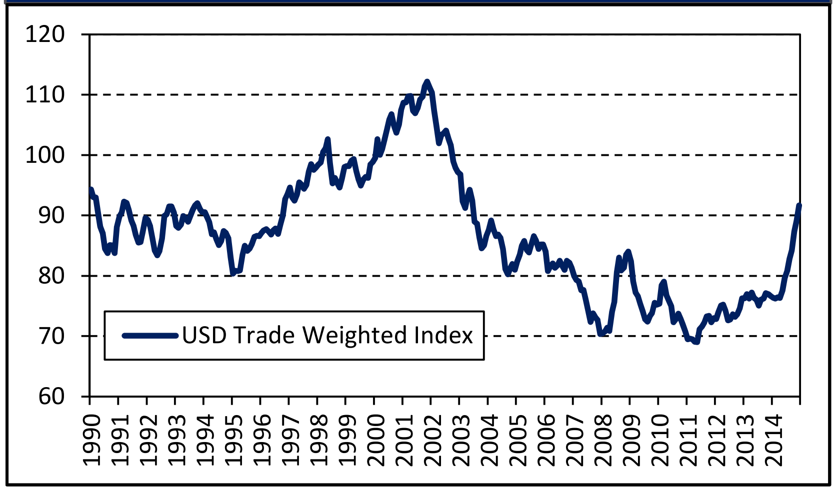
Source: Bloomberg

Yen and GBP expect to decline versus USD



Source: Bloomberg

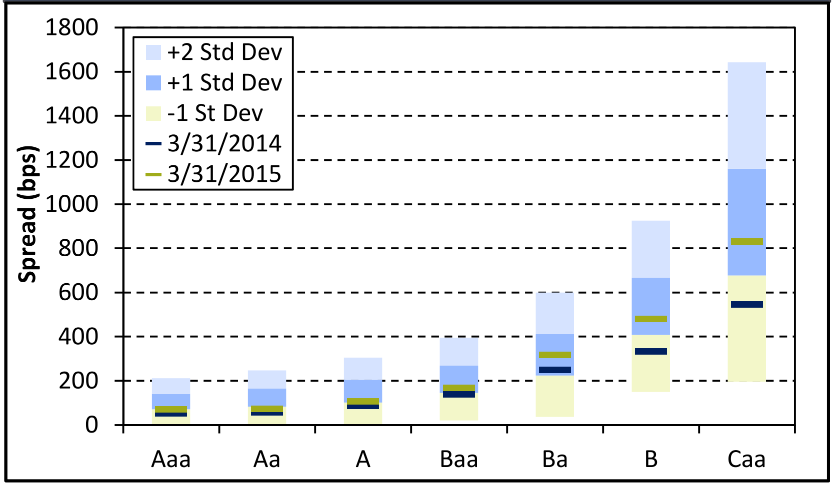
Recent dollar strength pronounced



Source: Bloomberg, Federal Reserve

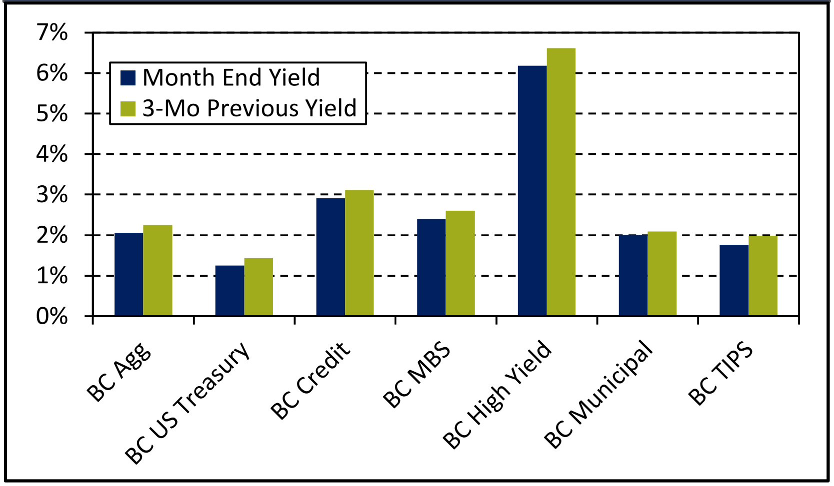
U.S. Fixed Income

Spreads in line or above history



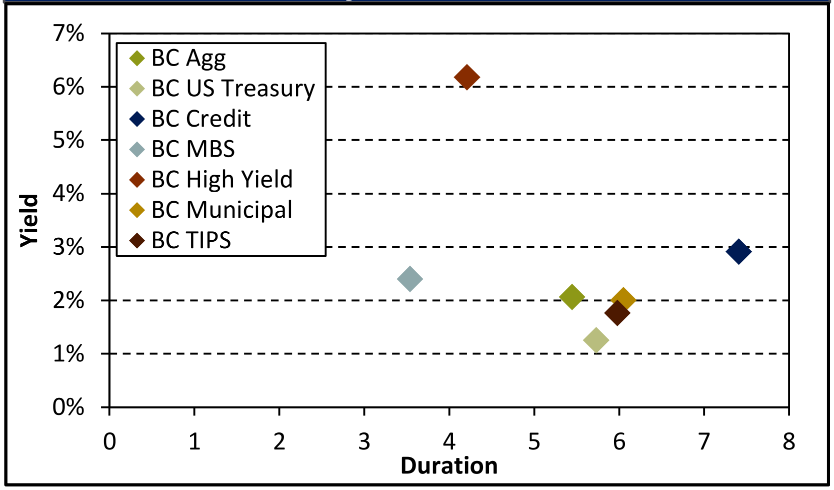
Source: Bloomberg, Barclays

Yields have mostly declined



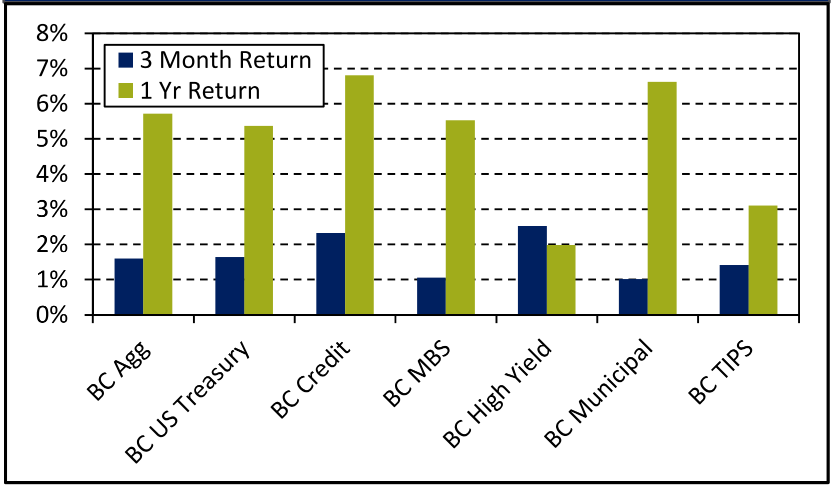
Source: Bloomberg, Barclays

Similar yield / duration tradeoff among major U.S. indices



Source: Bloomberg, Barclays

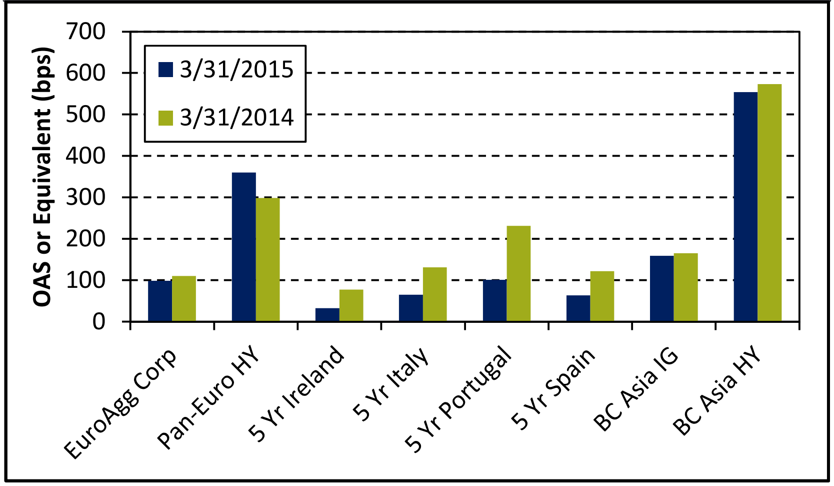
Trailing returns have been strong



Source: Bloomberg, Barclays

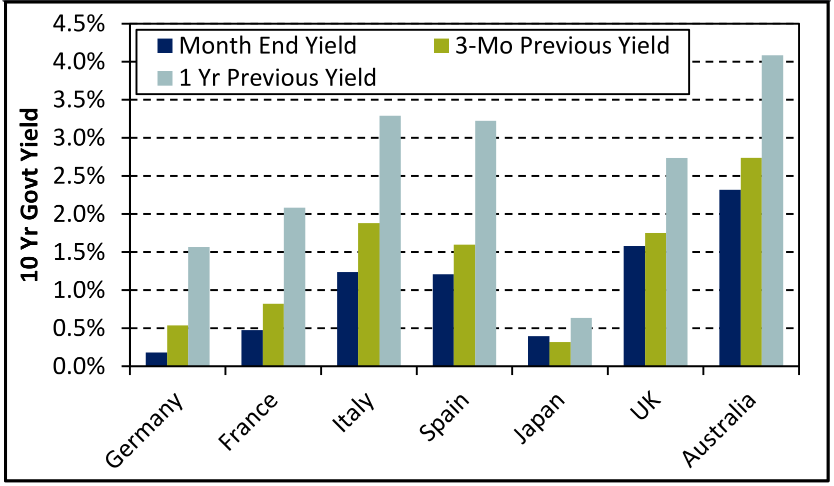
International Developed Fixed Income

European periphery yields relatively higher versus Germany



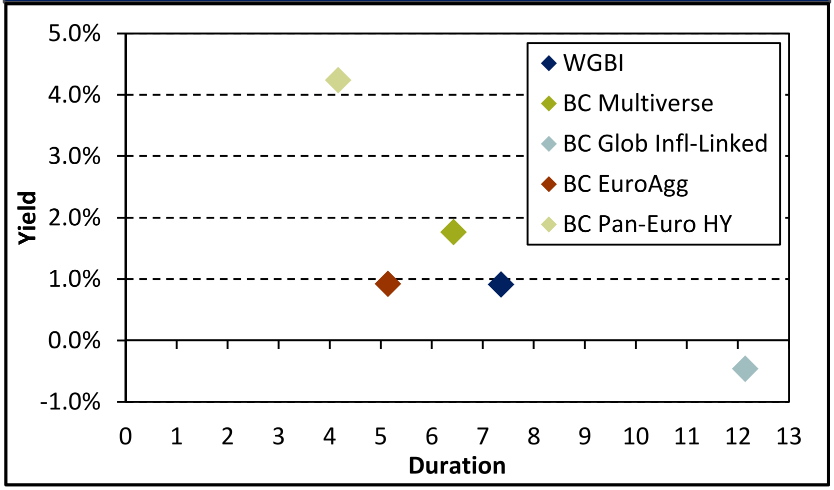
*Source: Barclays, Bloomberg, *European periphery spreads are over equivalent German Bund*

Global yields are at or near historic lows



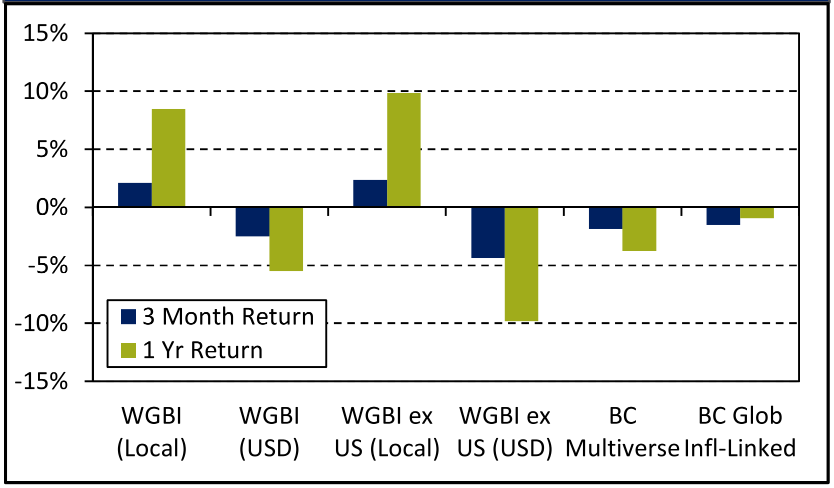
Source: Bloomberg

Low global yields relative to duration



Source: Bloomberg, Citigroup, Barclays

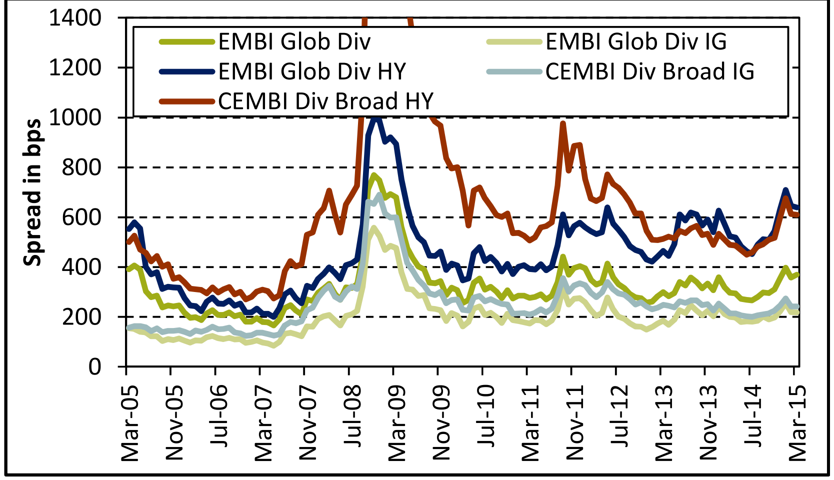
Global bonds negative in USD terms



Source: Bloomberg, Citigroup, Barclays

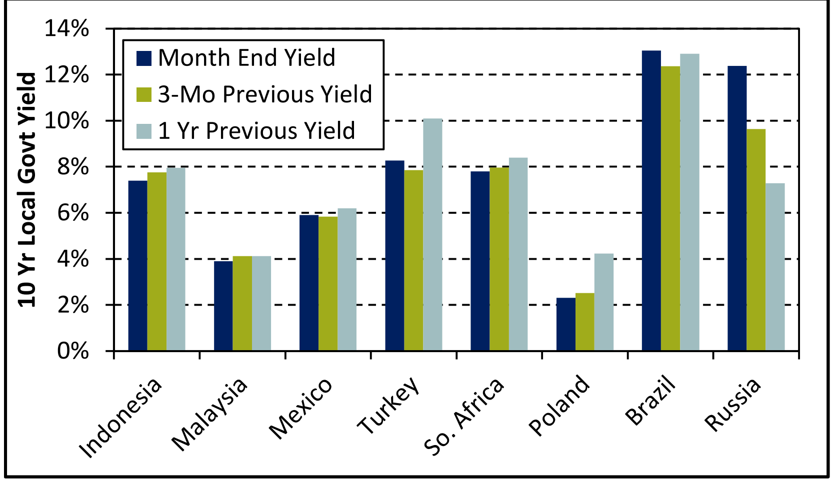
Emerging Markets Fixed Income

Spreads have risen but still in line with history



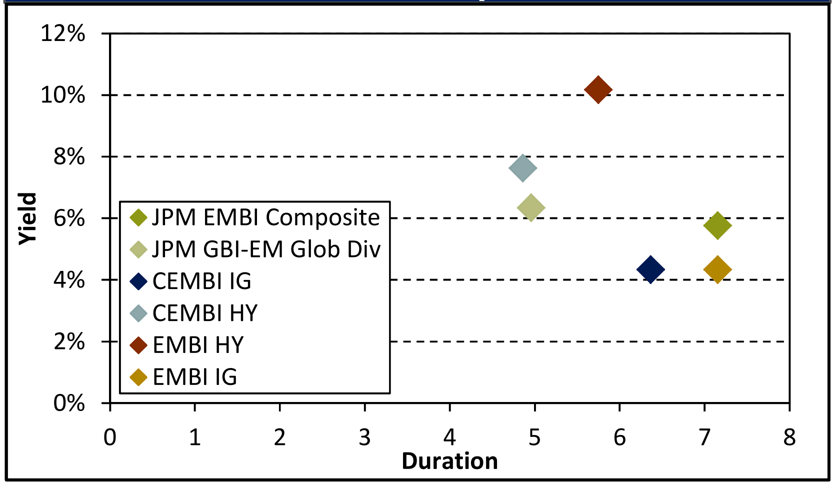
Source: Bloomberg, JP Morgan

Emerging market bond yield changes have varied directionally



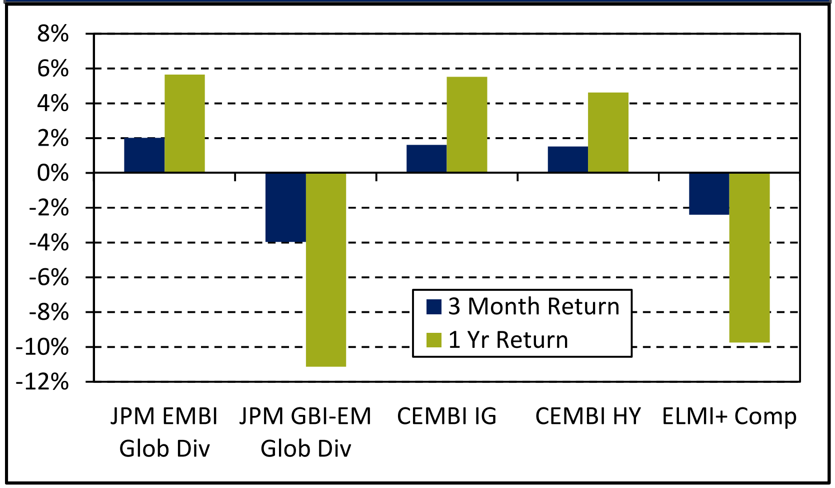
Source: Bloomberg

EM yields higher versus global counterparts



Source: Bloomberg, JP Morgan

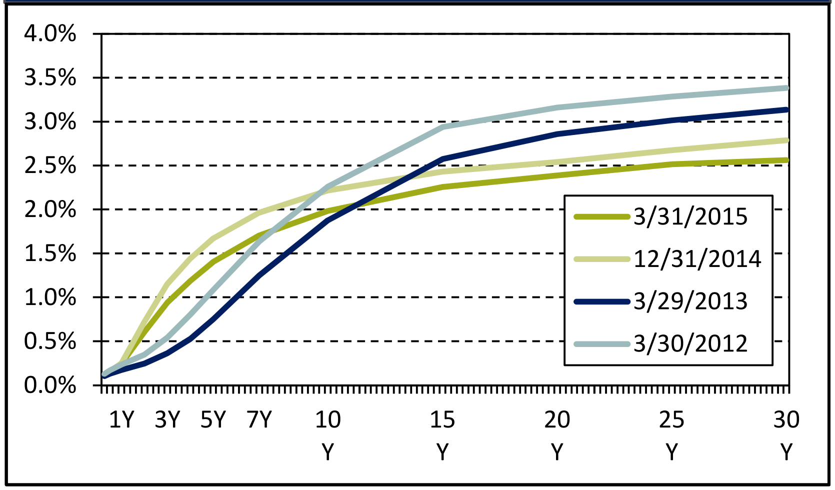
Currency effect pronounced in EMD returns



Source: Bloomberg, JP Morgan

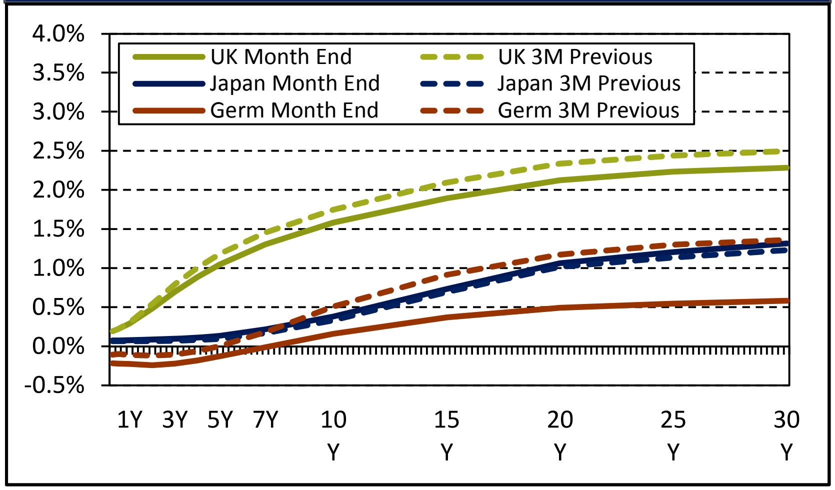
Rates

Treasury yields lower but some steepness remains



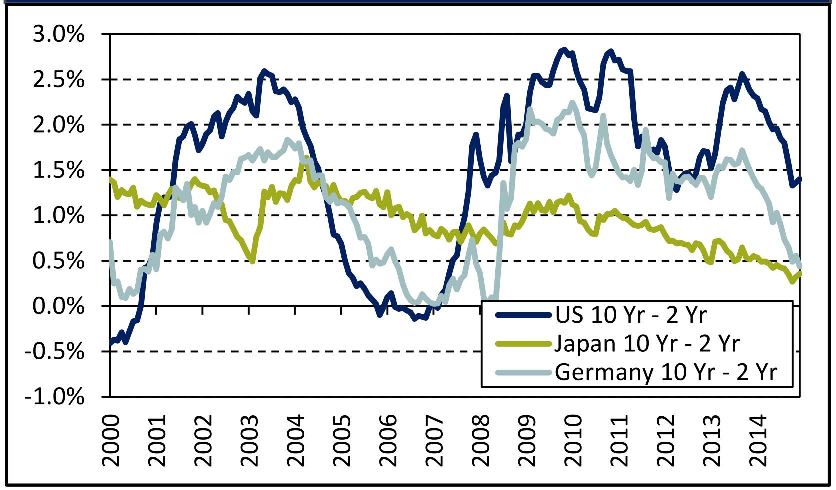
Source: Bloomberg

Significant compression in German Bund curve



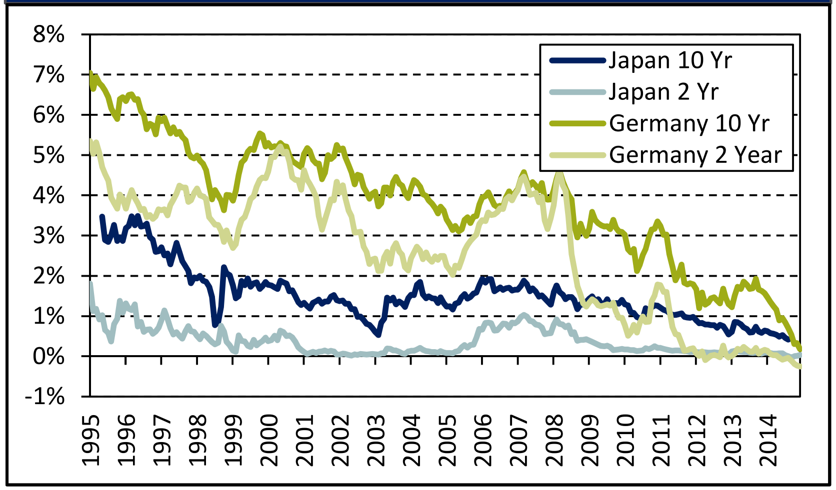
Source: Bloomberg

Global yield curves have flattened



Source: Bloomberg

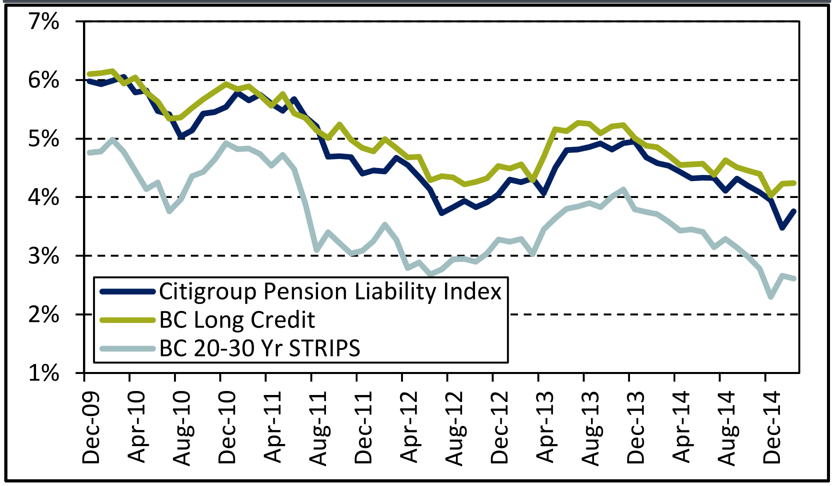
Global yields trending lower



Source: Bloomberg

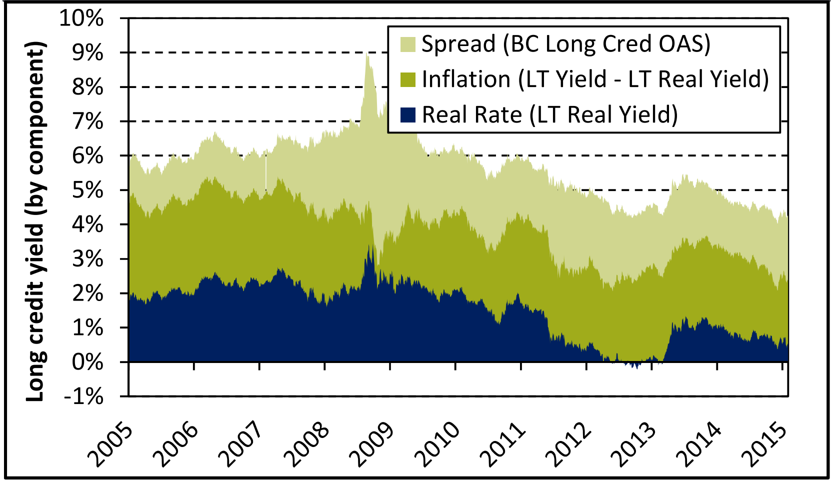
Long Rates and Liability

Long duration yields have fallen over last few years



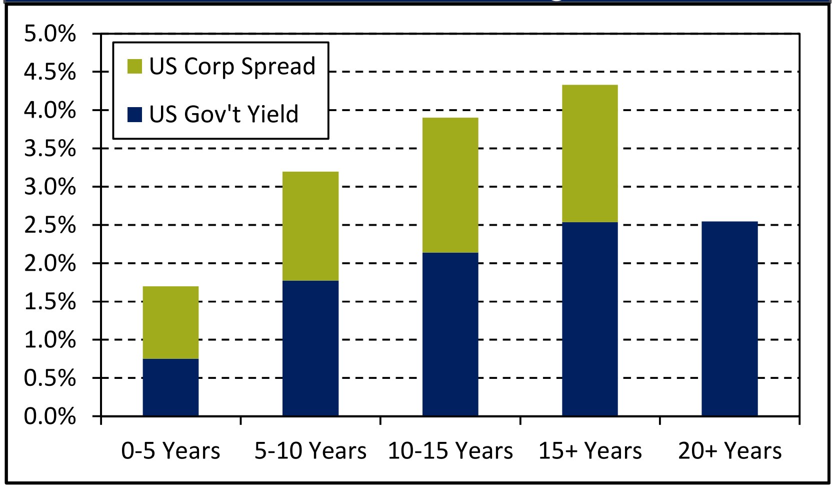
Source: Bloomberg, Citigroup, Barclays

Lower yields driven by fall in inflation expectations



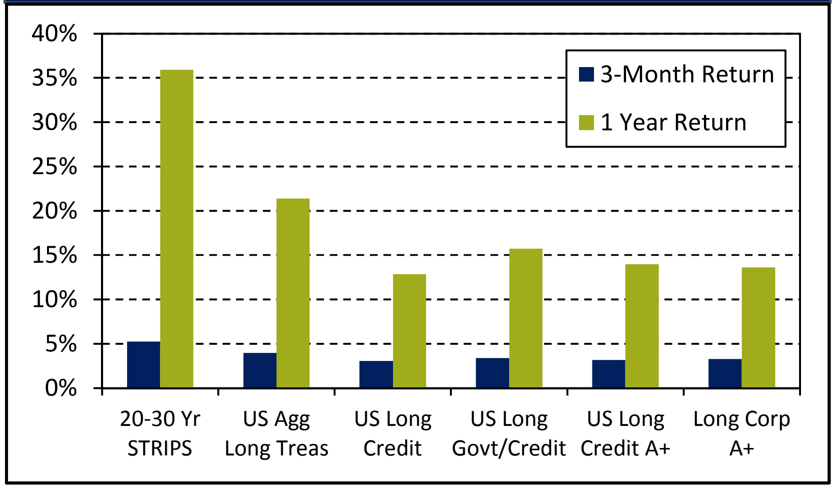
Source: Bloomberg, US Treasury, Barclays, NEPC

Yields are low but spreads remain near historic averages



*Source: Bloomberg, BofA Merrill Lynch, Barclays *No index for 20+ year corporate*

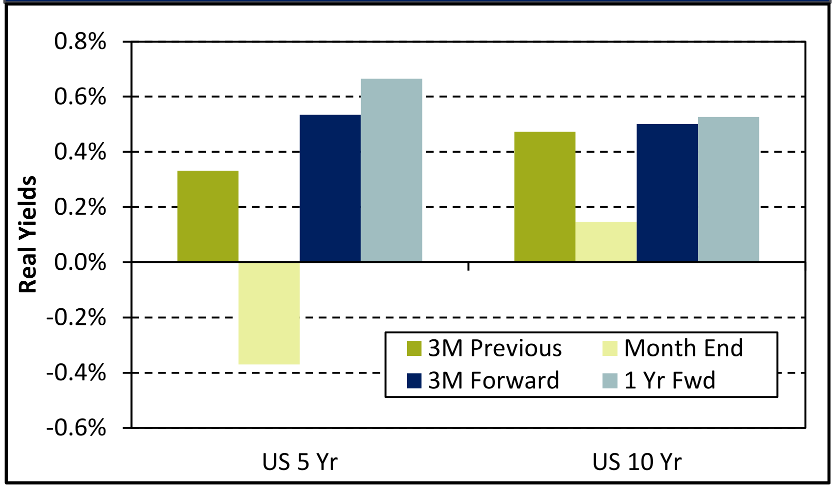
Long duration assets have outperformed



Source: Bloomberg, Barclays

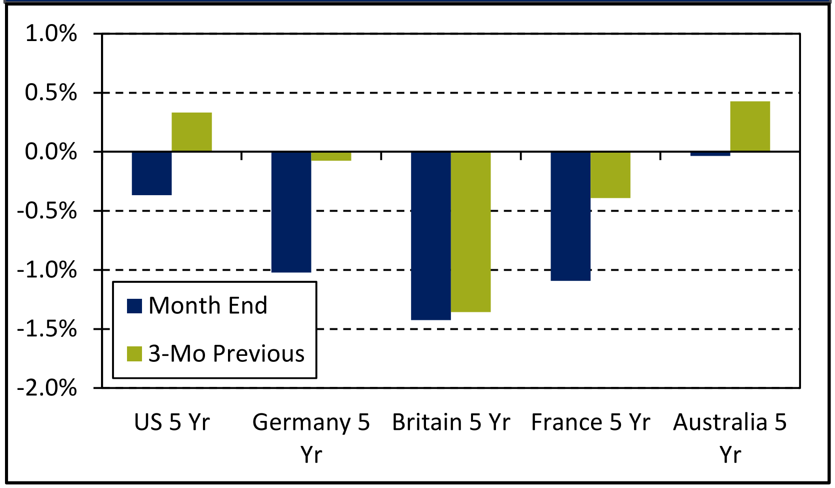
Inflation and Real Rates

U.S. real yields have fallen



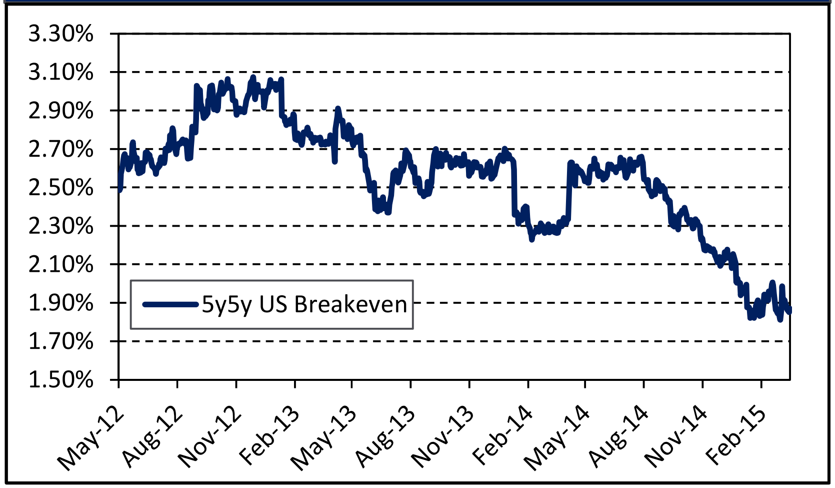
Source: Bloomberg

Global real yields are flat to negative



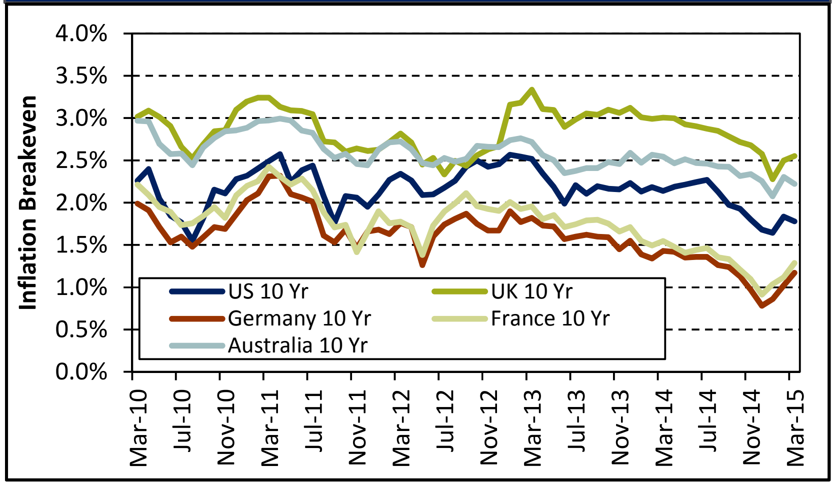
Source: Bloomberg

U.S. inflation expectations have moved lower



Source: Bloomberg

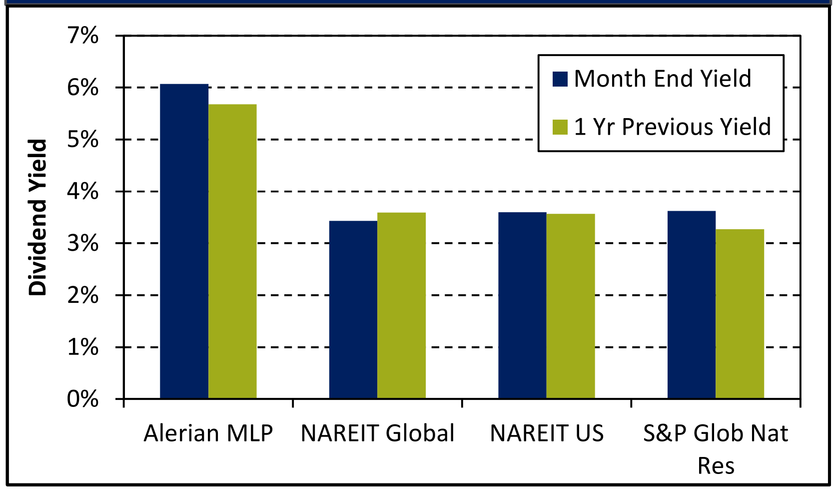
Inflation expectations remain subdued



Source: Bloomberg

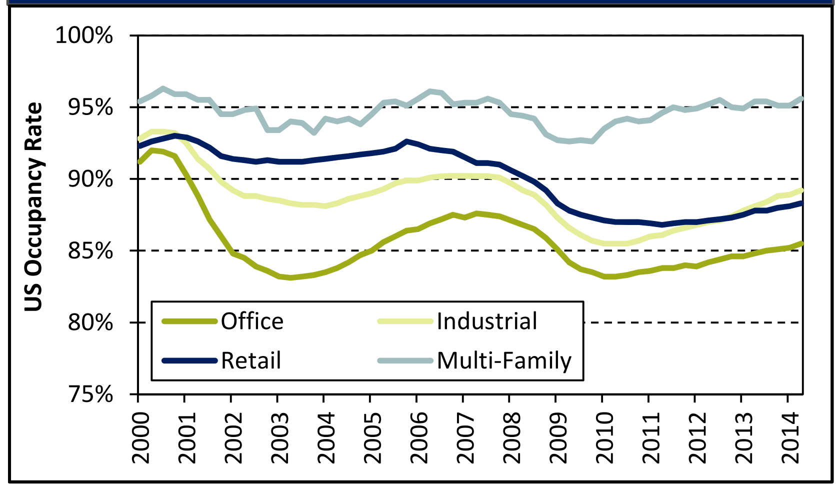
Inflation Sensitive Growth Assets

Yields at similar levels relative to last year



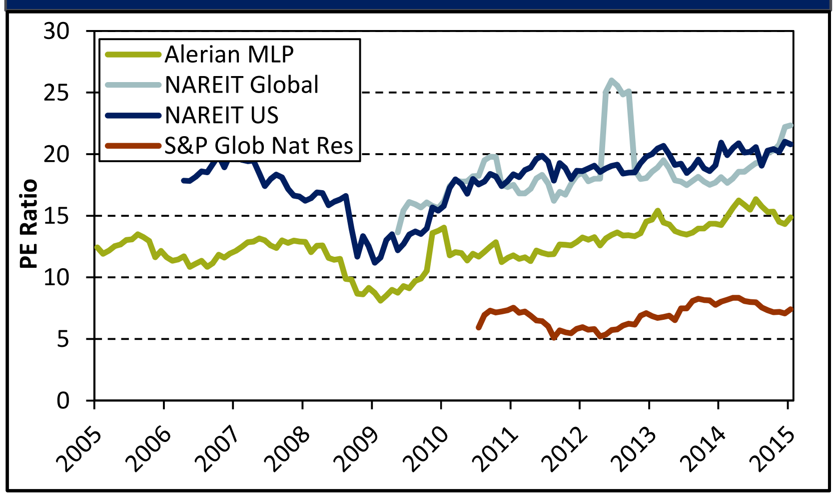
Source: Bloomberg, Alerian, Nareit, Standard and Poors

Slow recovery in occupancy rates



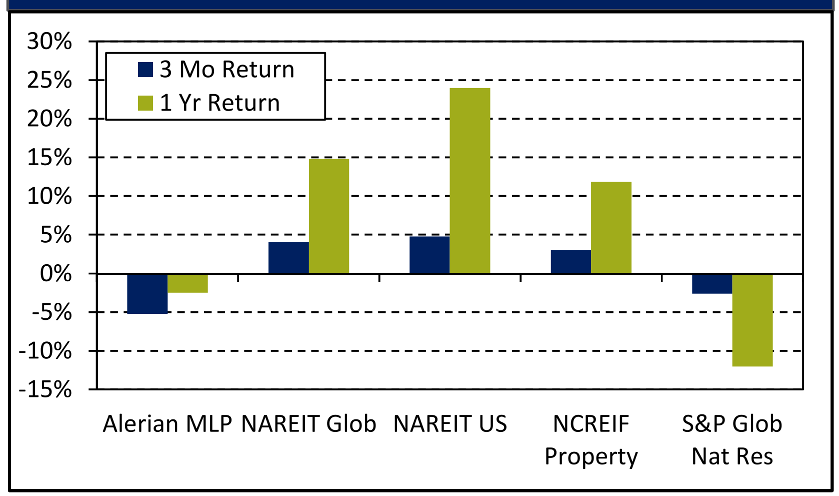
Source: Bloomberg, CB Richard Ellis

PE Ratios near or above averages



Source: Bloomberg, US Census Bureau

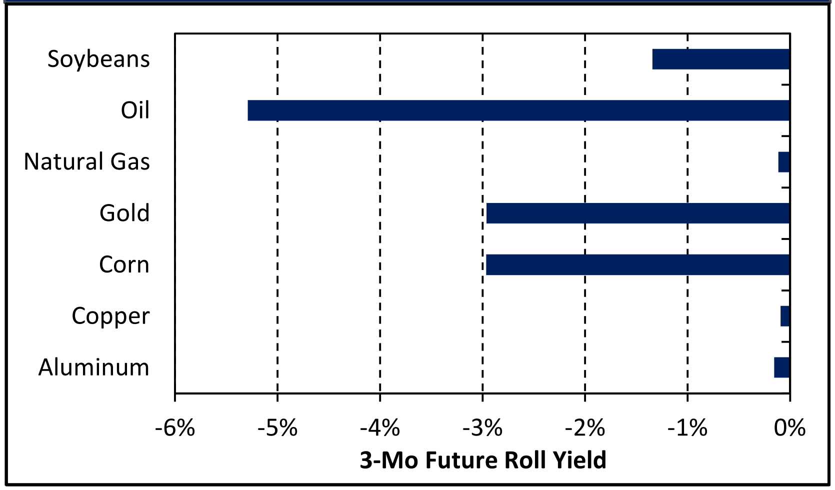
REITs have rallied globally



Source: Bloomberg, Alerian, Nareit, Standard and Poors

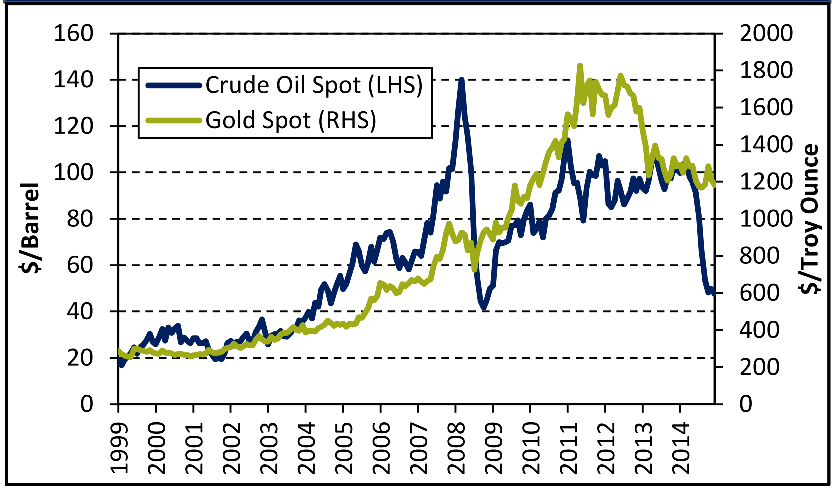
Commodities

Contango in major energy commodities



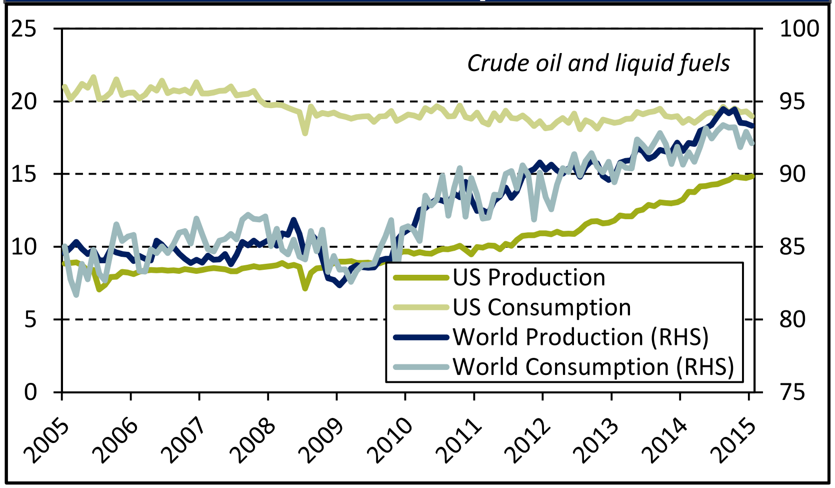
Source: Bloomberg

Precipitous fall in oil prices



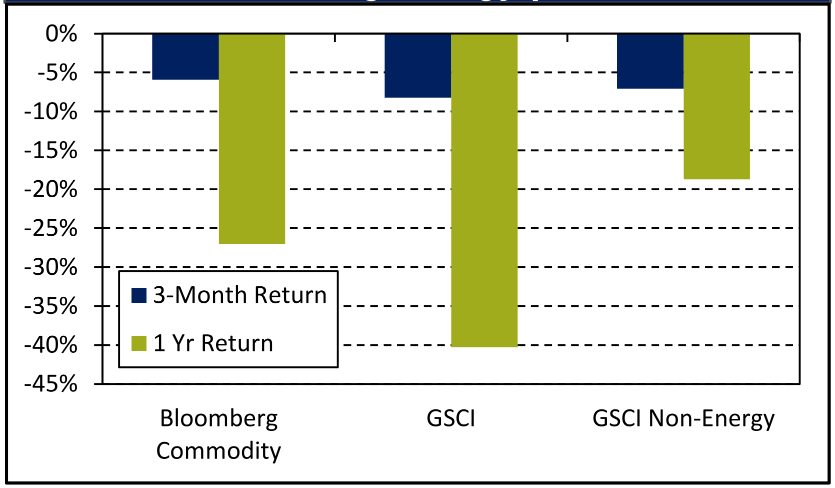
Source: Bloomberg

U.S. fuel production closing gap with consumption



Source: Bloomberg, US Department of Energy *Crude oil and liquid fuels

Commodity indices dragged lower by falling energy prices



Source: Bloomberg, Standard and Poors

Reporting Methodology

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of fees as indicated.
- For managers funded in the middle of a month, the 'since inception' return will start with the first full month, although actual inception dates and cash flows are included in all respective Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.

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Ventura County Employees' Retirement Association

Preliminary Performance Report
Month Ending April 30, 2015

Daniel LeBeau, Consultant
Allan Martin, Partner,
Anthony Ferrara, CAIA, Senior Analyst

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Total Fund Performance Detail Net of Fees

Performance Summary

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Total Fund	**4,420,136,052**	**100.0**	**100.0**	**1.5**	**4.2**	**3.5**	**3.4**	**7.0**	**10.9**	**10.1**	**7.1**	**8.3**	**Apr-94**
Policy Index				*1.2*	*4.1*	*3.3*	*4.4*	*7.8*	*10.7*	*9.7*	*7.1*	*8.3*	*Apr-94*
Over/Under				0.3	0.1	0.2	-1.0	-0.8	0.2	0.4	0.0	0.0	
Allocation Index				*1.3*	*4.4*	*3.2*	*3.8*	*7.6*	*10.1*	*9.2*	*6.8*	*--*	*Apr-94*
Total Fund ex Parametric	**4,395,593,694**	**99.4**	**--**	**1.5**	**4.2**	**3.5**	**3.4**	**6.9**	**10.8**	**10.0**	**7.0**	**8.3**	**Apr-94**
Total Fund ex Private Equity	**4,294,795,809**	**97.2**	**--**	**1.6**	**4.3**	**3.5**	**3.2**	**6.8**	**10.0**	**--**	**--**	**11.7**	**Jan-12**
Policy Index				*1.2*	*4.1*	*3.3*	*4.4*	*7.8*	*10.7*	*9.7*	*7.1*	*12.1*	*Jan-12*
Over/Under				0.4	0.2	0.2	-1.2	-1.0	-0.7			-0.4	
Total US Equity	**1,366,926,426**	**30.9**	**30.0**	**0.4**	**5.2**	**2.3**	**7.6**	**12.7**	**17.1**	**14.6**	**8.3**	**9.1**	**Dec-93**
Total U.S. Equity Benchmark				*0.4*	*5.2*	*2.3*	*7.5*	*12.7*	*16.8*	*14.4*	*8.8*	*9.5*	*Dec-93*
Over/Under				0.0	0.0	0.0	0.1	0.0	0.3	0.2	-0.5	-0.4	
BlackRock Equity Market Fund	1,176,421,813	26.6		0.5	5.2	2.3	7.6	12.7	16.8	14.4	--	7.6	Dec-07
Dow Jones U.S. Total Stock Market				*0.5*	*5.2*	*2.3*	*7.5*	*12.7*	*16.8*	*14.4*	*8.8*	*7.6*	*Dec-07*
Over/Under				0.0	0.0	0.0	0.1	0.0	0.0	0.0		0.0	
Western U.S. Index Plus	142,183,693	3.2		1.0	5.2	2.2	8.3	13.2	18.0	15.8	--	3.7	May-07
S&P 500				*1.0*	*5.1*	*1.9*	*8.2*	*13.0*	*16.7*	*14.3*	*8.3*	*6.2*	*May-07*
Over/Under				0.0	0.1	0.3	0.1	0.2	1.3	1.5		-2.5	
BlackRock Extended Equity Index	48,320,920	1.1		-1.5	5.7	3.7	5.1	11.4	17.1	14.6	10.5	12.5	Oct-02
Dow Jones U.S. Completion Total Stock Market				*-1.5*	*5.7*	*3.7*	*5.1*	*11.4*	*16.9*	*14.3*	*10.5*	*12.5*	*Oct-02*
Over/Under				0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.0	0.0	

Policy Index: Uses an estimated CPI+4% index due to CPI monthly lag

Policy Index: Currently, 30% Total U.S. Equity Benchmark, 19% Barclays Aggregate, 14% MSCI ACWI ex U.S., 10% MSCI ACWI, 5% Barclays Global Aggregate, 5% DJ U.S. Total Stock Market Index + 3%, 10% CPI+4% Index, and 7% NCREIF ODCE Real Estate Index

Total U.S. Equity Benchmark: The Benchmark is a dynamic hybrid using the respective managers' market value weights within the U.S. Equity component toward their benchmark. Prior to May 2013, the Dow Jones U.S. Total Stock Market Index. Prior to May 2007, the Russell 3000 Index

CPI+4% is estimated for latest month.

Total Fund Performance Detail Net of Fees

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Total Non-US Equity	**646,795,221**	**14.6**	**14.0**	**4.8**	**8.1**	**8.0**	**-1.0**	**2.1**	**8.9**	**6.5**	**6.3**	**6.8**	**Mar-94**
Total Non-US Equity Benchmark				*5.1*	*8.9*	*8.7*	*-1.0*	*2.6*	*8.7*	*6.0*	*6.3*	*5.6*	*Mar-94*
Over/Under				-0.3	-0.8	-0.7	0.0	-0.5	0.2	0.5	0.0	1.2	
BlackRock ACWI ex-U.S. Index	271,639,019	6.1		5.2	9.2	9.0	-0.9	2.8	9.0	6.4	--	2.4	Mar-07
MSCI ACWI ex USA				*5.1*	*8.9*	*8.7*	*-1.0*	*2.6*	*8.7*	*6.0*	*6.3*	*2.0*	*Mar-07*
Over/Under				0.1	0.3	0.3	0.1	0.2	0.3	0.4		0.4	
Sprucegrove	192,283,160	4.4		4.4	6.8	6.5	-2.7	-0.6	8.5	7.1	6.5	8.3	Mar-02
MSCI EAFE				*4.1*	*8.6*	*9.2*	*-0.9*	*1.7*	*11.2*	*7.4*	*5.6*	*6.7*	*Mar-02*
Over/Under				0.3	-1.8	-2.7	-1.8	-2.3	-2.7	-0.3	0.9	1.6	
MSCI ACWI ex USA				*5.1*	*8.9*	*8.7*	*-1.0*	*2.6*	*8.7*	*6.0*	*6.3*	*7.4*	*Mar-02*
Hexavest	83,515,718	1.9		3.9	7.5	7.7	-0.6	2.2	9.5	--	--	5.7	Dec-10
MSCI EAFE				*4.1*	*8.6*	*9.2*	*-0.9*	*1.7*	*11.2*	*7.4*	*5.6*	*6.5*	*Dec-10*
Over/Under				-0.2	-1.1	-1.5	0.3	0.5	-1.7			-0.8	
Walter Scott	99,357,324	2.2		5.0	8.5	8.6	2.3	5.6	8.0	--	--	5.9	Dec-10
MSCI ACWI ex USA				*5.1*	*8.9*	*8.7*	*-1.0*	*2.6*	*8.7*	*6.0*	*6.3*	*4.6*	*Dec-10*
Over/Under				-0.1	-0.4	-0.1	3.3	3.0	-0.7			1.3	
Total Global Equity	**456,654,608**	**10.3**	**10.0**	**3.6**	**7.4**	**6.1**	**1.3**	**4.9**	**11.5**	**9.8**	**6.0**	**6.0**	**May-05**
MSCI ACWI				*2.9*	*6.9*	*5.3*	*3.3*	*7.5*	*12.2*	*9.6*	*7.0*	*7.0*	*May-05*
Over/Under				0.7	0.5	0.8	-2.0	-2.6	-0.7	0.2	-1.0	-1.0	
BlackRock MSCI ACWI Equity Index	234,496,168	5.3		2.9	7.1	5.4	3.6	7.9	--	--	--	--	May-12
MSCI ACWI				*2.9*	*6.9*	*5.3*	*3.3*	*7.5*	*12.2*	*9.6*	*7.0*	*16.3*	*May-12*
Over/Under				0.0	0.2	0.1	0.3	0.4					
GMO Global Equity	222,158,441	5.0		4.2	7.8	6.9	-1.0	2.0	10.9	9.5	7.1	7.1	Apr-05
MSCI ACWI				*2.9*	*6.9*	*5.3*	*3.3*	*7.5*	*12.2*	*9.6*	*7.0*	*7.0*	*Apr-05*
Over/Under				1.3	0.9	1.6	-4.3	-5.5	-1.3	-0.1	0.1	0.1	

Total Non-U.S. Equity Benchmark: MSCI ACWI ex US Free, prior to May 2002, the MSCI EAFE

Total Fund Performance Detail Net of Fees

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Total US Fixed Income	**771,474,315**	**17.5**	**19.0**	**0.5**	**0.8**	**1.5**	**1.5**	**2.4**	**3.3**	**5.3**	**6.0**	**6.3**	**Feb-94**
Barclays Aggregate				-0.4	-0.8	1.2	3.2	4.5	2.6	4.1	4.7	5.8	Feb-94
Over/Under				0.9	1.6	0.3	-1.7	-2.1	0.7	1.2	1.3	0.5	
BlackRock U.S. Debt Fund	141,095,962	3.2		-0.3	-0.8	1.3	3.4	4.7	2.7	4.2	4.8	5.7	Nov-95
Barclays Aggregate				-0.4	-0.8	1.2	3.2	4.5	2.6	4.1	4.7	5.6	Nov-95
Over/Under				0.1	0.0	0.1	0.2	0.2	0.1	0.1	0.1	0.1	
Western	271,939,127	6.2		-0.1	-0.3	2.0	3.7	5.4	4.6	6.1	5.6	6.6	Dec-96
Barclays Aggregate				-0.4	-0.8	1.2	3.2	4.5	2.6	4.1	4.7	5.7	Dec-96
Over/Under				0.3	0.5	0.8	0.5	0.9	2.0	2.0	0.9	0.9	
Reams	284,645,415	6.4		1.5	2.4	0.8	-1.6	-2.2	1.6	4.5	6.1	5.9	Sep-01
Reams Custom Index				0.0	0.1	0.1	0.2	0.2	0.9	3.1	4.2	4.5	Sep-01
Over/Under				1.5	2.3	0.7	-1.8	-2.4	0.7	1.4	1.9	1.4	
Barclays Aggregate				-0.4	-0.8	1.2	3.2	4.5	2.6	4.1	4.7	4.9	Sep-01
Loomis Sayles Multi Strategy	73,793,811	1.7		0.6	1.4	2.7	2.0	4.6	6.7	7.5	--	7.3	Jul-05
Loomis Custom Index				0.2	0.4	2.0	2.3	3.7	4.0	5.3	--	5.7	Jul-05
Over/Under				0.4	1.0	0.7	-0.3	0.9	2.7	2.2		1.6	
Barclays Aggregate				-0.4	-0.8	1.2	3.2	4.5	2.6	4.1	4.7	4.8	Jul-05
Total Global Fixed Income	**260,264,261**	**5.9**	**5.0**	**0.8**	**-0.4**	**0.0**	**-2.9**	**-1.5**	**--**	**--**	**--**	**0.9**	**Jun-12**
Barclays Global Aggregate				1.1	-0.7	-0.9	-5.0	-3.7	-0.2	2.5	3.6	-0.1	Jun-12
Over/Under				-0.3	0.3	0.9	2.1	2.2				1.0	
Loomis Sayles Global Fixed Income	91,531,091	2.1		1.1	-0.5	-0.8	-5.1	-3.8	--	--	--	0.4	Jun-12
Barclays Global Aggregate				1.1	-0.7	-0.9	-5.0	-3.7	-0.2	2.5	3.6	-0.1	Jun-12
Over/Under				0.0	0.2	0.1	-0.1	-0.1				0.5	
PIMCO Global Fixed Income	125,925,604	2.8		0.7	-0.8	0.0	-2.9	-1.4	--	--	--	-0.7	Sep-12
Barclays Global Aggregate				1.1	-0.7	-0.9	-5.0	-3.7	-0.2	2.5	3.6	-1.3	Sep-12
Over/Under				-0.4	-0.1	0.9	2.1	2.3				0.6	
Loomis Strategic Alpha	42,807,565	1.0		0.2	1.0	1.8	2.2	3.3	--	--	--	3.2	Jul-13
Barclays Global Aggregate				1.1	-0.7	-0.9	-5.0	-3.7	-0.2	2.5	3.6	0.4	Jul-13
Over/Under				-0.9	1.7	2.7	7.2	7.0				2.8	

Reams Custom Index: Merrill Lynch 3 Month Libor Constant Maturity Index, prior to February 2013 the Barclays Aggregate
Loomis Custom Index: 65% Barclays Aggregate, 30% Citigroup High Yield Market Index and 5% JPM Non-US Hedged Bond Index
Loomis Sayles Multi Strategy is Preliminary

Total Fund Performance Detail Net of Fees

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Total Real Estate	**330,958,239**	**7.5**	**7.0**	**0.0**	**2.9**	**2.9**	**9.3**	**12.3**	**10.5**	**12.7**	**5.0**	**7.8**	**Mar-94**
Total Real Estate Benchmark				*0.0*	*3.4*	*3.4*	*10.2*	*13.4*	*12.7*	*14.5*	*7.0*	*8.9*	*Mar-94*
Over/Under				0.0	-0.5	-0.5	-0.9	-1.1	-2.2	-1.8	-2.0	-1.1	
Prudential Real Estate	111,362,490	2.5		0.0	3.2	3.2	10.4	13.8	11.8	14.9	5.9	5.3	Jun-04
NCREIF-ODCE				*0.0*	*3.4*	*3.4*	*10.2*	*13.4*	*12.7*	*14.5*	*7.0*	*7.5*	*Jun-04*
Over/Under				0.0	-0.2	-0.2	0.2	0.4	-0.9	0.4	-1.1	-2.2	
UBS Real Estate	213,926,049	4.8		0.0	2.7	2.7	8.7	11.1	9.6	11.6	6.4	7.4	Mar-03
NCREIF-ODCE				*0.0*	*3.4*	*3.4*	*10.2*	*13.4*	*12.7*	*14.5*	*7.0*	*7.8*	*Mar-03*
Over/Under				0.0	-0.7	-0.7	-1.5	-2.3	-3.1	-2.9	-0.6	-0.4	
RREEF	5,669,699	0.1		0.0	2.3	2.3	9.7	24.0	21.0	26.7	--	-6.0	Sep-07
NCREIF-ODCE				*0.0*	*3.4*	*3.4*	*10.2*	*13.4*	*12.7*	*14.5*	*7.0*	*3.3*	*Sep-07*
Over/Under				0.0	-1.1	-1.1	-0.5	10.6	8.3	12.2		-9.3	
Total Liquid Alternatives	**437,180,381**	**9.9**	**10.0**	**2.9**	**3.7**	**4.6**	**0.3**	**7.0**	**--**	**--**	**--**	**13.1**	**Apr-13**
CPI + 4% (Unadjusted)				*0.9*	*2.6*	*2.5*	*3.0*	*4.2*	*5.1*	*5.8*	*6.1*	*5.1*	*Apr-13*
Over/Under				2.0	1.1	2.1	-2.7	2.8				8.0	
Bridgewater All Weather Fund	288,487,422	6.5		1.4	2.3	5.2	3.3	7.2	--	--	--	9.9	Aug-13
CPI + 5% (Unadjusted)				*1.0*	*2.9*	*2.8*	*3.8*	*5.2*	--	--	--	*6.0*	*Aug-13*
Over/Under				0.4	-0.6	2.4	-0.5	2.0				3.9	
Tortoise Energy Infrastructure	148,692,959	3.4		5.8	6.6	3.5	-5.2	6.6	--	--	--	16.0	Apr-13
Wells Fargo MLP Index				*4.3*	*3.8*	*0.5*	*-9.5*	*-0.2*	*11.6*	--	--	*6.4*	*Apr-13*
Over/Under				1.5	2.8	3.0	4.3	6.8				9.6	
Overlay	**24,542,358**	**0.6**	**0.0**										
Parametric	24,542,358	0.6											

Total Real Estate Benchmark: NCREIF ODCE; prior to January 2006, the NCREIF Property Index
Real Estate managers and NCREIF ODCE are valued on a quarterly basis. Performance is not applicable in mid-quarter months, therefore 0% return is shown.
Total Liquid Alternatives index, the CPI+4% is estimated by carrying the last available month forward
CPI+5% and CPI+4% are estimated by carrying the last available month forward
Real Estate Valuation is as of 3/31/2015

Total Fund Performance Detail Net of Fees

	Market Value ($)	% of Portfolio	Policy %	1 Mo (%)	3 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Return (%)	Since
Total Private Equity	**125,340,243**	**2.8**	**5.0**	**-0.4**	**1.8**	**4.1**	**11.8**	**16.9**	**13.9**	**--**	**--**	**--**	**Jul-10**
DJ U.S. Total Stock Market Index + 3%				*0.7*	*6.0*	*3.3*	*10.2*	*16.0*	*20.2*	*17.8*	--	*20.4*	*Jul-10*
Over/Under				-1.1	-4.2	0.8	1.6	0.9	-6.3				
Adams Street Partners	77,520,339	1.8		-0.1	3.1	3.1	10.4	16.4	13.0	--	--	--	Jul-10
DJ U.S. Total Stock Market Index + 3%				*0.7*	*6.0*	*3.3*	*10.2*	*16.0*	*20.2*	*17.8*	--	*20.4*	*Jul-10*
Over/Under				-0.8	-2.9	-0.2	0.2	0.4	-7.2				
Panteon Ventures	13,616,697	0.3		-2.9	-0.8	-0.8	2.4	9.4	8.7	--	--	--	Aug-10
DJ U.S. Total Stock Market Index + 3%				*0.7*	*6.0*	*3.3*	*10.2*	*16.0*	*20.2*	*17.8*	--	*22.0*	*Aug-10*
Over/Under				-3.6	-6.8	-4.1	-7.8	-6.6	-11.5				
Harbourvest	34,203,207	0.8		0.0	-0.1	7.9	19.1	21.1	--	--	--	--	May-13
DJ U.S. Total Stock Market Index + 3%				*0.7*	*6.0*	*3.3*	*10.2*	*16.0*	*20.2*	*17.8*	--	*19.4*	*May-13*
Over/Under				-0.7	-6.1	4.6	8.9	5.1					

Please Note:
Private Equity performance is shown on a time-weighted return basis. Values are cash adjusted with current month cash flows.

Total Fund

Cash Flow Summary

Month Ending April 30, 2015

	Beginning Market Value	Withdrawals	Contributions	Net Cash Flow	Fees	Net Investment Change	Ending Market Value
Adams Street Partners	$77,594,905	$0	$0	$0	$0	-$74,565	$77,520,339
BlackRock ACWI ex-U.S. Index	$258,178,876	$0	$0	$0	-$24,303	$13,460,143	$271,639,019
BlackRock Equity Market Fund	$1,171,040,708	$0	$0	$0	-$21,690	$5,381,105	$1,176,421,813
BlackRock Extended Equity Index	$49,067,966	$0	$0	$0	-$3,221	-$747,046	$48,320,920
BlackRock MSCI ACWI Equity Index	$227,794,793	$0	$0	$0	-$9,483	$6,701,375	$234,496,168
BlackRock U.S. Debt Fund	$141,505,104	$0	$0	$0	-$8,037	-$409,142	$141,095,962
Bridgewater All Weather Fund	$284,498,548	$0	$0	$0	-$93,435	$3,988,875	$288,487,422
GMO Global Equity	$213,152,017	$0	$0	$0	-$101,823	$9,006,424	$222,158,441
Harbourvest	$34,203,207	$0	$0	$0	$0	$0	$34,203,207
Hexavest	$80,358,439	$0	$0	$0	-$32,005	$3,157,279	$83,515,718
Loomis Sayles Global Fixed Income	$90,486,017	$0	$0	$0	-$22,883	$1,045,074	$91,531,091
Loomis Sayles Multi Strategy	$73,349,802	$0	$0	$0	-$24,282	$444,010	$73,793,811
Loomis Strategic Alpha	$42,694,218	$0	$0	$0	-$14,269	$113,347	$42,807,565
Panteon Ventures	$14,663,333	-$921,142	$300,822	-$620,320	$50,137	-$426,316	$13,616,697
Parametric	$38,833,449	-$17,785,796	$4,615,212	-$13,170,584	-$3,068	-$1,120,507	$24,542,358
PIMCO Global Fixed Income	$124,955,057	$0	$0	$0	-$35,648	$970,547	$125,925,604
Prudential Real Estate	$111,362,490	$0	$0	$0	$0	$0	$111,362,490
Reams	$280,328,425	$0	$0	$0	-$41,831	$4,316,990	$284,645,415
RREEF	$5,669,699	$0	$0	$0	$0	$0	$5,669,699
Sprucegrove	$184,158,765	$0	$0	$0	-$59,642	$8,124,394	$192,283,160
Tortoise Energy Infrastructure	$140,422,805	$0	$0	$0	-$87,861	$8,270,154	$148,692,959
UBS Real Estate	$213,926,049	$0	$0	$0	$0	$0	$213,926,049
Walter Scott	$94,533,357	$0	$0	$0	-$71,554	$4,823,967	$99,357,324
Western	$272,269,339	$0	$0	$0	-$46,492	-$330,212	$271,939,127
Western U.S. Index Plus	$140,787,690	$0	$0	$0	-$30,273	$1,396,003	$142,183,693
Total	**$4,365,835,058**	**-$18,706,938**	**$4,916,034**	**-$13,790,904**	**-$681,663**	**$68,091,898**	**$4,420,136,052**

VENTURA COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
1190 South Victoria Avenue, Suite 200
Ventura, CA 93003-6572
(805) 339-4250 • Fax: (805) 339-4269
http://www.ventura.org/vcera

May 18, 2015

Board of Retirement
Ventura County Employees' Retirement Association
1190 South Victoria Avenue, Suite 200
Ventura, CA 93003

SUBJECT: QUARTERLY RETIREMENT ADMINISTRATOR'S REPORT

Dear Board Members:

My first quarter serving as VCERA's Retirement Administrator has been eventful, and has provided many opportunities for learning more about not only VCERA's specific operations and challenges, but broader issues concerning CERL and its rules and provisions. This report will provide more detail than future ones and will include a bit of overlap/recap of Board items, as the first report since my arrival. Though April is typically reported in the 2nd quarter's report, I have included it so that my first full quarter as RA is reflected.

In compliance with VCERA's Monitoring & Reporting Policy, this report will include information regarding travel, training, key meetings and media communications, as well as other key issues.

Key Meetings
As I assumed my new role, I had a good number of introductory meetings and initial briefings with County executives, investment managers, consultants and others.

January
- Chair Towner set up separate introductory meetings with County CEO Mike Powers and Auditor Controller Jeff Burgh.

February:
- Brian Colker, Linea: briefing on the history and current status of the PAS project.
- Tony Frietas, Blackrock: introduction and briefing on Blackrock's role and performance in the VCERA portfolio.
- County HR to discuss VCERA resuming participation in New Employee Orientation training (see Travel & Training on following page for more details.)

March:
- Veronica Amici, Western Asset Management: introduction & history/performance briefing.
- Margaret Foley, Walter Scott: introduction & portfolio review.
- Ed Althof & Kevin Coe, Ventura County I.T. to discuss I.T. support in general, as well as potential support after completion of PAS project; 2nd meeting March 31 to discuss website options.

April
- David Blair & Sasha Talcott, PIMCO: introduction & history/performance briefing.

- Scott Larson & Hammad Zaigham, ViTech, as well as Henry Solis from VCERA: reviewed travel expenditures related to VCERA contract and discussed options to correct billing error.
- Hammad Zaigham & Haridas Mamgalappilly, ViTech: explored Query Builder capability in V3 to allow for simple queries by RA as needed to avoid incurring unnecessary costs during project.

Travel & Training

I attended the CALAPRS General Assembly, March 7-10, 2015 in Monterey, California (Cost: $1140.06). I attended a variety of sessions, the most helpful of which was a presentation by Harvey Liederman from Reed Smith regarding contracts.

As a new employee, in February I attended New Employee Orientation at the Hall of Administration, as well as the required safety training. During the New Employee Orientation, I had concerns about the very brief and incomplete information provided to new employees about VCERA. Afterwards, I reached out to County HR to express my interest in resuming our participation in these monthly orientations and I offered to come over in person to do that portion of the presentation. It's important in my view to have employees' first impression and information about VCERA be accurate, positive and complete. County HR welcomed this and I hope to begin participating in those meetings next month.

Personnel

At the end of March, we saw the departure of Fiscal Manager Christina Stevens who left to pursue other opportunities. Shortly after, Nida Williams joined our team as Accounting Officer IV and has been coming along quickly.

Our new CIO Dan Gallagher began work May 4th, and we are happy to welcome him to our VCERA team. In the weeks leading up to this, I worked with the Personnel Review Committee and Board in the process of reviewing application materials, selecting interview questions and coordinating the process.

On April 20th, we received the salary study we had requested from County HR for the VCERA General Counsel position. After review of this study, on April 23rd we requested to renew our original request to link the position to "Chief Assistant County Counsel".

Board/Policy/Compliance

During the previous quarter, the following policies were reviewed and modified or updated in some way:

- Board of Retirement Education & Travel Policy;
- Funding Policy (from actuarial valuation);
- Conflict of Interest Code;
- Interest Crediting and Excess Earnings Policy (formerly Interest Crediting Policy).

In addition, we issued our annual Board Education Compliance Report.

Finally, staff has been working through issues related to VCERA's IRS Qualification, including review with Board Counsel of recommendations and documents provided by Hanson Bridgett regarding the adoption of model regulations. The most recent discussions have been in examining the potential impact on the PAS project. During a recent meeting while reviewing model regulations related to the 401(A)(17) limits, I asked staff to run a specific query to identify members who may have exceeded these, or were getting close considering we are nearing fiscal year's end. This proved valuable, and we have identified one member who exceeded and two additional who are approaching the limit within weeks. We may now work with the County to avoid issues with members contributing on more salary than the limits allow.

In February, while inquiring about our process for monitoring retiree deaths, I discovered that a periodic update had not been run since the departure of our former I.T. employee. After working with County I.T. to reestablish the process, we found that there was an unreported death and the benefit payments had not yet been stopped. This has since been resolved and the process is running again regularly.

Actuarial
Perhaps the most significant work during the first quarter was in relation to the annual actuarial valuation and the corresponding contribution rates. It proved as another rich opportunity to quickly learn a great deal about not only how VCERA contribution rates are developed, but about the process and communication with the County, the history of these rates, and the process for providing information to stakeholders.

In addition to the actuarial valuation, the 3-year experience study was completed in April and this provided additional opportunities to understand and navigate these issues and processes.

Press/Media
The announcement of VCERA's decision to invest in Global Tactical Asset Allocation generated requests from investment related publications for information.

In late April, I wrote a press release to announce the hiring of Dan Gallagher.

Administrative & Operations
Our VCERA team is now meeting monthly for staff meetings, where I summarize recent decisions by the Board, answer questions, and generally discuss issues that affect the staff. I have begun asking a Board member to attend these meetings so that he/she may meet our staff and they may learn more about our Board. Also, I have asked a couple of staff members to attend Board meetings as well.

In addition to these monthly team meetings, I generally meet every couple of weeks with my senior staff, our CFO and COO. Soon to join these discussions will be our CIO. At these meetings we discuss not only current workloads and issues, but talk about potential problems that we work to avoid.

Annual statements were mailed in April to our active members.

COO Julie Stallings has been taking me through various processes as time allows, helping me become familiar with the process of retiring members, responding to requests and the flow of data into our system. This is critical before I can properly identify the areas that are most in need of change and improved efficiency.

One of the priorities I have set for staff was to improve turnaround time of estimates and buyback requests. Turnaround time has improved somewhat steadily, despite the high volume of work.

Here are the stats for the past two quarters, plus April 1- May 5, 2015:

	Q4-2014	Q1-2015	Q2-2015*
New Buyback & Estimate Requests	178	229	82
Completed Buybacks & Estimates	198	185	22
Average Turnaround (calendar days)	39	34	19
Open Buyback & Estimate requests as of 5/7/15	71		

*** 04/01/15 - 05/05/15**

I'd like to personally thank VCERA staff for their help in these first months in building my knowledge and answering my questions. Specifically, I'd like to acknowledge the patient guidance of Board Counsel Lori Nemiroff, as well as the thorough briefings from CFO Henry Solis and COO Julie Stallings. I'm pleased with the outstanding staff members on our VCERA team.

Please let me know if you have any questions or concerns regarding the information provided in this report.

Sincerely,

Linda Webb

Linda Webb
Retirement Administrator

Ventura County Employees' Retirement Information System
Project Status Report
Month Ending: April 2015

L

Reporting to: Board of Retirement		Report Date:	05/13/15
Written by: Brian Colker			

PROJECT STATUS SUMMARY

Actual Percentage Complete: 77.13%*	
Planned Percentage Complete: 77.13%*	

**Note: The updated Sprint Schedule went into effect with the approval of the change orders presented to the Board 01/05/2015. The completion percentages have been adjusted to take into account the updates and changes per the new sprint schedule.*

Scope	Schedule	Cost	Risks	Quality

Risks

- Plan sponsor payroll transmittal – The first two parallel test files have been tested and the project team has been working with the Auditor-Controller's office to resolve the identified issues. The Auditor-Controller provided a scenario-based file to test fixes on April 30, 2015. The project team will analyze the file and provide feedback to Auditor-Controller. Parallel testing will resume when critical issues have been resolved. Weekly meetings are held to discuss issues and project status.

KEY ACCOMPLISHMENTS LAST MONTH

- Received additional test files from Auditor-Controller.
- Delivered additional functionality in:
  - Disability
  - Active Death Processing
  - Retired Death Processing
  - DRO Processing – Alt Payee
  - Member Correspondence
- Wrote 191 test cases and executed 217 tests. There have been 3,123 tests executed to date and there are currently 442 defects in an open status – 35 high priority, 305 medium priority, 102 low priority.

Adams Street Partners
2015 Client Conference
Four Seasons Hotel
120 East Delaware Place
June 2 – 3, 2015

CHICAGO AGENDA

Tuesday, June 2	
3:30 pm to 5:00 pm *Four Seasons Hotel*	**Additional Sessions** ▪ Secondary Investor Forum ▪ Direct Fund Advisory Board Meeting
6:00 pm to 9:00 pm	**Welcome Reception/Dinner** Fig & Olive 104 East Oak Street Chicago, IL 60611
Wednesday, June 3	
7:30 am	**Registration and Breakfast** Four Seasons Hotel (Ballroom)
8:00	**Opening Remarks** Kevin Callahan
8:15	**Adams Street Partners Overview** Jeff Diehl
8:45	**Venture Capital Market Update** ▪ Kelly Meldrum ▪ David Hornik, General Partner, August Capital
9:45	**Break**
10:00	**Venture Capital in China** Bo Shao, Founding Managing Partner, Matrix Partners China
11:00	**Venture Capital and Growth Equity Investing** ▪ Terry Gould ▪ Norbert Riedel, Chief Executive Officer, Naurex
12:00 pm	**Lunch**
1:15	**Energy Investing** John Raymond, Managing Partner & Chief Executive Officer, The Energy & Minerals Group
2:15	**Secondary and Co-Investment Market Update** Troy Barnett and Dave Brett
2:45	**Closing Remarks** Bon French
3:00	**Reception**

Adams Street Partners
2015 Chicago Client Conference
June 2-3, 2015

CHICAGO HOTEL RESERVATION INFORMATION

We are currently holding a block of rooms at the following Chicago hotels. Please call the hotel directly to make a reservation. In order to take advantage of the discounted room rate, please mention that you are with the Adams Street Partners Client Conference.

FOUR SEASONS HOTEL CHICAGO

Address: 120 East Delaware Place
Chicago, Illinois, USA 60611
Reservations call: 312.280.8800

The negotiated conference room rate is $390 per night for a deluxe room.
If you wish to stay at the Four Seasons Hotel, please contact the hotel directly
at the Reservations number listed above.

Four Seasons Hotel reservations cutoff date: May 11, 2015

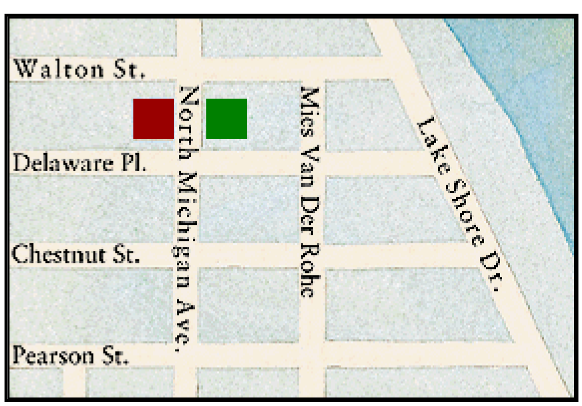
THE WESTIN MICHIGAN AVENUE CHICAGO

Address: 909 North Michigan Avenue
Chicago, Illinois, USA 60611
Reservations call: 888.627.8385 or Adams Street Partners Room Block

The negotiated conference room rate is $249 per night for a traditional king room.
If you wish to stay at The Westin Hotel please contact the hotel directly
at the Reservations number listed above.

The Westin Hotel reservations cutoff date: May 01, 2015

Four Seasons Hotel
Westin Hotel



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California Association of Public Retirement Systems

CALAPRS

EDUCATION · COMMUNICATION · NETWORKING

PROGRAM ANNOUNCEMENT

Friday, June 12, 2015
From 8:30am to 3:30pm

Los Angeles Marriott Burbank Airport
2500 North Hollywood Way
Burbank, CA 91505
818-843-6000

Reserve your room >
Cutoff Date: May 11
Room Rate: $145 + tax

Get Directions >
Nearest Airport: BUR
Airport Shuttle: 24 hours

Trustees' Roundtable

Agenda: What would you like to discuss?

Your meeting chair Marty Dirks, San Jose Federated, is preparing the agenda for this meeting. Please contact him to share your suggestions for discussion topics.

The agenda will be emailed to you and posted on the website as available. Breakfast and lunch will be provided.

Reserve your hotel room by May 11

CALAPRS has a discounted room block at the Los Angeles Marriott Burbank Airport for $145/night + tax. By May 11,reserve on-line HERE or by phone at 818-843-6000.

REGISTER NOW

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