EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: March 21, 2013

MEMO TO: Members of the Retirement Board

THROUGH: Delores Turner, Manager of Human Resources

FROM: Elizabeth Grassetti, Interim Manager of HR Employee Services

SUBJECT: Retirement Board Regular Meeting – March 21, 2013

A regular meeting of the Retirement Board will convene at 8:30 a.m. on Thursday, March 21, 2013 in the Training Resource Center (TRC1) of the Administration Building.

Enclosed are the agenda for the regular March meeting and the minutes for the January 17, 2013 regular meeting. The package also includes the following: **(1) ACTION** items: Selection of Asset-Liability Modeling Option; Removal of Franklin Templeton International Equity Fund from Heightened Monitoring; Determination of the Retiree Cost of Living Adjustment; **(2) INFORMATION** items: Quarterly Performance Review as of December 31, 2012; Introduction to Timber and Master Limited Partnerships; Analysis of HIB Improvement Costs from 2008; Annual Information on Retiree COLA and the Health Insurance; Election schedule for Employee Member to the EBMUD Retirement Board; **(3) REPORTS FROM THE RETIREMENT BOARD**.

EG:eg

Enclosures

AGENDA
EBMUD EMPLOYEES' RETIREMENT SYSTEM
March 21, 2013
Training Resource Center (TRC1) 8:30 a.m.

ROLL CALL:

PUBLIC COMMENT: The Retirement Board is limited by State Law to providing a brief response, asking questions for clarification, or referring a matter to staff when responding to items that are not listed on the agenda.

ANNOUNCEMENT OF CLOSED SESSION AGENDA:

1. Significant Exposure to Litigation Pursuant to Government Code Section 54956.9: one item

REGULAR BUSINESS MEETING: Upon completion of Closed Session

ROLL CALL:

PUBLIC COMMENT: The Retirement Board is limited by State Law to providing a brief response, asking questions for clarification, or referring a matter to staff when responding to items that are not listed on the agenda.

CONSENT CALENDAR:

1. Approval of Minutes – Regular Meeting of January 17, 2013

2. Ratifying and Approving Investment Transactions by Counselors for December 2012 and January 2013 (R.B. Resolution No. 6775)

3. Ratifying and Approving Investment Transactions by Treasurer for December 2012 and January 2013 (R.B. Resolution No. 6776)

4. Revision of Treasurer's Statement of Receipts and Disbursements for October and November 2012

5. Treasurer's Statement of Receipts and Disbursements for December 2012 and January 2013

ACTION:

6. Selection of Asset-Liability Modeling Options – E. Sandler

7. Remove Franklin Templeton Management from Heightened Monitoring – E. Sandler

8. Determination of Retiree Cost of Living Adjustment (R.B. Resolution No. 6777) – E. Grassetti

INFORMATION:

9. Quarterly Performance Review as of December 31, 2012 – E. Sandler

10. Timberland and Other Energy/Natural Resource Investment Options Partnerships – E. Sandler

11. Analysis of HIB Benefit Improvement Costs from 2008 – E. Sandler

12. Annual Information on Retiree COLA and the Health Insurance Benefit – E. Grassetti

13. Election Schedule for Employee Member to the EBMUD Retirement Board

REPORTS FROM THE RETIREMENT BOARD:

14. Brief report on any course, workshop, or conference attended since the last Retirement Board meeting.

ITEMS TO BE CALENDARED:

MEETING ADJOURNMENT:

The next regular meeting of the Retirement Board will be held at 8:30 a.m. on Thursday, May 16, 2013.

MINUTES OF THE RETIREMENT BOARD
January 17, 2013

A regular meeting of the Retirement Board convened on Thursday, January 17, 2013 at 8:32 a.m. in the Large Training Resource Center (TRC) Room. The meeting was called to order by President Dough Higashi.

Roll Call – The following Retirement Board Members were present: Timothy McGowan, Doug Higashi, Lloyd Sawchuk, Frank Mellon, William Patterson, and Alexander Coate.

The following staff members were present: Lourdes Matthew, Elizabeth Grassetti, Gerri Granger, Delores Turner, Wanda Hendrix, Scott Klein, and Rod Deiter.

Others present were Andy Yeung and Dirk Adamsen from Segal, Eric White from PCA.

PUBLIC COMMENT

Dick Ward, an EBMUD retiree, spoke to the Board about his opinion of a need for a lower actuarial assumed rate of return and of a desire to publish a Retirement Board meeting notice in the District Log.

Eric Fieberling expressed concern over the intent of when the contribution rates for new employees covered by collective bargaining agreements, hired under PEPRA, would take effect give the bargained contribution rates in existing MOUs.

1 - 4. **Consent Calendar** – A motion was made by Doug Higashi and seconded by Frank Mellon to approve items 1, 3 and 4 of the Consent Calendar, The Retirement Board voted to move Item 2 (Statement of Receipts and Disbursements for October and November 2012), be deferred to the March Retirement Board meeting and include an explanation of the reported negative Cash Balance as of November 30, 2012.

ACTION

5. **Adopt the Actuarial Valuation of the Retirement System as of June 30, 2012**

Andy Yeung of Segal presented the Actuarial Report. On June 30, 2012, The Retirement System had a Market Value of $986.97 million, up from $$968.24 on June 30, 2011. The unfunded actuarial accrued liability, including HIB, increased from $577.72 million as of June 30, 2011 to $624.11 million as of June 30, 2012.

Staff recommended adopting the recommended District funding contribution rate of 43.7%, up from the current 39.56%.for existing employees under the 1980 Plan. For the 2013 Plan under the CalPEPRA, Staff recommended adopting an Employer Contribution rate of 27.59% for the six- month period from January 1, 2013 to June 30, 2013 and 31.13% from the six-month period from July 1, 2013 through June 30, 2014.

Frank Mellon moved acceptance of the Actuarial Valuation and the contribution rates for the1980 Plan and the 2013 Plan contribution rates, which will go into effect at the conclusion of the current bargaining agreement dates (April 22) for employees covered under their respective MOUs and on January 1, 2013 for non-represented employees. Tim McGowan seconded the motion and the motion was passed unanimously.

6. **Declaring the Interest Rate Credited to Member** – Section 4(d) of the Retirement Ordinance directs the Retirement Board to semi-annually declare the rate of interest to be credited to the accumulated Member contributions. Resolution No. 6774 declares that on December 31, 2012, interest will be credited to the balance of the Member contributions as of June 30, 2012 at the annual rate of 1.4% and that the rate credited to the Members account will be prorated to a semi-annual rate of .70%. Timothy McGowan moved acceptance of the Resolution, Dough Higashi seconded the motion, and the Retirement Board unanimously approved the motion.

7. **Annual Health Insurance Benefit Survey** – A memo to the Retirement Board with the results of the Annual Health Insurance Benefit Survey was provided for informational purposes. Results of the Health Insurance Benefit Survey are summarized below:

   - In fiscal year ending June 30, 2012, the Retirement System expenditure for the HIB was $8,482,000, an increase of 5.0% over the previous year.
   - District 2013 premium rates for retirees under age 65 increased across all plans. Retirees over 65 also saw the biggest increase with Anthem Blue Cross at 8.3%. Retiree dental plans remained at the 2012 rates.
   - Agencies are increasingly asking employees to help pay for post employment benefits due to increasing unfunded liabilities for these benefits.
   - Most agencies are increasing their vesting requirements for new employees to require at least ten years of service to receive retiree health benefits.

   Mr. Sawchuk asked the Board to make a formal report to the Retirement Board regarding the HIB and how it compares to the surveyed agencies. Mr. Coate asked that a report previously prepared by Segal on the cost of increasing the HIB, be brought back to the Retirement Board.

8. **Investment Fund Managers Fees** – Staff provided a list of the fees paid to the investment managers and other consultant fees for the Retirement Plan.

9. **Reports From the Board** - Alex Coate shared that a staff would be providing the Board of Directors a brief recap on Retirement Board actions in FY13 at the January 22nd Board of Directors meeting. Retirement Board member Doug Higashi requested a copy of that presentation.

ITEMS TO BE CALENDERED

- Quarterly Performance Report
- Revision of the Treasurers Statement of Receipts and Disbursement for November 2012
- Review type of asset liability study to conduct
- Franklin-Templeton update

ADJOURNMENT – Doug Higashi moved to adjourn the meeting at 11:47 am, William Patterson seconded the motion and the motion was unanimously approved.

_____
President

ATTEST: _____
Secretary

3/21/2013

R.B. RESOLUTION NO. 6775

RATIFYING AND APPROVING INVESTMENT TRANSACTIONS BY THE COUNSELORS FOR MONTHS OF DECEMBER, 2012 AND JANUARY, 2013

Introduced by: ; Seconded by:

WHEREAS, Retirement Board Rule No. B-5 provides for investment transactions without prior specific approval by the Retirement Board; and

WHEREAS, investment transactions have been consummated during December, 2012 and January, 2013, in accordance with the provisions of said rule and in securities designated as acceptable by Retirement Board Resolution No. 4975, as amended;

NOW, THEREFORE, BE IT RESOLVED that the investment transactions appearing on the following exhibits are hereby ratified and approved.

_____
President

ATTEST:

_____
Secretary

03/21/13

TRANSACTIONS OF RETIREMENT FUND MANAGERS

FIXED INCOME MANAGER FUNDS

December 2012	PURCHASES	SALES	PORTFOLIO VALUE
Western Asset Management Co.	$18,360,888	$15,813,278	$81,735,710
C.S. McKee	$6,354,237	$5,572,081	$157,018,951
TOTAL	**$24,715,125**	**$21,385,359**	**$238,754,661**
January 2013			
Western Asset Management Co.	$24,029,651	$22,307,790	$81,720,927
C.S. McKee	$16,964,419	$18,315,747	$156,225,651
TOTAL	**$40,994,070**	**$40,623,537**	**$237,946,578**

EQUITY MANAGER FUNDS

December 2012

DOMESTIC EQUITY	PURCHASES	SALES	PORTFOLIO VALUE
Barrow, Hanley, Mewhinney	$1,103,615	$1,279,730	$138,516,952
Opus Capital	$828,406	$838,306	$22,531,519
Russell 1000 Growth Index Fund	$0	$0	$240,031,606
Russell 2000 Growth Index Fund	$0	$0	$16,434,763
INTECH	$5,204,817	$5,108,301	$64,049,945
T. Rowe Price	$1,671,754	$1,575,689	$62,562,758
Total Domestic Equity	**$8,808,592**	**$8,802,026**	**$544,127,543**
INTERNATIONAL EQUITY			
Franklin/Templeton	$0	$0	$97,077,839
Fisher Investments	$0	$0	$101,464,551
Total International Equity	**$0**	**$0**	**$198,542,390**
REAL ESTATE EQUITY			
RREEF America II	$0	$0	$21,044,422
Urdang	$0	$0	$29,579,483
Total Real Estate	**$0**	**$0**	**$50,623,905**
TOTAL EQUITY	**$8,808,592**	**$8,802,026**	**$793,293,838**
TOTAL ALL FUND MANAGERS	**$33,523,717**	**$30,187,385**	**$1,032,048,499**

January 2013

DOMESTIC EQUITY	PURCHASES	SALES	PORTFOLIO VALUE
Barrow, Hanley, Mewhinney	$5,399,483	$4,088,533	$145,351,698
Opus Capital	$565,743	$704,584	$24,015,084
Russell 1000 Growth Index Fund	$0	$0	$253,039,364
Russell 2000 Growth Index Fund	$0	$0	$17,519,519
INTECH	$10,716,995	$10,602,360	$65,997,994
T. Rowe Price	$4,262,415	$4,105,952	$64,910,777
Total Domestic Equity	**$20,944,636**	**$19,501,429**	**$570,834,436**
INTERNATIONAL EQUITY			
Franklin/Templeton	$0	$0	$101,986,620
Fisher Investments	$0	$0	$105,891,594
Total International Equity	**$0**	**$0**	**$207,878,214**
REAL ESTATE EQUITY			
RREEF America II	$0	$0	$21,372,281
Urdang	$0	$0	$30,671,506
Total Real Estate	**$0**	**$0**	**$52,043,787**
TOTAL EQUITY	**$20,944,636**	**$19,501,429**	**$830,756,437**
TOTAL ALL FUND MANAGERS	**$61,938,706**	**$60,124,966**	**$1,068,703,015**

Prepared By: _____ Date: _____ **March 1, 2013**

w:\shared\retirement\fund managers 2012

R.B. RESOLUTION NO. 6776

RATIFYING AND APPROVING INVESTMENT TRANSACTIONS BY THE TREASURER FOR DECEMBER, 2012 AND JANUARY, 2013

Introduced by: ; Seconded by:

WHEREAS, Retirement Board Rule No. B-7 provides for the temporary investment of retirement system funds by the Treasurer or Assistant Treasurer in securities authorized by Sections 1350 through 1366 of the Financial Code or holding funds in inactive time deposits in accordance with Section 12364 of the Municipal Utility District Act; and

WHEREAS, investment transactions during December, 2012, and January, 2013 have been made in accordance with the provisions of the said rule;

NOW, THEREFORE, BE IT RESOLVED that the investment transactions consummated by the Treasurer and included on the attached Exhibit A for December, 2012, and January, 2013 are hereby ratified and approved.

_____
President

ATTEST:

_____
Secretary

03/21/13

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: March 21, 2013

MEMO TO: Members of the Retirement Board

THROUGH: Eric L. Sandler, Director of Finance

FROM: D. Scott Klein, Controller

SUBJECT: Short-term Investment Transactions for December 2012

The attached Temporary and Short-term Investment Transactions report for the month of December, 2012 is hereby submitted for Retirement Board approval.

ES/sk

cc Wanda Hendrix, Treasury Manager

EBMUD EMPLOYEES' RETIREMENT SYSTEM
TEMPORARY AND SHORT-TERM INVESTMENT TRANSACTIONS
CONSUMMATED BY THE TREASURER
MONTH OF DECEMBER 2012

COST/ FACE VALUE	DESCRIPTION	DATE OF PURCHASE	DATE OF SALE/MAT	YIELD (%)
2,700,000.00	Local Agency Investment Fund	7-Dec-12		0.326
2,700,000.00	Local Agency Investment Fund	21-Dec-12		0.326
(5,900,000.00)	Local Agency Investment Fund		31-Dec-12	0.326
$ (500,000.00)	Net Activity for Month			

SUBMITTED BY _____ DATE SS Lindley, WOC 1/31/13
D. Scott Klein
Controller

SS Lindley, WOC 1/28/13
S. Lindley, Acctg Sys Supvr

prepared by vwong

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: March 21, 2013

MEMO TO: Members of the Retirement Board

THROUGH: Eric L. Sandler, Director of Finance

FROM: D. Scott Klein, Controller

SUBJECT: Short-term Investment Transactions for January 2013

The attached Temporary and Short-term Investment Transactions report for the month of January, 2013 is hereby submitted for Retirement Board approval.

ES/sk

cc Wanda Hendrix, Treasury Manager

EBMUD EMPLOYEES' RETIREMENT SYSTEM
TEMPORARY AND SHORT-TERM INVESTMENT TRANSACTIONS
CONSUMMATED BY THE TREASURER
MONTH OF JANUARY 2013

COST/ FACE VALUE	DESCRIPTION	DATE OF PURCHASE	DATE OF SALE/MAT	YIELD (%)
2,700,000.00	Local Agency Investment Fund	4-Jan-13		0.300
$ 2,700,000.00	Net Activity for Month			

SUBMITTED BY _____ DATE 2-28-13
D. Scott Klein
Controller

S. Lindley 2-27-13
S. Lindley, Acctg Sys Supvr

prepared by vwong

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: March 21, 2013

MEMO TO: Members of the Retirement Board

THROUGH: Alexander R. Coate, General Manager

FROM: Eric L. Sandler, Director of Finance

SUBJECT: October and November 2012 Statement of Receipts and Disbursements for the Employees'Retirement Fund

SUMMARY

On January 17, 2013, a Board member asked why there is a negative cash balance of $111,562 on the November 2012 Statement of Receipts and Disbursements compared to October 2012 report which had a positive $457,136 balance. Another Board member asked the additional question why the health insurance benefit amount of $1,220,785 in November 2012 was approximately double the $648,414 in October 2012.

The two issues reflect a timing issue. The health insurance benefit payment for December 2012 of $559,807 was booked on Friday, November 30, 2012 causing the November health benefit disbursement amount to reflect two months of payments (November and December) and the cash balance to be reduced from it's normal positive balance.

In December, the Statement of Receipts and Disbursements report will report a $120,948 total health insurance benefit payment amount due to November already reporting the bulk of the December payments. The December cash balance will return to a positive balance of $668,240.

STATEMENT OF RECEIPTS AND DISBURSEMENTS
EMPLOYEES' RETIREMENT FUND
MONTH OF OCTOBER 2012

Revised format on 1/30/13

CASH BALANCE September 30, 2012			$	483,050.73
RECEIPTS				
Employees' Contributions	$	816,021.36		
District Contributions		4,739,120.44		
LAIF Redemptions		5,800,000.00		
Commission Recapture		462.54		
TOTAL Receipts				11,355,604.34
DISBURSEMENTS				
Checks/Wires Issued:				
Service Retirement Allowances	$	5,072,083.21		
Disability Retirement Allowances		144,135.66		
Health Insurance Benefit		648,413.79		
Payments to Retiree's Resigned/Deceased		37,555.72		
LAIF Deposits		5,400,000.00		
Administrative Cost		79,329.87		
TOTAL Disbursements				(11,381,518.25)
CASH BALANCE October 31, 2012			$	457,136.82
LAIF				15,092,727.59
LAIF and Cash Balance October 31, 2012			$	15,549,864.41
Domestic Equity				
Barrow Hanley	$	137,109,441.12		
Russell 1000 Index Fund		235,646,878.66		
Russell 2000 Growth Index Fund		15,838,491.34		
Opus		21,549,413.68		
Intech		63,085,146.93		
T. Rowe Price		60,756,442.52		
Subtotal Domestic Equity	$	533,985,814.25		
International Equity				
Franklin/Templeton Foreign Fund	$	90,974,496.62		
Fisher Investments		95,720,826.68		
Subtotal International Equity	$	186,695,323.30		
Real Estate				
Real Estate RREEF	$	20,766,868.20		
Urdang		28,624,485.07		
Subtotal Real Estate	$	49,391,353.27		
Fixed Income Managers				
CS Mckee	$	156,662,457.91		
Western Asset Management Company		81,200,375.22		
Subtotal Fixed Income Managers	$	237,862,833.13		
Total for Domestic and International Equities				1,007,935,323.95
MARKET VALUE OF ASSETS at OCTOBER 31, 2012			$	1,023,485,188.36

Respectfully submitted,

D. Scott Klein
Controller

S Lindley-WOC 1/31/13
S Lindley-Acctg.Syst.Supvr.
prepared by vwong

STATEMENT OF RECEIPTS AND DISBURSEMENTS
EMPLOYEES' RETIREMENT FUND
MONTH OF NOVEMBER 2012

Revised with footnotes on 1/30/13

CASH BALANCE October 31, 2012			$	457,136.82
RECEIPTS				
Employees' Contributions	$	813,584.25		
District Contributions		4,725,466.01		
LAIF Redemptions		5,800,000.00		
Commission Recapture		30.63		
TOTAL Receipts				11,339,080.89
DISBURSEMENTS				
Checks/Wires Issued:				
Service Retirement Allowances	$	5,049,621.54		
Disability Retirement Allowances		142,704.30		
Health Insurance Benefit		1,220,784.80	(1)	
LAIF Deposits		5,400,000.00		
Administrative Cost		94,669.70		
TOTAL Disbursements				(11,907,780.34)
CASH BALANCE November 30, 2012			$	(111,562.63) (2)
LAIF				14,692,727.59
LAIF and Cash Balance November 30, 2012			$	14,581,164.96
Domestic Equity				
Barrow Hanley	$	136,447,984.84		
Russell 1000 Index Fund		237,510,338.73		
Russell 2000 Growth Index Fund		15,965,573.26		
Opus		21,748,234.15		
Intech		65,028,571.74		
T. Rowe Price		62,427,425.38		
Subtotal Domestic Equity	$	539,128,128.10		
International Equity				
Franklin/Templeton Foreign Fund	$	93,198,273.57		
Fisher Investments		99,013,213.46		
Subtotal International Equity	$	192,211,487.03		
Real Estate				
Real Estate RREEF	$	21,044,422.00		
Urdang		28,458,859.90		
Subtotal Real Estate	$	49,503,281.90		
Fixed Income Managers				
CS Mckee	$	157,183,585.09		
Western Asset Management Company		81,480,070.88		
Subtotal Fixed Income Managers	$	238,663,655.97		
Total for Domestic and International Equities				1,019,506,553.00
MARKET VALUE OF ASSETS at NOVEMBER 30, 2012			$	1,034,087,717.96

Respectfully submitted,

D. Scott Klein
Controller

(1) November and December Health Benefits paid during November

(2) December Health Benefits paid on November 30th

S. Lindley-Acctg.Syst.Supvr. 1/31/13
prepared by vwong

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: March 21, 2013

MEMO TO: Members of the Retirement Board

THROUGH: Eric L. Sandler, Director of Finance

FROM: D. Scott Klein, Controller

SUBJECT: Statement of Receipts and Disbursements for December 2012

SUMMARY

The attached Statement of Receipts and Disbursements for the month of December 2012 is hereby submitted for Retirement Board approval.

DISCUSSION

The District policy is to pay vendors on a timely basis. As medical payments are due at the beginning of the month and it is the practice of accounts payable to cut checks on Fridays, there are occasions when the payments for the month are paid in the prior month.

For example, the bulk of the health insurance benefit payment for December 2012 of $559,807 was paid Friday, November 30, 2012 leaving a $120,948 payment in December 2012.

ES/sk

cc Wanda Hendrix, Treasury Manager

STATEMENT OF RECEIPTS AND DISBURSEMENTS
EMPLOYEES' RETIREMENT FUND
MONTH OF DECEMBER 2012

CASH BALANCE November 30, 2012			$	(111,562.63)
RECEIPTS				
Employees' Contributions	$	816,054.71		
District Contributions		4,727,638.24		
LAIF Redemptions		5,900,000.00		
Commission Recapture		1,887.18		
TOTAL Receipts				11,445,580.13
DISBURSEMENTS				
Checks/Wires Issued:				
Service Retirement Allowances	$	4,899,401.90		
Disability Retirement Allowances		144,570.62		
Health Insurance Benefit		120,947.95 (1)		
LAIF Deposits		5,400,000.00		
Administrative Cost		100,856.80		
TOTAL Disbursements				(10,665,777.27)
CASH BALANCE December 31, 2012			$	668,240.23
LAIF				14,192,727.59
LAIF and Cash Balance December 31, 2012			$	14,860,967.82
Domestic Equity				
Barrow Hanley	$	138,516,951.66		
Russell 1000 Index Fund		240,031,606.26		
Russell 2000 Growth Index Fund		16,434,763.07		
Opus		22,531,519.54		
Intech		64,049,945.05		
T. Rowe Price		62,562,757.80		
Subtotal Domestic Equity	$	544,127,543.38		
International Equity				
Franklin/Templeton Foreign Fund	$	97,077,839.50		
Fisher Investments		101,464,550.86		
Subtotal International Equity	$	198,542,390.36		
Real Estate				
Real Estate RREEF	$	21,044,422.00		
Urdang		29,579,482.81		
Subtotal Real Estate		50,623,904.81		
Fixed Income Managers				
CS Mckee	$	157,018,950.86		
Western Asset Management Company		81,735,709.91		
Subtotal Fixed Income Managers	$	238,754,660.77		
Total for Domestic & International Equities				1,032,048,499.32
MARKET VALUE OF ASSETS at DECEMBER 31, 2012			$	1,046,909,467.14

Respectfully submitted,

D. Scott Klein
Controller

(1) December health benefits paid on 11/30/12

S. Lindley WOC · 4/31/13
S. Lindley-Acctg.Syst.Supvr.
prepared by vwong

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: March 21, 2013

MEMO TO: Members of the Retirement Board

THROUGH: Eric L. Sandler, Director of Finance

FROM: D. Scott Klein, Controller

SUBJECT: Statement of Receipts and Disbursements for January 2013

SUMMARY

The attached Statement of Receipts and Disbursements for the month of January, 2013 is hereby submitted for Retirement Board approval.

DISCUSSION

The District's accounting system maintains separate funds for all the District Enterprise Systems, Employee Retirement System, and Joint Power Authorities. It is common practice for financial managers to pool cash and investments for the purpose of gaining efficiencies and maximizing investment earnings. As a result, any of the separate funds may run a negative balance on any given day, but the overall cash balance remains positive in order to ensure proper funding for all disbursements.

For example, the Employee Retirement System's cash balance on January 31st was negative ($2,869,567.89) due to the delayed transfer from LAIF to Wells Fargo that occurred on February 11, 2013. The total balance for Employee Retirement System's combined cash and LAIF funds was a positive $14,037,487.13.

ES/sk

cc Wanda Hendrix, Treasury Manager

STATEMENT OF RECEIPTS AND DISBURSEMENTS
EMPLOYEES' RETIREMENT FUND
MONTH OF JANUARY 2013

CASH BALANCE December 31, 2012			$	668,240.23
RECEIPTS				
Employees' Contributions	$	812,810.96		
District Contributions		4,724,307.87		
LAIF Redemptions		0.00		
Commission Recapture		333.80		
TOTAL Receipts				5,537,452.63
DISBURSEMENTS				
Checks/Wires Issued:				
Service Retirement Allowances	$	5,252,023.75		
Disability Retirement Allowances		143,074.86		
Health Insurance Benefit		743,223.39		
LAIF Deposits		2,700,000.00		
Administrative Cost		236,938.75		
TOTAL Disbursements				(9,075,260.75)
CASH BALANCE January 31, 2013			$	(2,869,567.89)
LAIF				16,907,055.02
LAIF and Cash Balance January 31, 2013			$	14,037,487.13
Domestic Equity				
Barrow Hanley	$	145,351,698.08		
Russell 1000 Index Fund		253,039,364.26		
Russell 2000 Growth Index Fund		17,519,518.40		
Opus		24,015,084.28		
Intech		65,997,994.38		
T. Rowe Price		64,910,777.04		
Subtotal Domestic Equity	$	570,834,436.44		
International Equity				
Franklin/Templeton Foreign Fund	$	101,986,619.56		
Fisher Investments		105,891,594.31		
Subtotal International Equity	$	207,878,213.87		
Real Estate				
Real Estate RREEF	$	21,372,281.00		
Urdang		30,671,506.14		
Subtotal Real Estate		52,043,787.14		
Fixed Income Managers				
CS Mckee	$	156,225,651.31		
Western Asset Management Company		81,720,927.18		
Subtotal Fixed Income Managers	$	237,946,578.49		
Total for Domestic & International Equities				1,068,703,015.94
MARKET VALUE OF ASSETS at JANUARY 31, 2013			$	1,082,740,503.07

Respectfully submitted,

D. Scott Klein
Controller

S Lindley WOC - 2/12/13
S. Lindley-Acctg Syst.Supvr.
prepared by vwong

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: March 21, 2013

MEMO TO: Retirement Board

FROM: Eric Sandler, Director of Finance

SUBJECT: Asset-Liability Modeling Options

BACKGROUND

For any given investment portfolio, over 90% of return behavior is driven by the asset allocation. Therefore, one of the most important responsibilities of a trustee is to develop a sound asset allocation. In the case of the District's Employee Retirement System (ERS), this allocation is codified in the Investment Policy. Best practice is to periodically re-evaluate the portfolio's asset allocation by conducting an Asset/Liability Study. The ERS completed its most recent Asset/Liability Study in 2009.

At its May 17, 2012 meeting, the Retirement Board reviewed the attached presentation by PCA regarding Asset-Liability Modeling Options. At that time, the Retirement Board decided to reschedule the Asset/Liability study to in order to first complete the upcoming quadrennial Experience Study and the annual Actuarial Valuation. Based on the results of the Experience Study, the Retirement Board did adopt certain changes to economic assumptions relevant to the Asset/Liability study.

DISCUSSION

PCA has outlined the three options listed below for evaluating the ERS's asset allocation—ranging in complexity from a simple Asset Allocation Review to a much more complex Multi-Dimensional Asset/Liability Study. The attached presentation highlights the differences among these options in terms scope, utility and cost.

1. Asset Allocation Review
2. Standard mean-variance-based A/L Study
3. Multi-Dimensional A/L Study

A representative from PCA will be at the board meeting to discuss the presentation.

Attachment

ES:WH

Discussion of Asset-Liability Modeling Options

East Bay Municipal Utility District

by

Pension Consulting Alliance, Inc.

Agenda

Section	Tab
Background	1
Review of Asset-Liability Modeling Options	2
Recommendation	3

Background

BRIEF REVIEW of A/L PROCESS

- A/L studies attempt to create an optimal asset allocation to accurately reflect the nature of a Plan's liabilities
  - In accordance with the Plan's Investment Policy Statement

- A/L studies focus on developing *longer-term strategic* investment policy allocations

- Asset allocation determines approximately 95% of an investment portfolio's *return behavior*
  - While often overshadowed by manager selection, asset allocation decisions have a much larger impact on a Plan's return and ability to meet its obligations

Background

BRIEF REVIEW of A/L PROCESS

- One of the most important responsibility of a trustee is to develop a sound asset allocation

- A/L studies have typically taken place under a 3-5 year window; but many plan sponsors are now tightening the review window as a result of the increased volatility in the investment markets

- Plan sponsors are seeking a more dynamic approach to strategic allocation; however, too much shifting in overall strategy could produce sub-optimal risk-adjusted returns

Background

BRIEF REVIEW of A/L PROCESS

Key reasons for conducting an A/L study:

- A change in trustees' tolerance for certain plan risks
  - Plans mature along a continuum
  - Plans tolerance for certain risks evolve along that continuum
- A dramatic change in the investment markets
  - Not attempting to market time
  - Adjusting to large fundamental changes in the capital markets
- Maintaining an ongoing, documented, prudent level of due diligence of a plan's long-term investment strategy

Background

BRIEF REVIEW of A/L PROCESS

- The objectives of an asset-liability project are threefold:

1. **Develop an understanding of how the financial condition** of the EBMUD Plan **might vary** based on investment outcomes of the EBMUD investment portfolio

2. Given the variability in (1.), **establish a consensus definition and view of the risk(s)** EBMUD should bear

3. Once a view/tolerance for risk has been established, **select an appropriate long-term investment strategy** (i.e., a policy portfolio)

Background

BRIEF REVIEW of A/L PROCESS

- EBMUD conducted its last A/L study in 2009
- The context for the study was EBMUD's Financial Condition at that time;
  - As of 6/30/2008 EBMUD was 73% funded
  - As of the 6/30/2008 actuarial valuation, the unfunded liability totaled approximately $344 million
  - The funded status of the Plan indicated that over the next 30 years, the Plan must add approximately $344 million through investment returns and/or contributions; near-term solvency is not an issue
  - Current market value of assets is greater than current actuarial value, but will revert in future years
  - Contributions have exceeded benefit payments by a steady margin since 2005
  - To improve long-term funded status over time assets assumed to grow at 8.25% per year
  - Investment horizon of plan is long-term
- After significant discussion, and review of several asset allocation mixes (including the inclusion of a private equity class), EBMUD elected to make no changes to its asset allocation

Background

CURRENT IMPLEMENTATION

- Since the 2009 A/L study, the global investment markets have taken quite a journey, putting plan sponsors in a difficult long-term funding predicament
- As of Segal's 6/30/2012 valuation, EBMUD is 65.6% funded
- Significant changes have occurred in the EBMUD portfolio
  - Decrease in the Plan's actuarial assumed rate
    - Lowered from 8.25% to 7.75%
  - Completed funding the Real Estate class to a full 5%
- In light of the recent past, future investment prospects remain extremely challenging
- PCA recently revised its capital market assumptions, recognizing significant bond market volatility/valuation dynamics

Background

RECENT MARKET DYNAMICS

PCA's 2013 10-Year Capital Market Return, Risk, and Correlation Assumptions

	Expected Arithmetic Average Nominal Annual Return	Expected Risk of Nominal Returns (Annl. SD)	Cash	Treasury Infl. Protected Securities	Fixed Income	Core Real Estate	Real Return	Domestic Equity	International Equity	Private Equity/Venture Capital
Cash	2.25	2.00								
Treasury Infl. Protected Securities	2.25	6.00	0.20							
Fixed Income	2.25	4.50	0.30	0.60						
Core Real Estate	6.40	10.00	0.30	0.00	0.00					
Real Return	5.85	8.00	0.20	0.60	0.30	0.25				
Domestic Equity	8.75	18.00	0.00	0.00	0.30	0.40	0.25			
International Equity	9.25	21.00	0.00	0.00	0.10	0.40	0.25	0.85		
Private Equity/Venture Capital	12.00	26.00	0.00	0.00	0.00	0.40	0.25	0.90	0.90	
Inflation	3.00	2.00	0.50	0.50	-0.20	0.40	0.60	0.20	0.20	0.10

- Yearly PCA reviews the capital market environment and then incorporates those insights into our 10-Yr capital market assumptions
  - The model develops our best estimates for long term return, risk, and correlation of major asset classes given the current economic environment
  - In developing the estimates, PCA incorporates historical information, current investment class fundamentals, and factor drivers of investment class correlations

Background

RECENT MARKET DYNAMICS

- Expected returns for diversified portfolios have again declined since the end of 2009
- To maintain a funding improvement path, it is highly likely that a new model portfolio would seek additional risk premiums and a rethinking of the role of fixed income
- Investment market dynamics may have caused shift in risk tolerance
- A shift in risk tolerance would be a strong argument for a multi-dimensional A/L study

Review of Asset-Liability Modeling Options

SUMMARY OF OPTIONS

Three Available Options:

1. Asset allocation review
2. Standard mean-variance-based A/L study
3. Multi-dimensional A/L study

Review of Asset-Liability Modeling Options

SUMMARY OF OPTIONS

	A/L Project Type		
Features	**Asset Allocation Review**	**Standard M-V Approach**	**Multi-Dimensional Risk Factor Approach**
Explicit recognition of Plan-oriented risk tolerance	No	Modest	Yes
Reality-based investment return projections	Limited, M-V based	Limited, M-V based	Yes
Recognition of Plan liabilities	Minimal, actuarial rate	Modest, limited modeling	Full, complete recognition
Timeline	2-3 months	2-4 months	4-6 months
Project costs	None*	$5,000 - $20,000**	$120,000 - $150,000***

- All versions would utilize PCA's updated capital market assumptions (see slide 8)
- Regardless of approach utilized, PCA would (i) introduce one or more strategic class(es) and (ii) discuss potential structural adjustments to existing classes

* Covered under PCA's scope-of-services
** Incremental costs are associated with the Plan's actuary providing limited scenario analyses to PCA
*** Negotiable

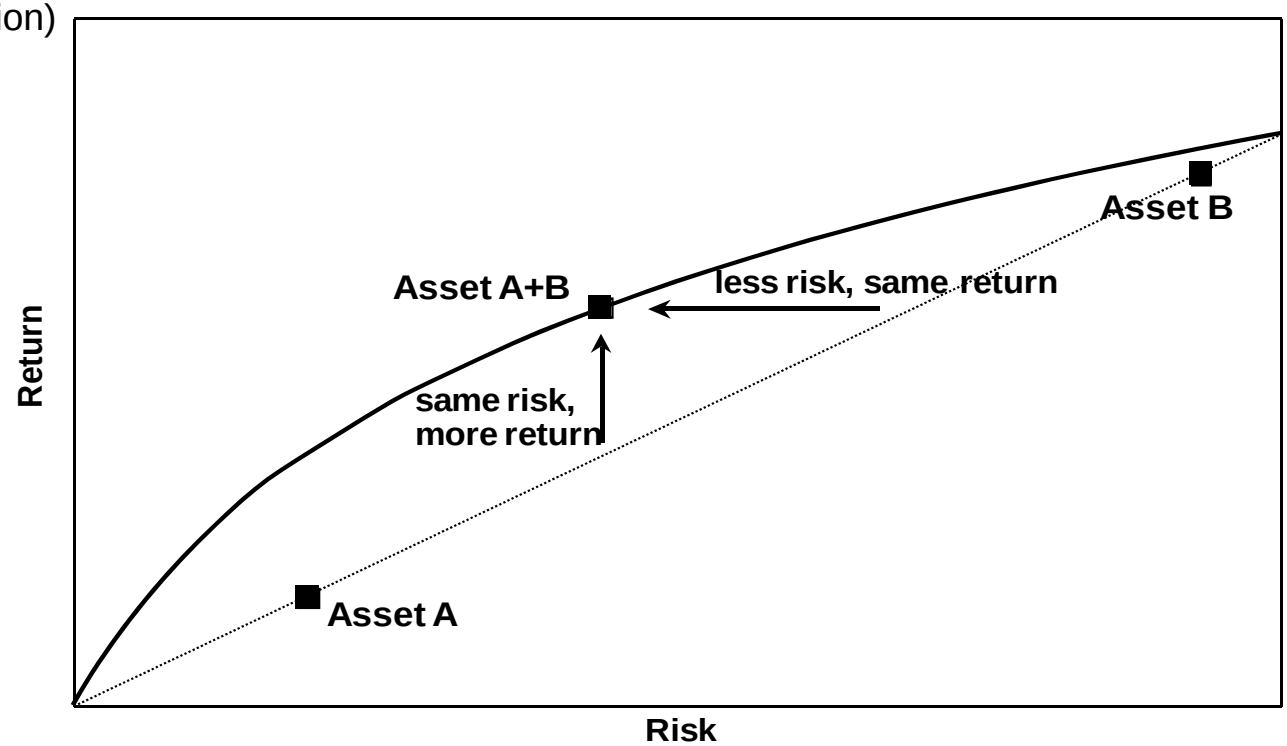
Review of Asset-Liability Modeling Options

Option 1: Asset Allocation Review

- Utilizes PCA's updated capital market assumptions
- Examines only asset side of Plan's balance sheet
- Sole focus is investment return/risk tradeoff
- May not capture potentially dramatic (2008-like) market outcomes
- Project timeline: typically 2-3 months
- No incremental cost

Review of Asset-Liability Modeling Options

- The "Efficient Frontier"
  - Combining assets through mean-variance optimization recasts the tradeoff between risk and return
  - Not only asset returns and risks, but also *co-relationships among pairs of classes* (source of diversification)



  - The curved line is the "efficient frontier," a spectrum of ideal portfolios at different risks

Review of Asset-Liability Modeling Options

STANDARD MEAN-VARIANCE-BASED A/L STUDY

Option 2: Standard Mean-Variance-Based A/L Study

- Utilizes PCA's updated capital market assumptions
- Incorporates Segal projection data from 6/30/2012 valuation
- Places most emphasis on investment return volatility as a proxy for overall plan risk, but does examine key financial outcomes
- Project timeline: typically 2-4 months
- Modest incremental costs to have plan actuary model a limited number of scenarios (expected range: $5,000 - $20,000)

Review of Asset-Liability Modeling Options

STANDARD MEAN-VARIANCE-BASED A/L STUDY

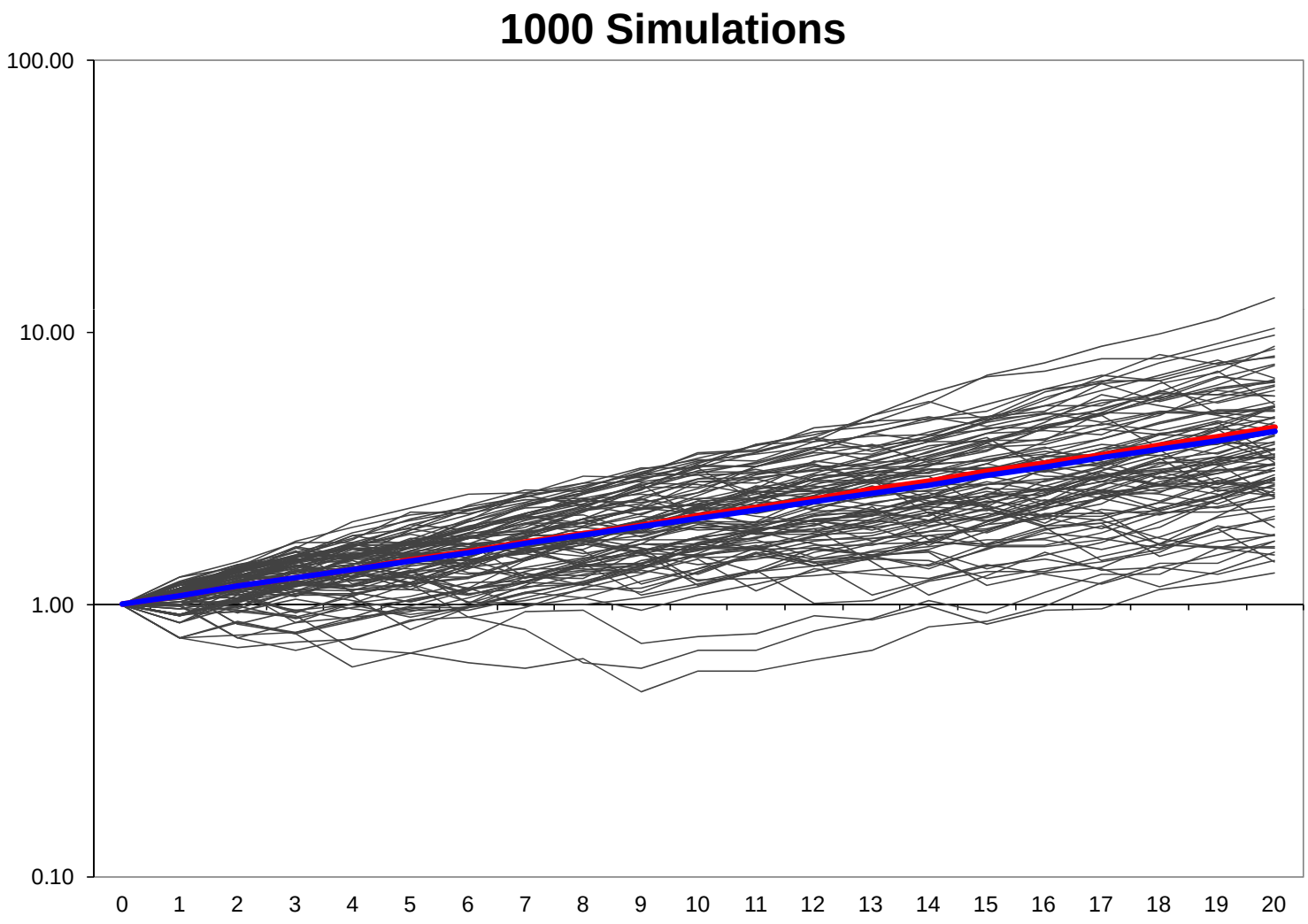
- Summary of Policy Options

Investment Class	Port #11 - best ret/risk	Port #13 - same ret/ min risk	Port #16 - same risk/ max ret	Current Long-Term Policy
Private Equity	3%	4%	5%	5%
International Equity	18%	21%	27%	24%
Domestic Equity	32%	33%	34%	34%
Covered Calls	9%	8%	4%	0%
Real Return	5%	5%	4%	7%
Real Estate	5%	4%	4%	5%
Fixed Income	27%	24%	21%	24%
Cash	1%	1%	1%	1%
Total	100%	100%	100%	100%
Modeled Results				
Expected Arithmetic Return	7.6%	7.8%	8.1%	7.9%
Estimated Compound Return	7.0%	7.2%	7.4%	7.2%
1 Yr. ADD vs. 3.25%	7.5%	7.9%	8.9%	8.6%
1 Yr. Down. Deviation	5.6%	5.9%	6.7%	6.4%
1 Yr. Down. Prob.	33.1%	33.1%	32.9%	33.0%
10 Yr. Down. Deviation	0.8%	0.8%	1.0%	1.0%
10 Yr. Down. Prob.	10.3%	10.5%	11.0%	10.8%
Simulated Results				
Average Compound Return	7.6%	7.8%	8.1%	7.9%
Median Compound Return	7.2%	7.3%	7.5%	7.4%

- PCA simulated 1,000 different market scenarios
- Worked with Segal to develop fund-level financial projections

Review of Asset-Liability Modeling Options

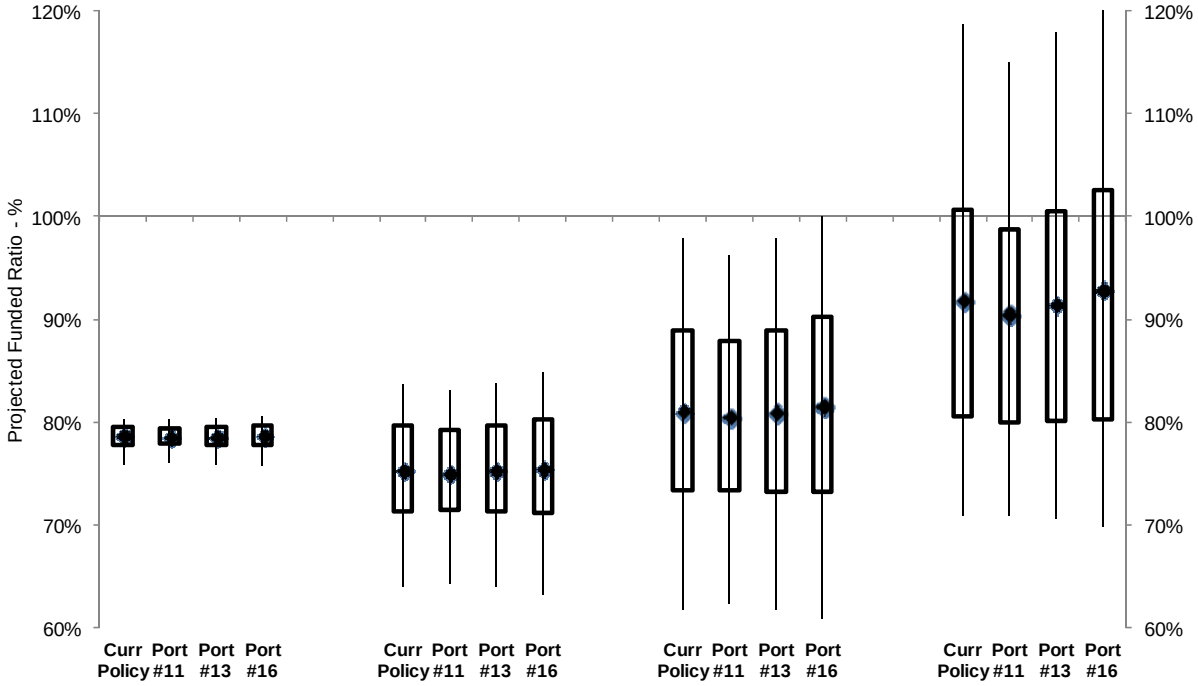
STANDARD MEAN-VARIANCE-BASED A/L STUDY



Review of Asset-Liability Modeling Options

STANDARD MEAN-VARIANCE-BASED A/L STUDY

FUNDING RATIOS



	Portfolio	Average	Highest 25th Pct	Highest 5th Pct	Lowest 95th Pct	Lowest 75th Pct
1 Year	*Curr Policy*	*79%*	*80%*	*80%*	*76%*	*78%*
	Port #11	79%	79%	80%	76%	78%
	Port #13	79%	80%	80%	76%	78%
	Port #16	79%	80%	81%	76%	78%
3 Years	*Curr Policy*	*75%*	*80%*	*84%*	*64%*	*71%*
	Port #11	75%	79%	83%	64%	71%
	Port #13	75%	80%	84%	64%	71%
	Port #16	76%	80%	85%	63%	71%
5 Years	*Curr Policy*	*81%*	*89%*	*98%*	*62%*	*73%*
	Port #11	81%	88%	96%	62%	73%
	Port #13	81%	89%	98%	62%	73%
	Port #16	82%	90%	100%	61%	73%
10 Years	*Curr Policy*	*92%*	*101%*	*119%*	*71%*	*81%*
	Port #11	91%	99%	115%	71%	80%
	Port #13	92%	101%	118%	71%	80%
	Port #16	93%	103%	122%	70%	80%

Review of Asset-Liability Modeling Options

MULTI-DIMENSIONAL A/L STUDY

Option 3: Multi-Dimensional A/L Study

- Individual Board members get to establishes risk “priorities”
- Encapsulates multiple risk dimensions (funding, costs, overall plan liquidity, solvency, etc.)
- Project timeline: typically 4-6 months
- Incremental costs required (Study cost $120,000 - $150,000)
- Independent verification of current actuarial practices

Review of Asset-Liability Modeling Options

MULTI-DIMENSIONAL A/L STUDY

- **Key feature: Intuitive risk assessment metrics**

- **EFI's model engine uses a large number of simulations to analyze potential outcomes**
  - **Monte-Carlo**
  - **Resampling techniques (using samplings from history)**
  - **Deterministic**

- **Interactive ability to assess decisions**
  - **PCA/EFI has capability to allow the Board to stress test in a seminar setting**
  - **This phase of the process is dynamic and helpful for developing consensus views of risk tolerance**
  - **The Board retains significant authority over the policy portfolio selection process**

Review of Asset-Liability Modeling Options

MULTI-DIMENSIONAL A/L STUDY

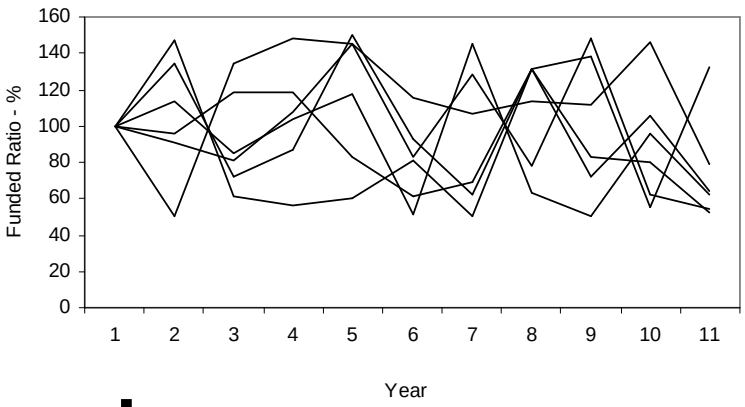
- **Model**
  - **Review investing priorities/objectives/opportunities**
  - **Characterize the Plan**
- **Measure**
  - **Identify potential Plan "Hot Spots" (i.e. areas of sensitivity)**
  - **Allow Trustees to articulate goals and concerns**
  - **Establish risk priorities (in the form of "Decision Factors")**
- **Optimize**
  - **Determine appropriate strategic asset allocation**

Review of Asset-Liability Modeling Options

MULTI-DIMENSIONAL A/L STUDY

- The PCA/EFI asset-liability modeling process:

1. Present simulated projections *first*, to give trustees an awareness of future risks



leads to…

2. Have trustees prioritize/emphasize their concerns about such risks

3. Identify the investment portfolio that should best address those concerns (with no "pre-selection")

Decision Factors:	1 Achieve the Highest Average Funded Ratio, Years 2 - 22	2 Avoid Funded Ratio Lower Than 66%, Years 2 - 22	3 Seek Lowest Average Employer Cost, Years 2 - 22	4 Minimize Cost Volatility, Years 2 - 22	5 Minimize Cash Flow Stress, Years 2 - 22
Funding Management Oriented	50%	20%	15%	15%	0%
Cost/Downside Mgmt. Oriented	10%	25%	15%	50%	0%
Cash Flow Oriented	20%	10%	10%	10%	50%
Equal Risk Weighting Oriented	20%	20%	20%	20%	20%

which results in…

	U.S. Equity	Non U.S. Equity	Fixed Inc.	SCERS RE	Alternatives	Real Return
Best	35.0%	20.0%	20.0%	10.0%	10.0%	5.0%
Current Policy	41.0%	17.0%	28.0%	9.0%	5.0%	0.0%

Review of Asset-Liability Modeling Options

MULTI-DIMENSIONAL A/L STUDY

Plan XYZ Risk Tolerance Prioritization Session

Decision Factors:	1 Achieve the Highest Average Funded Ratio, Years 2 - 22	2 Avoid Funded Ratio Lower Than 66%, Years 2 - 22	3 Seek Lowest Average Employer Cost, Years 2 - 22	4 Minimize Cost Volatility, Years 2 - 22	5 Minimize Cash Flow Stress, Years 2 - 22
Funding Management Oriented	50%	20%	15%	15%	0%
Cost/Downside Mgmt. Oriented	10%	25%	15%	50%	0%
Cash Flow Oriented	20%	10%	10%	10%	50%
Equal Risk Weighting Oriented	20%	20%	20%	20%	20%

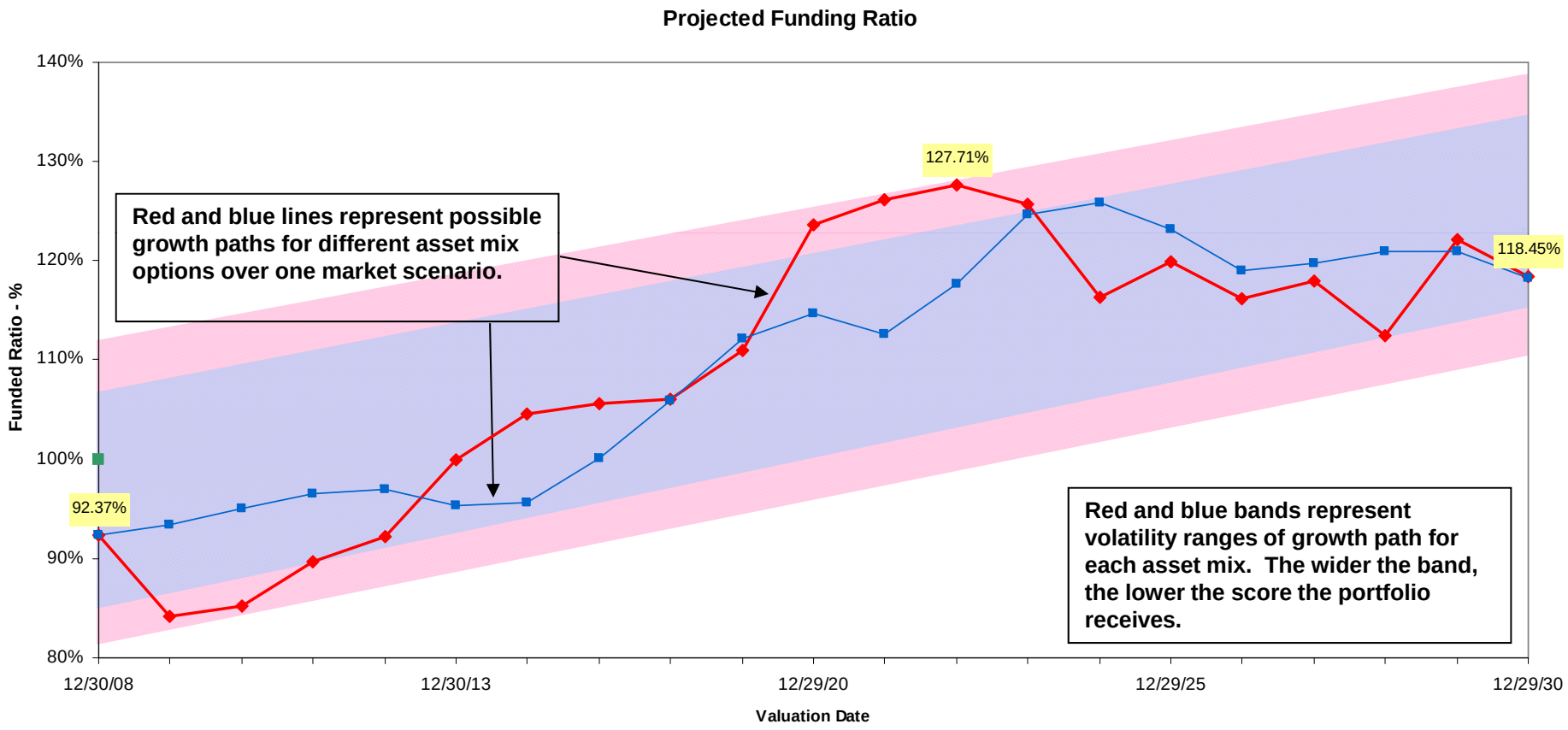
	U.S. Equity	Non U.S. Equity	Fixed Inc.	Real Estate	Alternatives	Real Return
Best	35.0%	20.0%	20.0%	10.0%	10.0%	5.0%
Current Policy	41.0%	17.0%	28.0%	9.0%	5.0%	0.0%

- **PCA/EFI will work with the Board to establish and define appropriate decision factors**
- **Thousands of potential portfolios are pre-scored using customized decision factors**
- **PCA polls each Board member to weight/prioritize each factor**
- **The final aggregate weight will determine an "optimal" policy portfolio**

Review of Asset-Liability Modeling Options

- **Each potential portfolio is scored on its ability to accomplish the goal described by a specific Decision Factor**
- **While each Decision Factor has its merits, they may compete against each other; therefore the Board must *balance* and *prioritize* them**
- **Often a Tradeoff between Factors**
- **Prioritization takes place through a voting process among Board members**

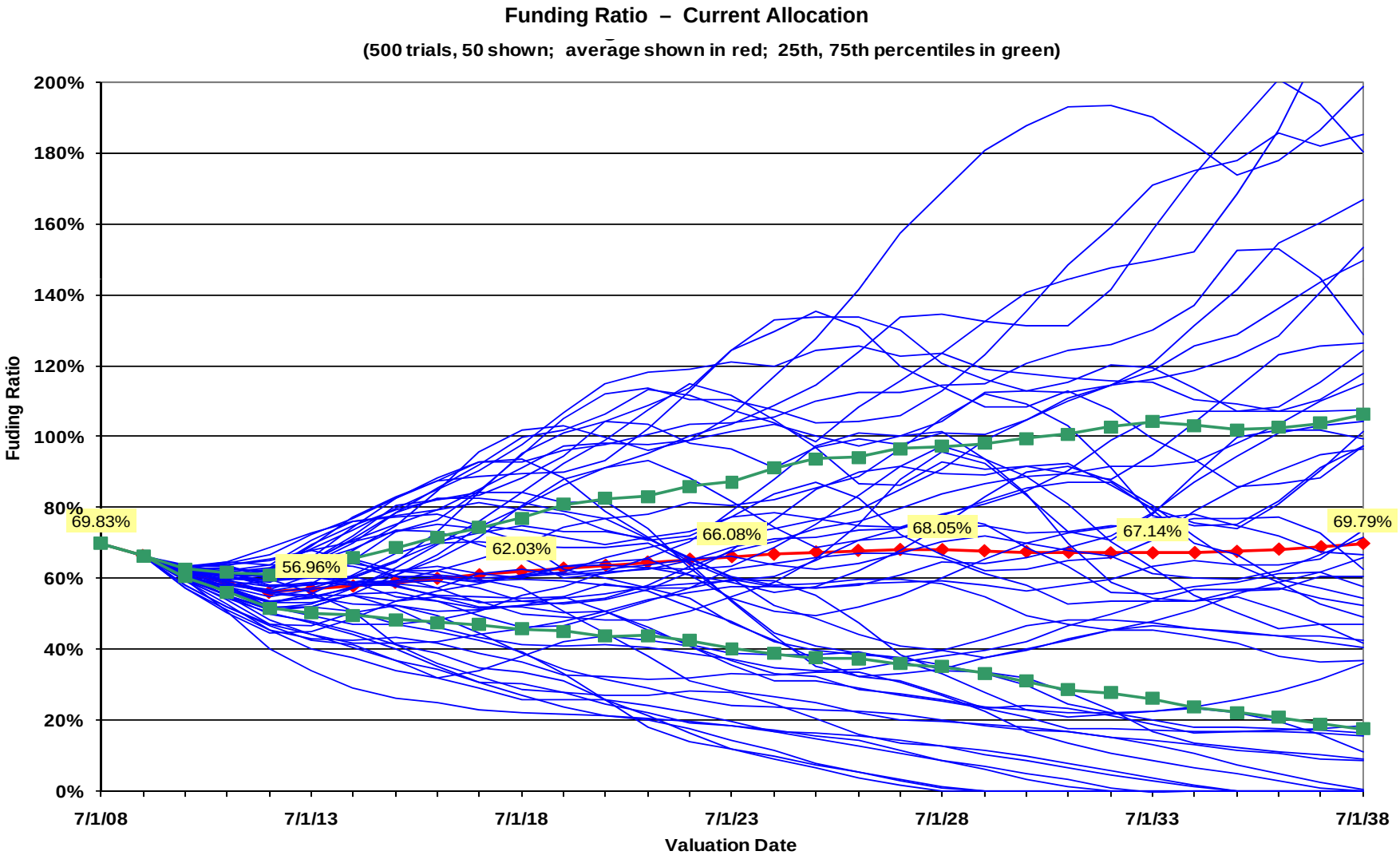
Decision Factor Example: Minimize Funding Volatility over 20 Years:



- **For every portfolio, scores are aggregated across hundreds of scenarios**

Review of Asset-Liability Modeling Options

MULTI-DIMENSIONAL A/L STUDY



Review of Asset-Liability Modeling Options

MULTI-DIMENSIONAL A/L STUDY

Prioritizing Key Plan Risk Factors

	WSIB (2009)	CalSTRS (2009)	SBCERS (2009)
Improve Funding		44%	
Avoid Low Funding		15% (57%)	
Minimize Funding Volatility	4%		
Seek Low Cost		16%	
Avoid Cost Spike		10% (Over 35%)	25% (Over 45%)
Minimize Cost Volatility	9%		25% (10-Yr Avg)
Meet Actuarial Rate			25% (10-Yr Avg)
Maximize Return	65%		25%
Minimize Return Volatility	10%		25% (10-Yr Avg)
Minimize PAYGO Prob.		15%	
Minimize Cash Flow Stress	12%		

Review of Asset-Liability Modeling Options

MULTI-DIMENSIONAL A/L STUDY

Prioritizing Key Plan Risk Factors

	KPERS (2008)	CalPERS (2007)	UN (2007)
Improve Funding	50% (100%, 26 Yrs)	36% (+10%, 15 Yrs)	50% (20-Yr Avg)
Avoid Low Funding	25% (80% or 60%)	15% (80%)	25% (85%)
Seek Low Cost		25%	
Avoid Cost Spike		24% (Over 25%)	25% (Over 24%)
Meet Actuarial Rate	25% (5-Yr Avg)		
Maximize Return			

Review of Asset-Liability Modeling Options

MULTI-DIMENSIONAL A/L STUDY

Prioritizing Key Plan Risk Factors

	WSIB (2007)	CalSTRS (2006)	WSIB (2005)
Improve Funding	17% (20-Yr Avg)	28% (100%, 30 Yrs)	
Avoid Low Funding	17% (Two Factors)	12% (62%)	
Seek Low Cost	7%	43%	
Avoid Cost Spike	14% (Over 12%)	17% (Over 30%)	
Meet Actuarial Rate	45% (Two Factors)		
Maximize Return			100%

Recommendation

- At a minimum, PCA recommends a documented analysis of strategic investment options for the Plan's portfolio
- Selection of one option versus another will be a function of the Board's desire to fully revisit/vet its tolerance for overall Plan risk
- Depending on the extent and degree of any change in risk tolerance, the Board's strategic allocation may or may not shift

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: March 21, 2013

MEMO TO: Retirement Board

FROM: Eric Sandler, Director of Finance

SUBJECT: Franklin Templeton Update

RECOMMENDATION

Remove Franklin Templeton Management from heightened monitoring status based on the review and analysis by Pension Consulting Alliance (PCA) provided in the attached memo.

BACKGROUND

The "Basic Investment Policies and Objectives of the East Bay Municipal Utility District Employees' Retirement System" ("ERS Investment Policy") Retirement Board (R.B.) Resolution No. 6713 governs the investment performance evaluation, monitoring and implementation of monitoring procedures for the Retirement Board investment managers. The periodic and quarterly monitoring of the investment managers is administered by PCA. The managers are evaluated based on the Investment Performance Criteria by Asset Class in the ERS Investment Policy. If the manager has met the corrective action criteria for removal, PCA makes a recommendation to the Retirement Board to remove them from probation. Based on these criteria, PCA is recommending that Franklin be removed from watch.

Franklin Templeton was hired in June 1999 as an international equity manager. The Board put the firm on heightened monitoring in February 2011 and recommended extending the monitoring period in February 2012.

DISCUSSION

As of December 31, 2012, the portfolio value was approximately $97 million and the portfolio has outperformed its benchmark by 2.5% over the 1-year period. The table below is a performance summary of the fund since inception.

Annualized Performance
(Gross of Fees)
(Periods Ending 3/31/2011)

	Quarter	1 Year	3 Years	5 Years	10 Years	Inception (6/1995)	Monitoring (6/2010)
Franklin	7.4	19.9	4.3	-2.6	10.2	8.0	10.3
MSCI ACWI x US Index (blend)	*5.9*	*17.4*	*4.3*	*-2.4*	*9.5*	*5.0*	*9.3*
Difference	*1.5*	2.5	0.0	-0.2	0.7	3.0	1.0

The attached memo from PCA reviews the performance of Franklin and their recommendation for removing them from heightened monitoring. PCA will be at the meeting to discuss the attached memo.

Attachment

ES:WH

W:shared\treasury\retirement\Franklin Update March 21, 2013

MEMORANDUM

TO: East Bay Municipal Utility District (EBMUD)

DATE: February 20, 2013

FROM: Pension Consulting Alliance, Inc. (PCA)

cc: Jeremy Thiessen – PCA
Eric White – PCA

RE: Franklin Templeton – Heightened Monitoring Removal Recommendation

Recommendation

PCA recommends that EBMUD remove the Franklin Templeton (Franklin) international equity strategy from heightened monitoring status due to improved investment performance.

Summary

In making this recommendation, PCA considered recent and extended time period investment performance for the Franklin international equity strategy. Franklin has exceeded its benchmark, the MSCI ACWI x US Index, over all extended time periods, gross of fees, save the most recent 5-year period. Franklin's near term performance has improved with the portfolio outperforming the benchmark over the quarter and 1-year period, as well as the 31-month heightened monitoring period, gross of fees. Franklin has produced strong results since inception of the fund in 1995. Since inception, Franklin has produced 63% more wealth through active management of the portfolio relative to the benchmark.

Franklin continues to be a strong complement to EBMUD's other international equity manager, Fisher, exhibiting a -0.25 excess correlation, since the inception of the Fisher portfolio. As such, PCA believes it is prudent to remove the portfolio from heightened monitoring status.

Franklin International Equity
Heightened Monitoring Recommendation

Product and Organization Review Summary

Reason for Update		Areas of Potential Impacted			
☐ Failed Performance Criteria ☐ Organizational Changes ☒ Scheduled Watch Update	Level of Concern^	Investment process (client portfolio)	Investment Team	Performance Track Record	Team/ Firm Culture
Product					
Key people changes	None				
Changes to team structure/individuals roles	None				
Product client gain/losses	None				
Changes to the investment process	None				
Personnel turnover	None				
Organization					
Ownership changes	None				
Key people changes	None				
Firm wide client gain/losses	None				

^None, low or high

Review and Recommendation History

Date	PCA Findings and Recommendation	Board
03/2013	PCA recommends removal from Heightened Monitoring status due to performance.	Pending
02/2012	PCA recommended maintaining Franklin on Heightened Monitoring status due to performance. Next review in 6 to 12 months.	Approved
02/2011	PCA recommended maintaining Franklin on Heightened Monitoring status due to performance. Next review in 6 to 12 months.	Approved
05/2010	PCA recommended placing Franklin on Heightened Monitoring status due to performance. Next review in 6 to 12 months.	Approved

Performance Results, Gross of Fees

Ending December 31, 2012

	Quarter	1 Year	3 Years	5 Years	10 Years	Inception (6/1995)	Monitoring (6/2010)
Franklin	7.4	19.9	4.3	-2.6	10.2	8.0	10.3
*MSCI ACWI x US Index (blend)**	*5.9*	*17.4*	*4.3*	*-2.4*	*9.5*	*5.0*	*9.3*
Difference	1.5	2.5	0.0	-0.2	0.7	3.0	1.0

**MSCI ACWI x US as of 1/1/2007; MSCI EAFE ND thru 12/31/2006*
Source: MPI

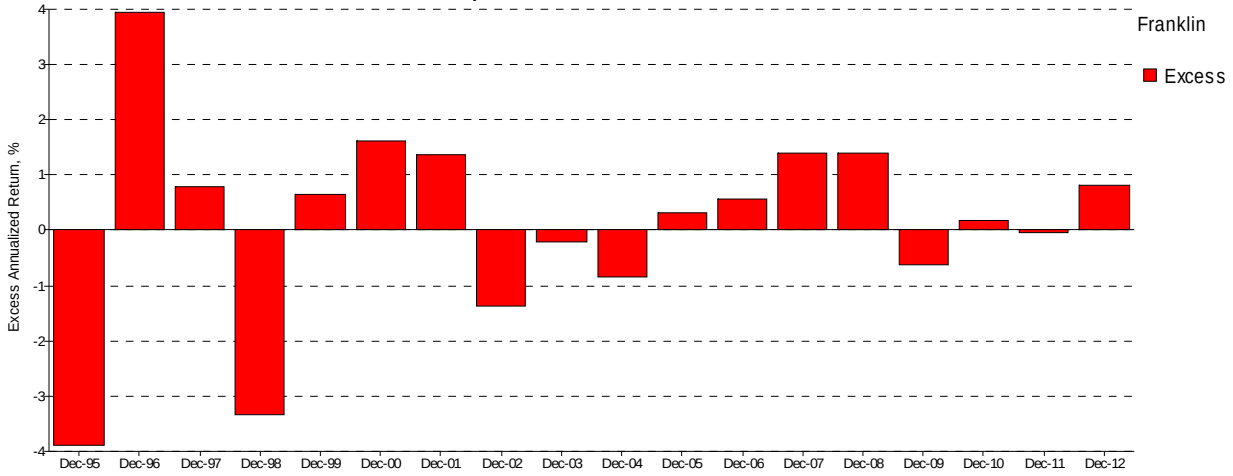
Investment Performance

EBMUD hired Franklin as an international equity manager in June 1995. As of December 31, 2012, Franklin managed approximately $97 million on behalf of EBMUD. During the most recent quarter ending December 31, 2012, Franklin outperformed the MSCI ACWI x US Index by 1.5%, gross of fees. The portfolio also outperformed by 2.5% over the 1-year period, but was essentially flat over the 3- and 5-year periods. Over extended time periods, Franklin has produced results exceeding its benchmark. Over the 10-year and since inception periods, Franklin has surpassed the MSCI ACWI x US Index by 0.7% and 3.0%, respectively, gross of fees.

The Franklin international equity portfolio was able to preserve capital better than its benchmark during the credit crisis. However, due to the high quality nature of the portfolio's holdings the mandate trailed significantly during the high beta rally that characterized 2009 and some of 2010. As a result, the portfolio trailed its benchmark by (8.5%) in 2009 and by (4.9%) in 2010. As the economy and markets showed signs of stress again in 2011 and 2012, higher quality holdings have again outperformed leading to the portfolio's outperformance. Given the challenging and uncertain outlook for developed international markets, the high quality positioning of the portfolio should help it weather any potential market turbulence.

Since inception, Franklin has exceeded the MSCI ACWI x US Index by 3.0% per annum, gross of fees. When looking at 12-month excess performance relative to Franklin's benchmark (see graph below) it is evident the portfolio exhibits a cyclical performance pattern. This is consistent with high quality managers who do well in times of stress but lag in hotter markets. Despite the cyclicality, it has been shown that higher quality managers outperform over longer time periods as the ebbs and flows even out.

12-Month Relative Performance
Inception – December 31, 2012



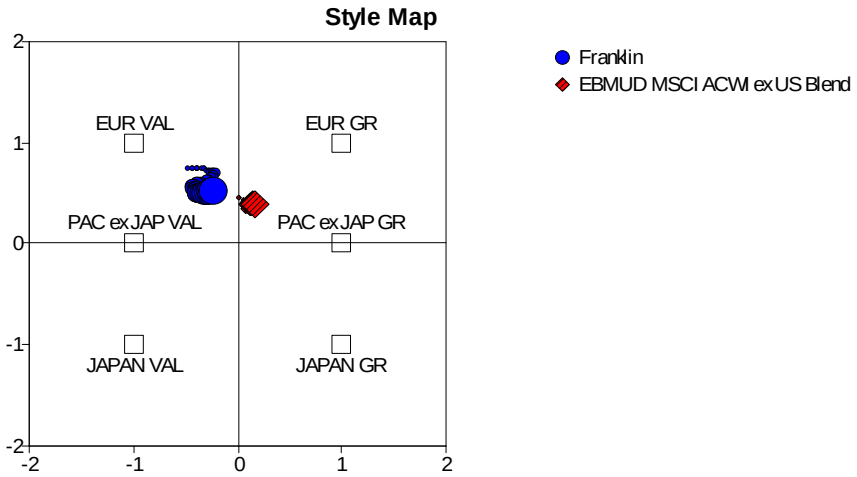
The following exhibit shows Franklin's cumulative performance versus the MSCI ACWI x US Index since inception, which illustrates the strong relative performance over time. Since inception, a $100 investment in the Franklin portfolio has grown to $384 compared to $235 for the MSCI ACWI x US Index. In other words, Franklin has produced 63% more wealth through active management of the portfolio relative to the benchmark.

Cumulative Performance

Inception – December 31, 2012

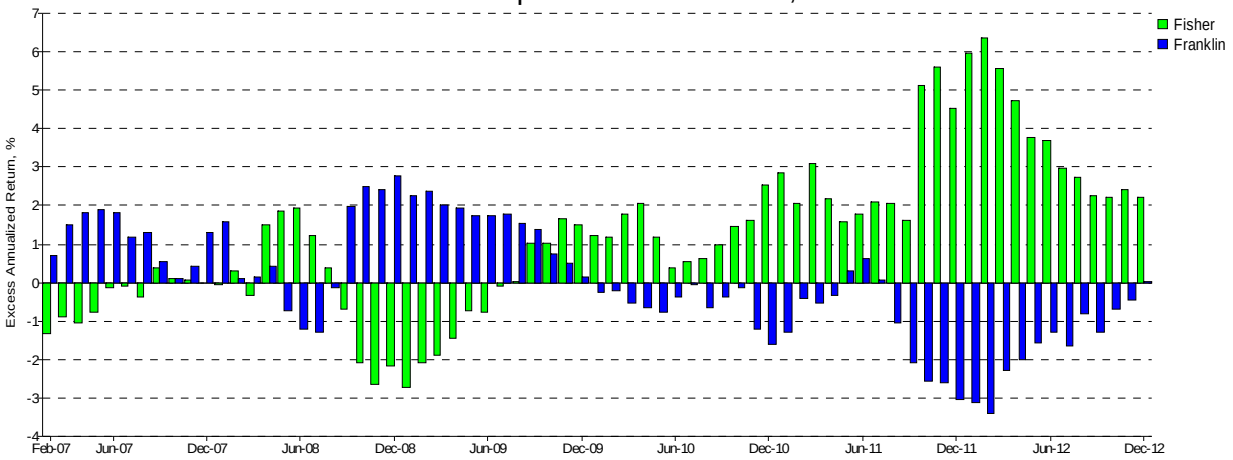
In terms of style, since inception, the Fund's exposures across the various MSCI ACWI x US segments have been consistent. The Fund has, over this time period, remained fairly neutral to the benchmark with a slight value tilt which is consistent with Franklin's investment philosophy and process.

Franklin Style Map: Since Inception Ending December, 31 2012



With respect to Franklin's role within the overall EBMUD international equity allocation, Franklin has continued to be a strong complement to EBMUD's other international equity manager Fisher. The complementary nature of the two managers creates a strong combined effect through diversification of return drivers. Since the inception of the Fisher portfolio, in February 2004, the two portfolios have exhibited a -0.25 excess correlation. This relationship is evident in the following chart.

36- Month Rolling Excess Performance
Fisher Inception – December 31, 2012



Investment Philosophy

Franklin conducts an unconstrained search for value across all sectors and regions. They strive to be disciplined and patient throughout market cycles, upholding a long-term approach that emphasizes fundamentals and original stock-by-stock analysis rather than short-term market trends. This investment philosophy, established by Sir John Templeton nearly 70 years ago, is built upon the three tenets that they believe are critical to successful long-term investing: value, patience, and bottom-up stock selection.

Value - Franklin focuses its research efforts on identifying stocks trading at a discount to the intrinsic long-term value. They seek to determine the underlying value of a business and estimate what that company's assets can generate in earnings and cash flow. As long-term, valuation-driven investors, they focus on normalized earnings to seek out compelling opportunities in all sectors and markets around the globe.

Patience - Franklin believes that stock markets are often short-sighted and affected by sentiment, which creates short-term distortions in share prices. Franklin's long-term focus allows them to look beyond current market noise and identify the fundamental value of a stock. Through research, they determine what a company is worth and wait for the opportunity to purchase it at bargain levels. The depth of research also gives the conviction to wait for the market to reflect the fair value of a stock once it is added to their portfolios.

Bottom-Up Stock Selection - Franklin conducts rigorous fundamental analysis to assess a company's long-term prospects and catalysts for value recognition. Franklin's commitment to original research drives their process to uncover opportunities wherever they may exist.

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: March 21, 2013

MEMO TO: Members of the Retirement Board

FROM: Elizabeth Grassetti, Sr. Human Resources Analyst

SUBJECT: Cost of Living Adjustment

ACTION: Vote on Resolution No. 6777

RECOMMENDATION

The Board adopt Resolution No. 6777 authorizing a 2.7% COLA for retirees and allow retirees with accumulated COLA bank credit to receive up to an additional 0.3% or the actual amount of their accumulated past COLA bank credit, whichever is less effective July 1, 2013.

DISCUSSION

Section 33 of the Retirement Ordinance and Retirement Board Rule No. B-11 provides for Cost of Living Adjustments (COLA) for retirees. The COLA is effective every July 1st and is based on the change in the Consumer Price Index-Urban (CPI-U) for the Bay Area from December to December.*

The change in the CPI-U for purposes of calculating the COLA for the fiscal year beginning July 1, 2012 is the percentage difference between 233.390 and 239.650 or 2.7%.

The retiree COLA is limited to a maximum of either 3% or 5%, depending on the Pension Benefit Obligation (PBO) funding ratio, which is the ratio Retirement System market assets to liabilities. If the funding ratio is less than 85%, then the maximum COLA is 3%; otherwise, the maximum COLA is 5%.

According to the June 30, 2012 Actuarial Valuation, the PBO funding ratio of the Retirement System was 61.4%. Therefore the maximum COLA payable is 3.0 %.

[1] * The Department of Labor, San Francisco Office "Consumer Price Index, All Items, 1982-1984=100, San Francisco-Oakland_San Jose, Consumer Price Index for All Urban Consumers. (NOTE: The CPI-U is different from the "Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) used for District employee COLAs. The CPI-U index which is specified in the Retirement System rules covers approximately 32 percent of the same population. In addition to blue collar and clerical workers, the CPI-U includes professional, managerial, and technical workers, as well as the self-employed, short-term workers, the unemployed and retirees not in the labor force.)

Retirees who were not retired 12 full months prior to the July 1st effective date of the COLA increase receive a prorated increase equal to 1/12th of the COLA for each full month they were retired before the effective date of the COLA.

The Retirement Ordinance also directs that if the CPI-U is more than the maximum permissible amount, then the excess is accumulated in retirees COLA banks for use in later years when the CPI-U is less than the maximum level. Because the CPI-U is less than the maximum COLA of 3% allowed under Section 33, the difference between the maximum of 3% and the CPI for the year of 2.7%, or 0.3% will be drawn from 91 retiree COLA banks.

EG/eg

R. B. RESOLUTION NO. 6777

DECLARING THE COST OF LIVING ADJUSTMENT
TO BE EFFECTIVE AS OF JULY 1, 2013

Introduced by: ; seconded by:

Pursuant to the provision of Section 33 of Ordinance No. 40 as amended, the Retirement Board Rule No B-11 adopted in accordance with said Section 33, the cost of living adjustment to be effective July 1, 2013, is hereby established to be 2.7 percent.

Employees who retired on or before July 1, 2012, will receive a 2.7 percent increase. Employees who retired after July 1, 2012, will receive a proration of 2.7 percent, or 1/12 of the full COLA for each full month retired since July 1, 2012. Retirees with accumulated past COLA bank credit will receive up to an additional 0.3 percent, or the actual amount of their accumulated past COLA bank credit, whichever is less.

Any other resolution or parts of resolution, in conflict herewith are hereby rescinded and cancelled.

_____
President

ATTEST: _____
Secretary

3/21/2013

East Bay Municipal Utility District Retirement System (EBMUD) Investment Portfolio

Quarterly Report
Executive Summary

Table of Contents

INTRODUCTION

The EBMUD Total Portfolio had an aggregate value of $1.0 billion as of December 31, 2012. During the latest quarter, the Total Portfolio increased by $15.5 million and over the latest year the Total Portfolio increased by $127.5 million. The fourth quarter of 2012 was spotlighted by political discord and turbulence. Despite the constant headlines regarding the presidential election and ensuing fiscal cliff, the markets shrugged off most of these events and provided investors with modest returns over the quarter in aggregate. Although domestic equities were roughly flat for the period, international equities were able to escape from their overly depressed state and provide investors with considerable returns for the quarter. Similar to domestic equities, returns within fixed income markets were flat-to-marginal. Overall, 2012 was a strong year for nearly all asset classes. The macroeconomic picture continues to remain the same; broad data continues to show improvements on multiple fronts, and policy makers remain extremely accommodative in hopes of improving economic growth and decreasing unemployment.

Asset Allocation Trends

With respect to policy targets, the Total Portfolio ended the latest quarter **overweight Domestic Equity and Cash, underweight International Equity and Fixed Income, and relatively at target in Real Estate**. During the quarter, the actual weighting of Domestic Equity decreased by (0.7%), while the actual weighting of International Equity increased by 1.0%. Allocations to the remaining asset classes were relatively unchanged (variance < 0.5%) from the previous quarter. The asset allocation targets (see table on page 22) reflect those as adopted by the Board in early 2006.

Recent Investment Performance

Over the recent quarter, 1- and 3-year periods the Total Portfolio outperformed the policy benchmark by 10, 20, and 30 basis points, respectively. During the 5-year period, the Total Portfolio slightly trailed the policy benchmark by (10) basis points per annum and underperformed the assumed actuarial rate of 7.75%. The Total Portfolio performed in-line with the benchmark and the actuarial rate over the longer time periods measured.

With respect to the Median Public Fund, the Total Portfolio underperformed by (0.3%) over the quarter and 5-year period, but outperformed over the 1-, 3-, and 10-year periods by 1.2%, 0.4%, and 0.3%, respectively. Relative outperformance over the 1-year period can be attributable to asset allocation differences versus the Median Fund. The Total Portfolio matched the Median Fund over the 20-year period.

Recent Investment Performance*

	Quarter	1 Year	3 Year	5 Year	10 Year	20 Year
Total Portfolio	1.7	14.2	9.4	2.6	7.8	8.0
Policy Benchmark[1]	*1.6*	*14.0*	*9.1*	*2.7*	*7.9*	*8.1*
Excess Return	**0.1**	**0.2**	**0.3**	**-0.1**	**-0.1**	**-0.1**

*Gross of Fees

	Quarter	1 Year	3 Year	5 Year	10 Year	20 Year
Total Portfolio	1.7	14.2	9.4	2.6	7.8	8.0
Median Public Fund[2]	*2.0*	*13.0*	*9.0*	*2.9*	*7.5*	*8.0*
Excess Return	**-0.3**	**1.2**	**0.4**	**-0.3**	**0.3**	**0.0**

*Gross of Fees

[1] Policy Benchmark consists of 50% Russell 3000 (blend), 20% MSCI ACWIxU.S. (blend), 25% Barclay's Capital Universal (blend), 2.5% NCREIF (lagged), and 2.5% FTSE NAREIT All Equity REITs index as of 11/1/11; 50% Russell 3000 (blend), 20% MSCI ACWI x U.S. (blend), 25% Barclay's Capital Universal (blend), and 5% NCREIF, previously.

[2] Mellon Total Fund Public Universe.

Investment Market Risk Metrics

Takeaways

- Markets continued to be in a risk seeking mode, even prior to the fiscal cliff deal in January.
- Equity market volatility (VIX) remained near or below average (<20), and fell significantly following the fiscal cliff deal at the onset of 2013.
- Credit spreads are below long-term averages, with investment grade spreads lower than any time since the summer of 2007.
- While valuations of growth exposed assets are cheap relative to bonds, they are only neutral relative to their historical valuation levels.
- The PCA Market Sentiment Indicator "PMSI" continued to read **green** in December.

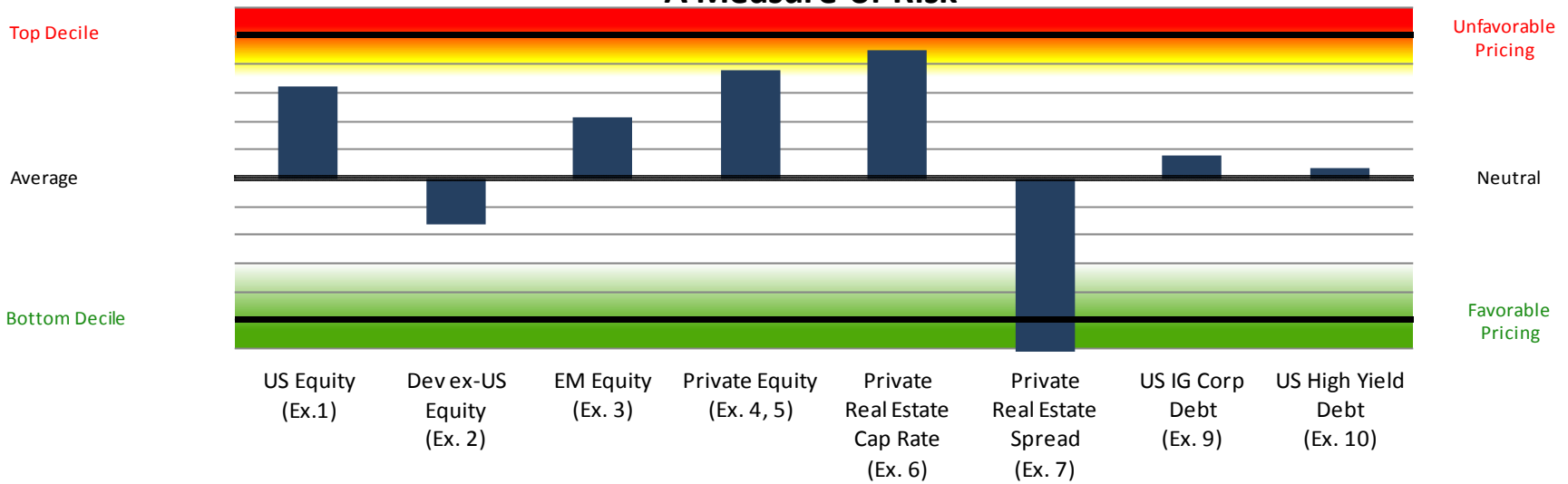
  The positive sentiment indication results from:

  1. positive returns to US stocks year-over-year, and
  2. narrowing of credit spreads year-over-year.

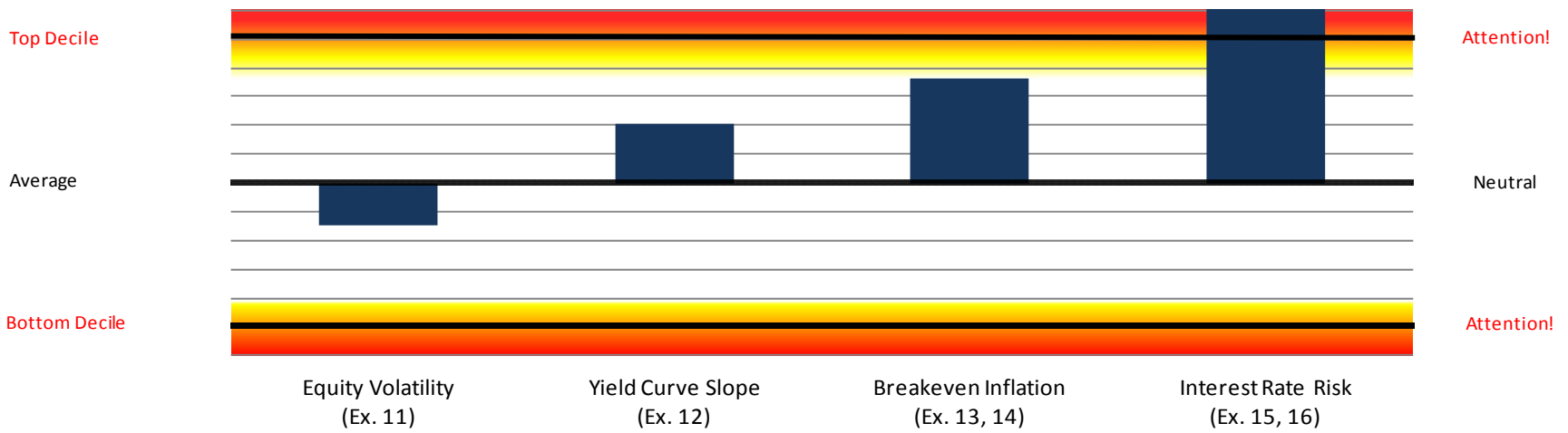
- Interest rate risk remains high:
  - The 10-year Treasury yield ended December at 1.78%, rising further in the first days of January to above 1.90%.
  - Bond sensitivity to interest rates (duration) remains near 30 year highs, and real yields are at all time lows (negative out to nearly 20 years for government issues).

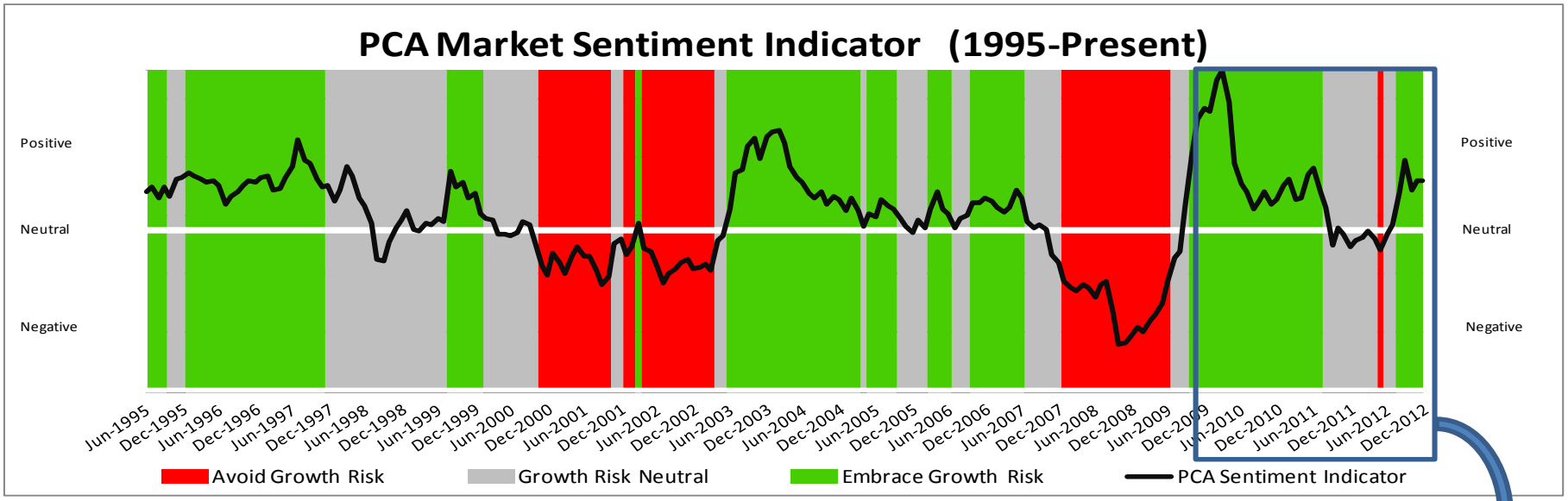
[3] See Appendix for the rationale for selection and calculation methodology used for the risk metrics.

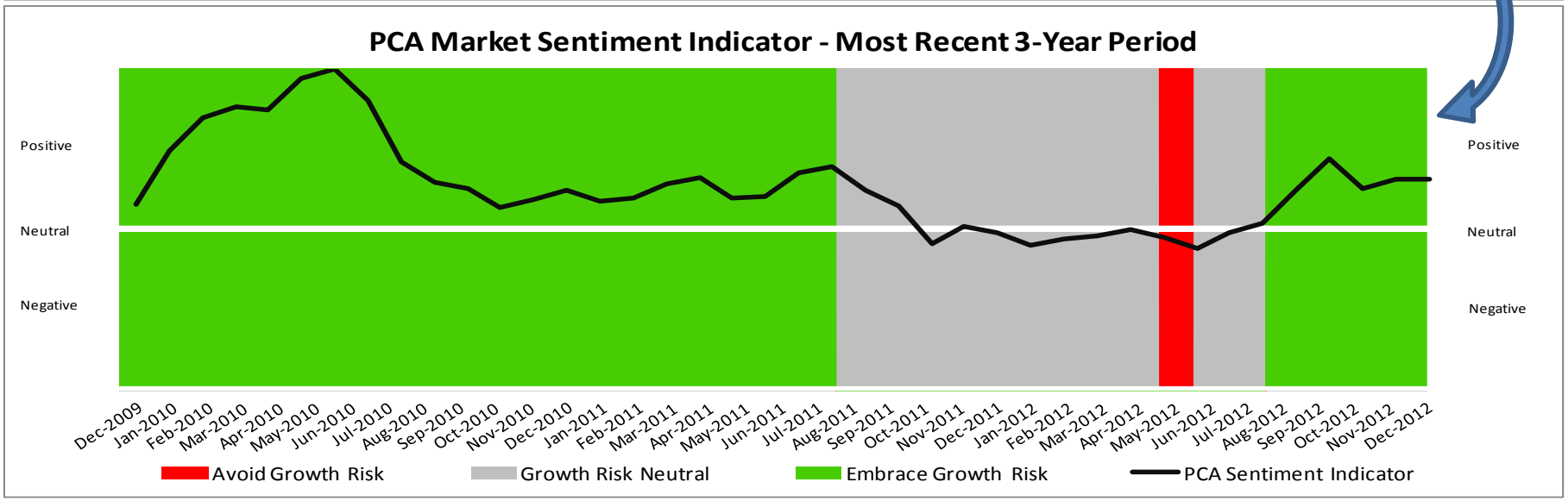
Valuation Metrics versus Historical Range
A Measure of Risk



Other Important Metrics within their Historical Ranges
Pay Attention to Extreme Readings







Information Behind Current Sentiment Reading

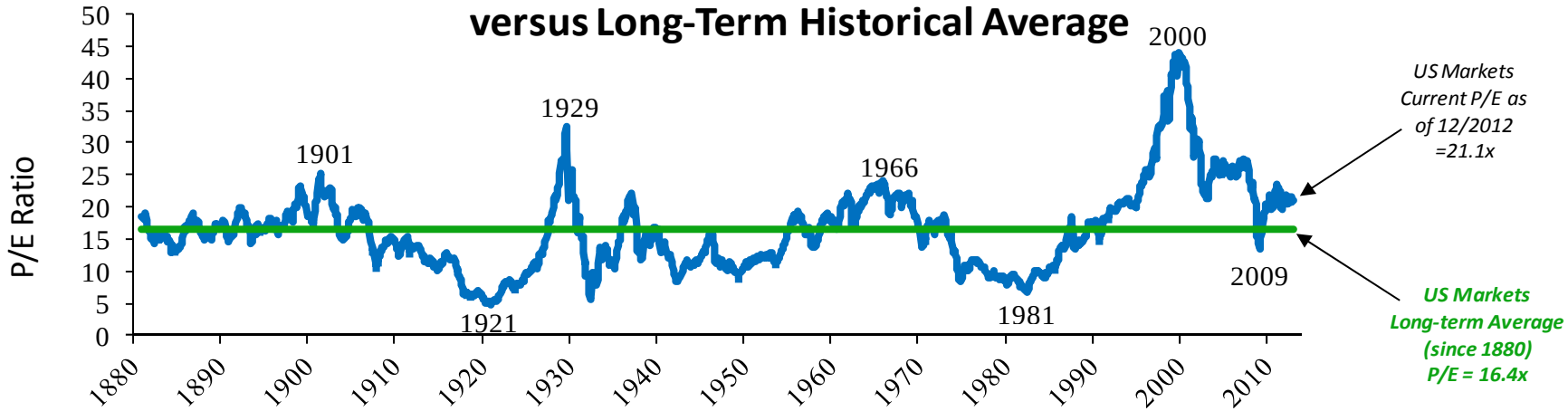
Bond Spread Momentum Trailing-Twelve Months	Positive
Equity Return Momentum Trailing-Twelve Months	Positive
Agreement Between Bond and Equity Momentum Measures?	Agree

Growth Risk Visibility
(Current Overall Sentiment)
Positive

Developed Public Equity Markets

Exhibit 1

U.S. Equity Market P/E Ratio[1] versus Long-Term Historical Average

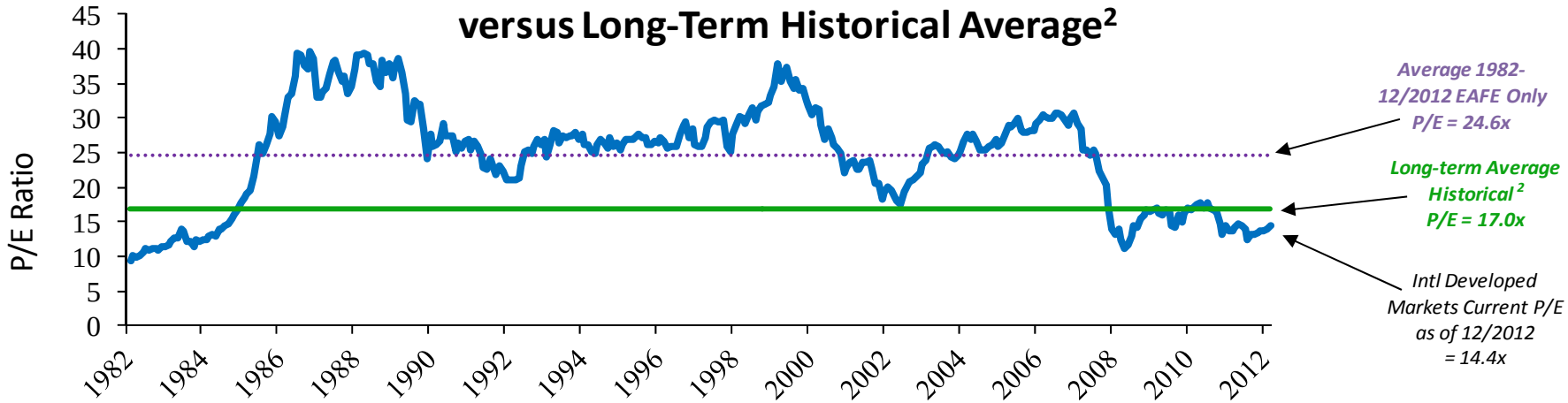


[1] P/E ratio is a Shiller P/E-10 based on 10 year real S&P 500 earnings over S&P 500 index level.

(Please note different time scales)

Exhibit 2

Developed ex-U.S. Equity Market P/E Ratio[1] versus Long-Term Historical Average[2]



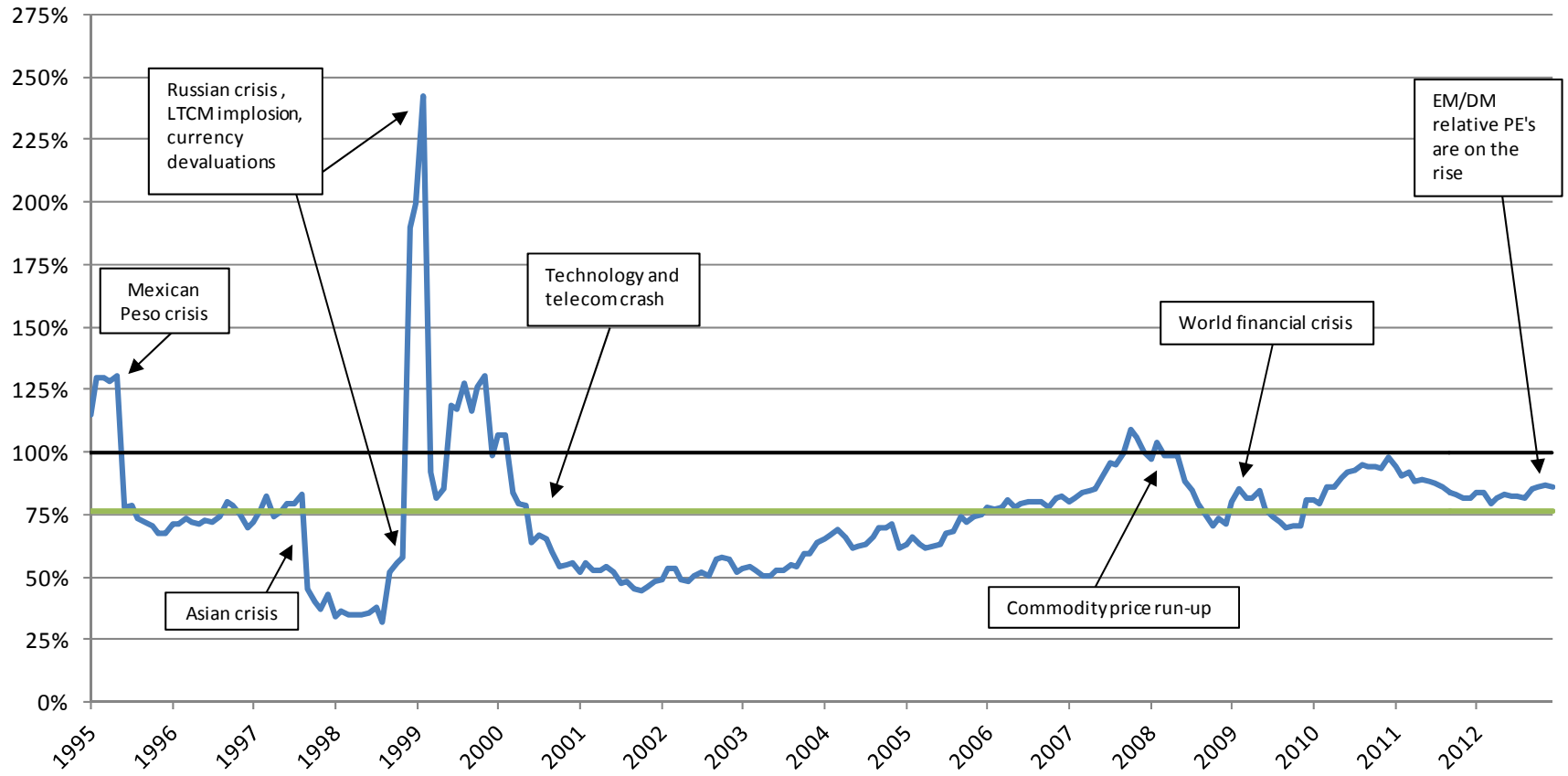
[1] P/E ratio is a Shiller P/E-10 based on 10 year real MSCI EAFE earnings over EAFE index level.

[2] To calculate the LT historical average, from 1881 to 1982 U.S. data is used as developed market proxy. From 1982 to present, actual developed ex-US market data (MSCI EAFE) is used.

Emerging Markets Public Equity Markets

Exhibit 3

Emerging Markets PE / Developed Markets PE (100% = Parity between PE Ratios)



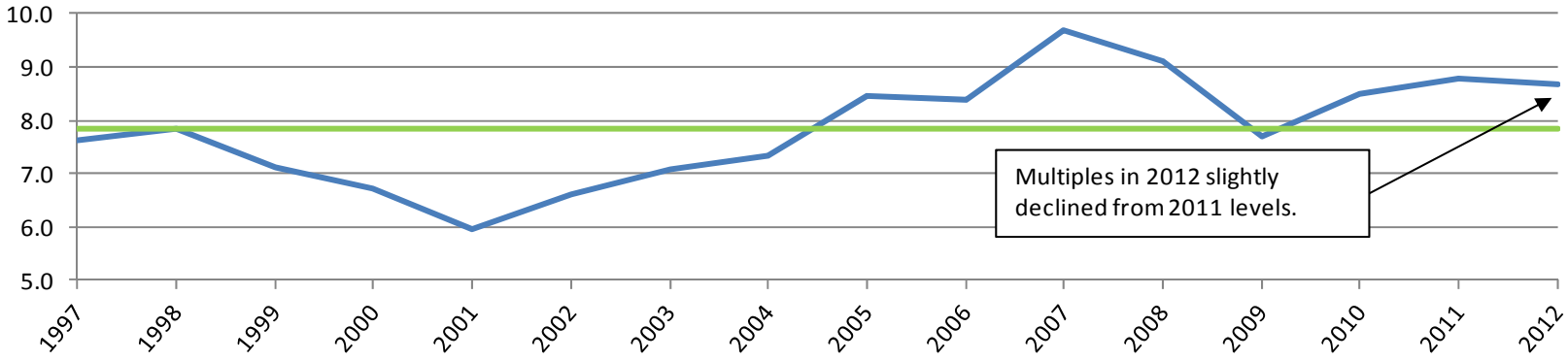
Source: Bloomberg, MSCI World, MSCI EMF

EM/DM PE — Average EM/DM PE — Parity

US Private Equity Markets

Exhibit 4

Price to EBITDA Multiples Paid in LBOs

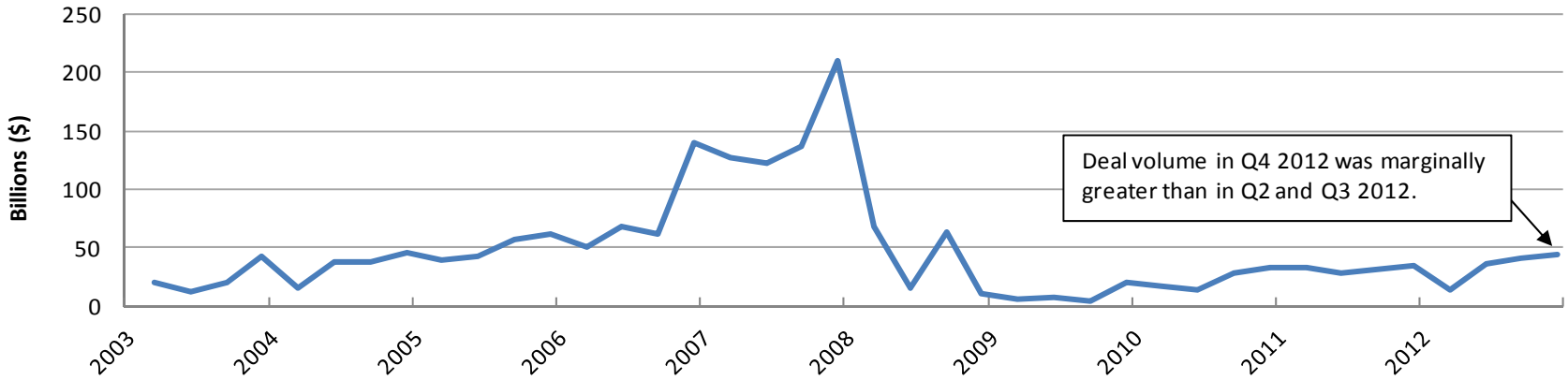


Source: S&P LCD study

(Please note different time scales)

Exhibit 5

Disclosed U.S. Quarterly Deal Volume*

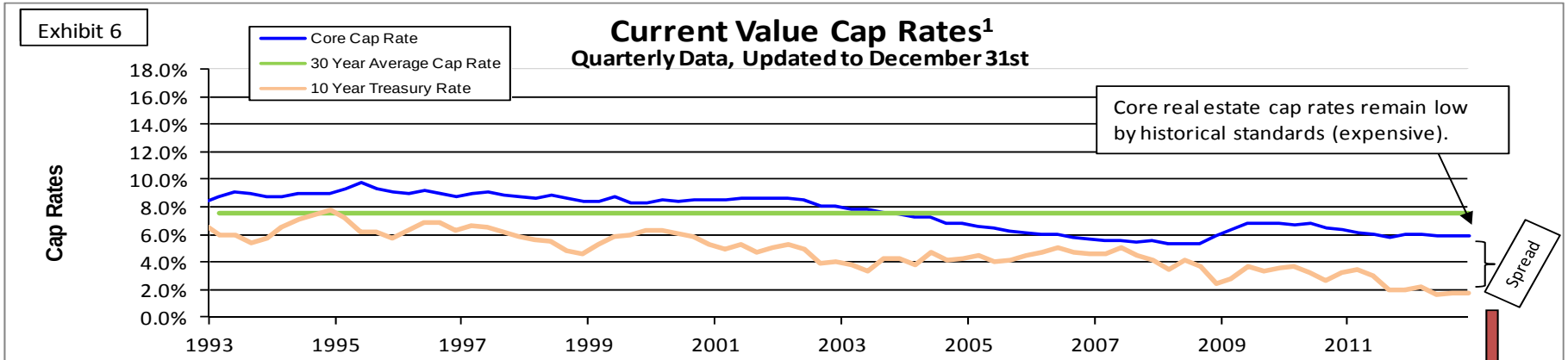


Source: Thomson Reuters Buyouts

* quarterly total deal size (both equity and debt)

Private Real Estate Markets

Exhibit 6



Source: NCRIEF

[1]A cap rate is the current annual income of the property divided by an estimate of the current value of the property. It is the current yield of the property. Low cap rates indicate high valuations.

Exhibit 7

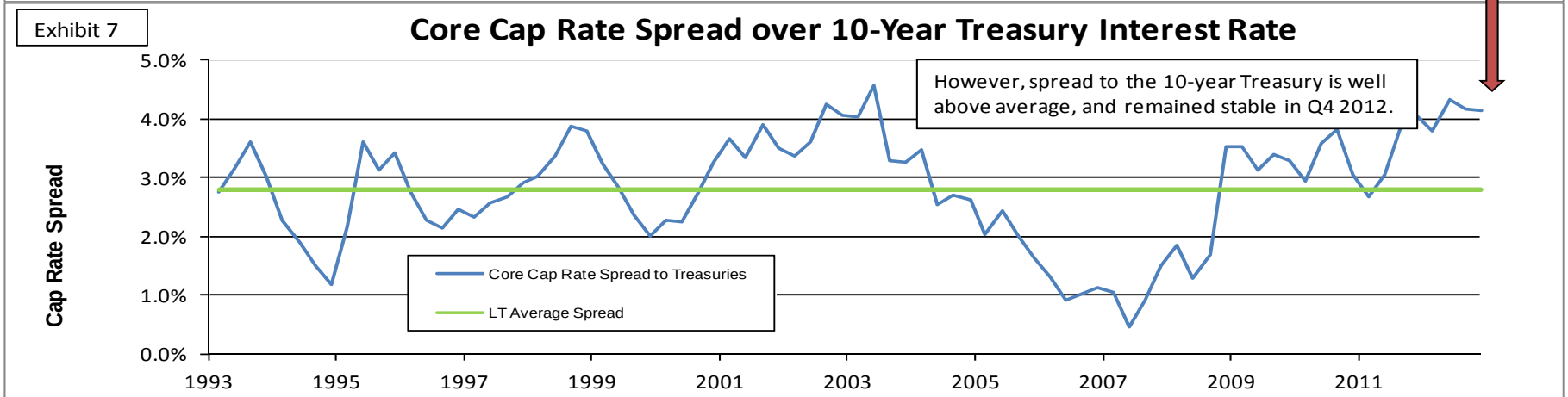
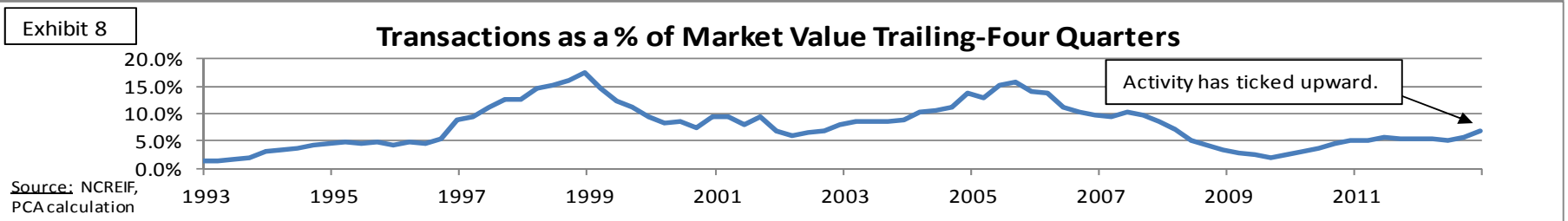


Exhibit 8

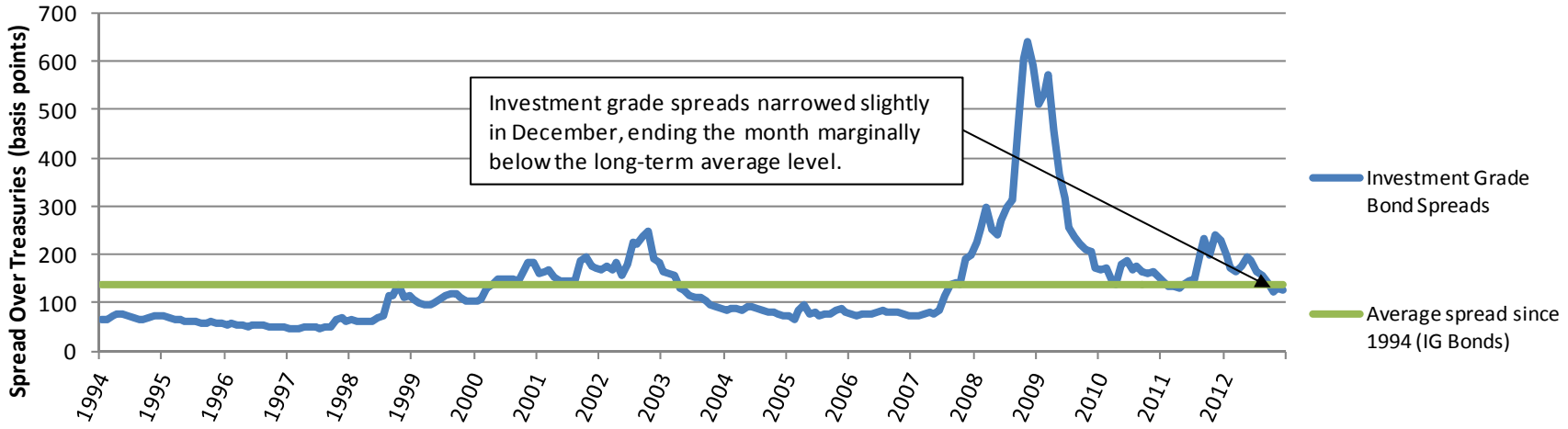


Source: NCREIF, PCA calculation

Credit Markets US Fixed Income

Exhibit 9

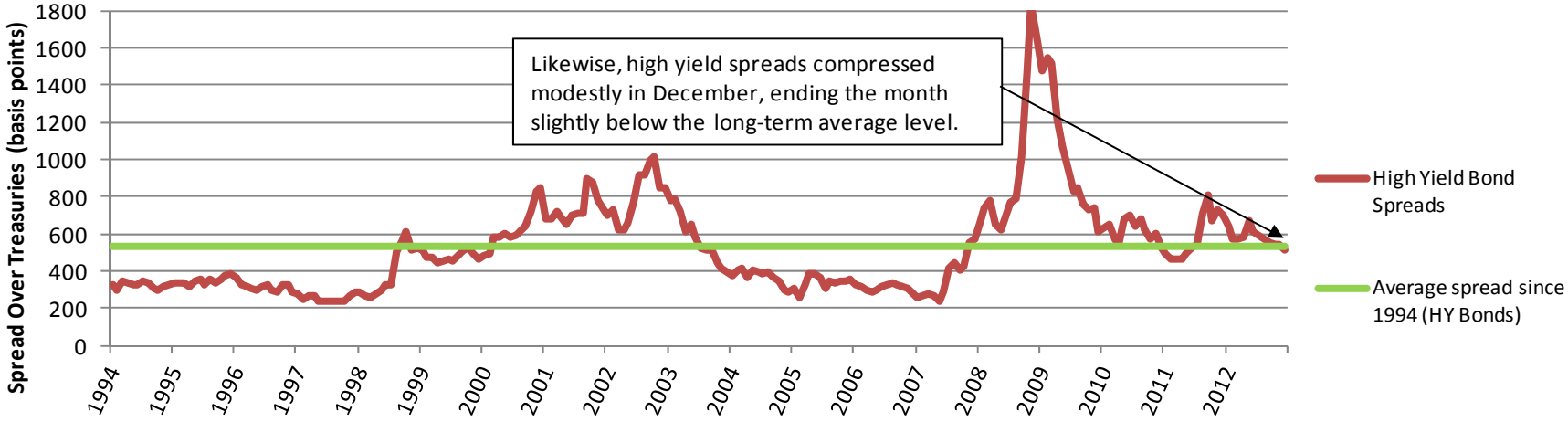
Investment Grade Corporate Bond Spreads



Source: LehmanLive: Barclays Capital US Corporate Investment Grade Index Intermediate Component.

Exhibit 10

High Yield Corporate Bond Spreads

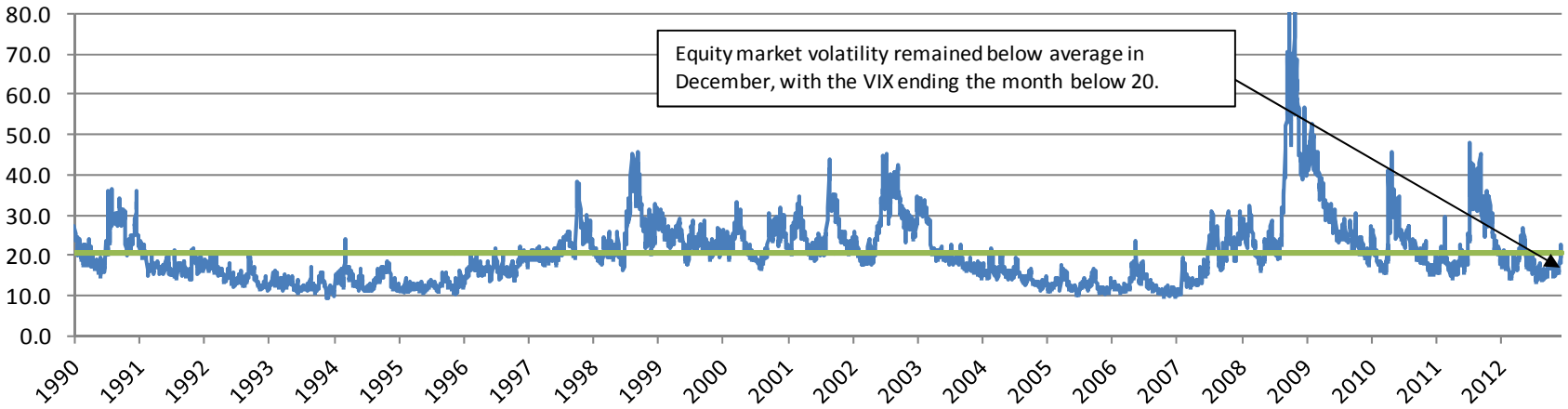


Source: LehmanLive: Barclays Capital U.S. Corporate High Yield Index.

Other Market Metrics

Exhibit 11

VIX - a measure of equity market fear / uncertainty

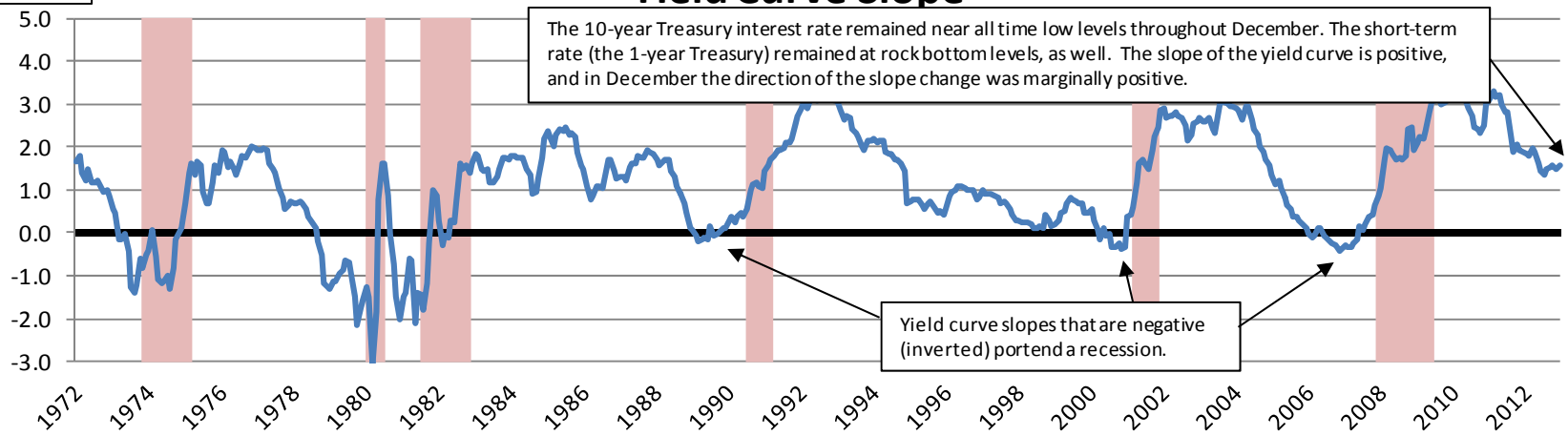


Source: http://www.cboe.com/micro/vix/historical.aspx

(Please note different time scales)

Exhibit 12

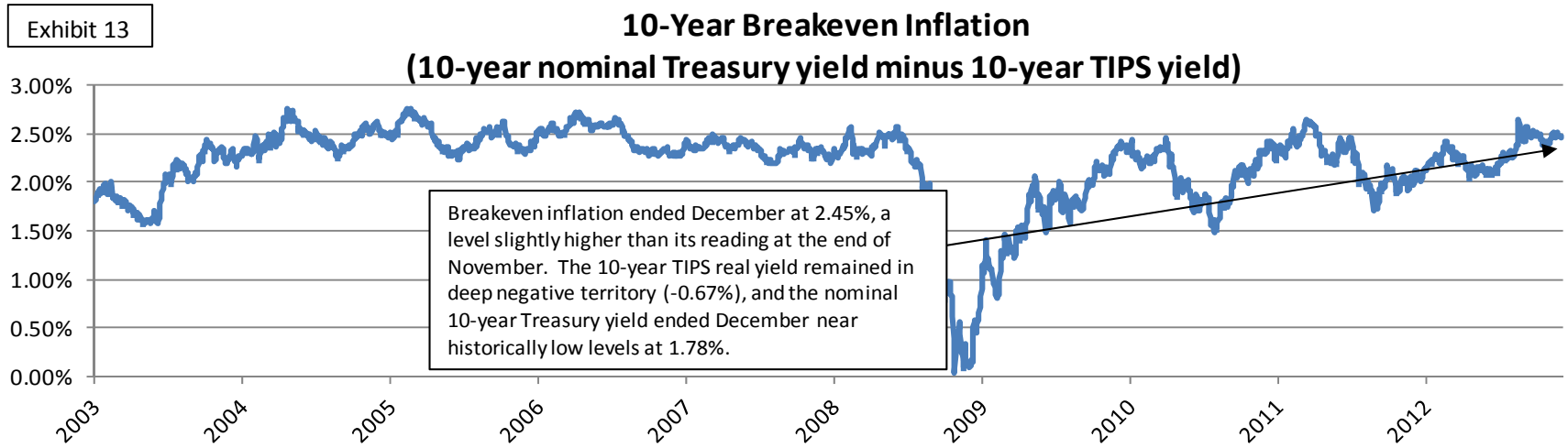
Yield Curve Slope



Source: www.ustreas.gov (10-year treasury yield minus 1-year treasury yield)
Recession Dating: NBER http://www.nber.org/cycles.html

Measures of Inflation Expectations

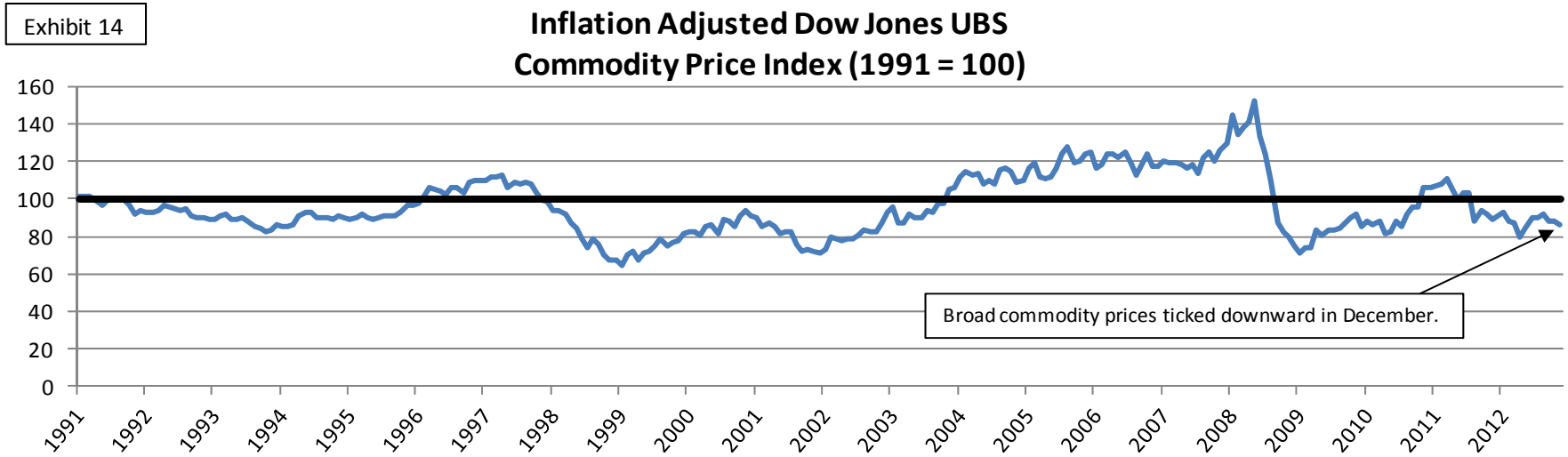
Exhibit 13



Source: www.ustreas.gov
Daily Yield Curve Rates (10-year nominal treasury yield minus 10-year TIPs yield)

(Please note different time scales)

Exhibit 14

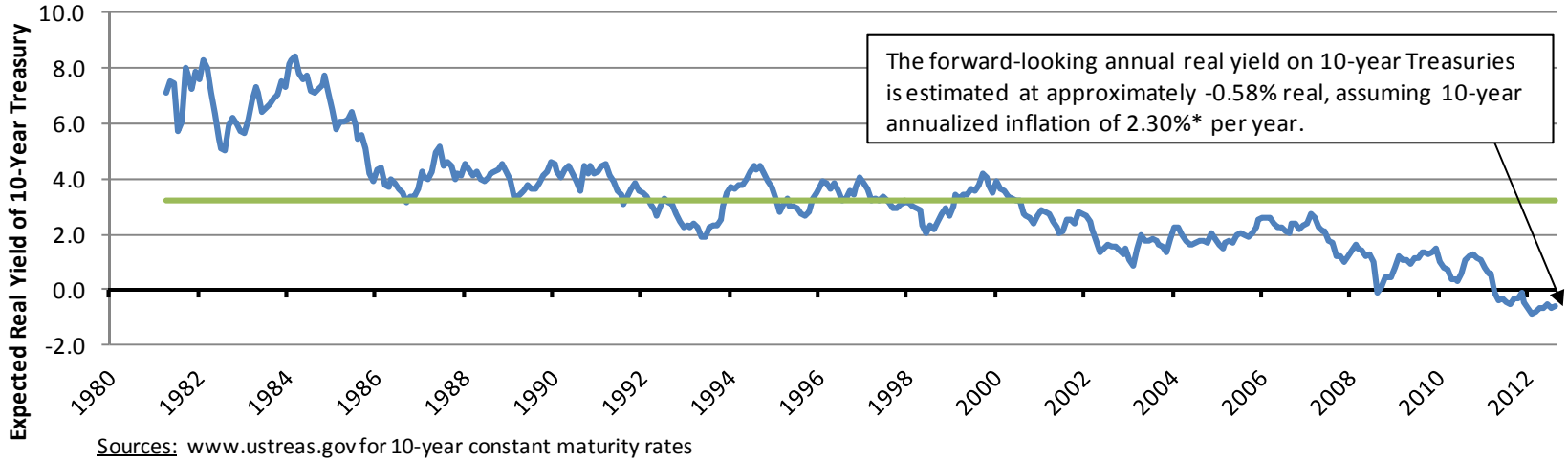


Source: Bloomberg DJUBS Index, St. Louis Fed for US CPI all urban consumers.

Measures of U.S. Treasury Interest Rate Risk

Exhibit 15

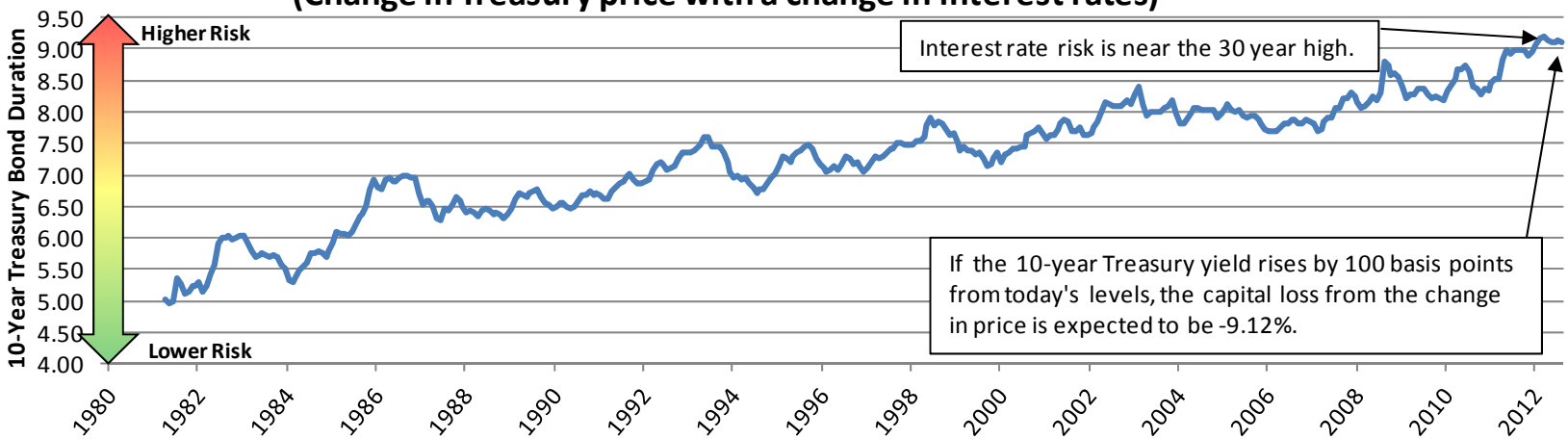
Estimate of 10-Year Treasury Forward-Looking Real Yield



Sources: www.ustreas.gov for 10-year constant maturity rates
*Federal Reserve Bank of Philadelphia survey of professional forecasts for inflation estimates

Exhibit 16

10-Year Treasury Duration
(Change in Treasury price with a change in interest rates)



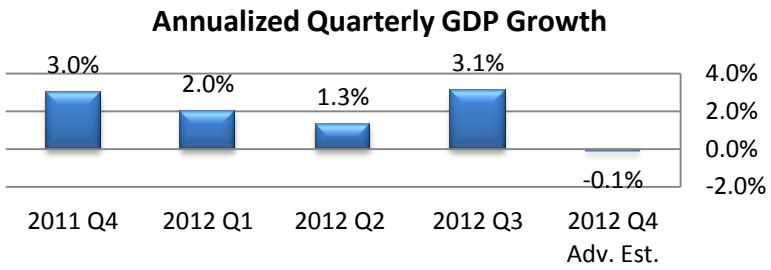
Source: www.ustreas.gov for 10-year constant maturity rates, calculation of duration

ECONOMIC OVERVIEW

Overview: After a positive third quarter, U.S. equities produced mixed results to wrap up the year as Hurricane Sandy, the presidential election, and concerns regarding the "fiscal cliff" weighed on the markets. Following the end of the quarter, an agreement was reached by lawmakers to make a detour around the cliff. Strong signs of recovery in the U.S. housing market continued as sales of new and existing homes increased. Economic data from most regions indicated sustained moderate improvements, resulting in positive reactions by global equities. The Fed continued its accommodative monetary policy through additional bond purchases, as well as through suppressed interest rates. Despite Europe moving to the background, a new deal was reached with Greece, effectively bringing more bailout funds and allowing the country to stay in the Euro.

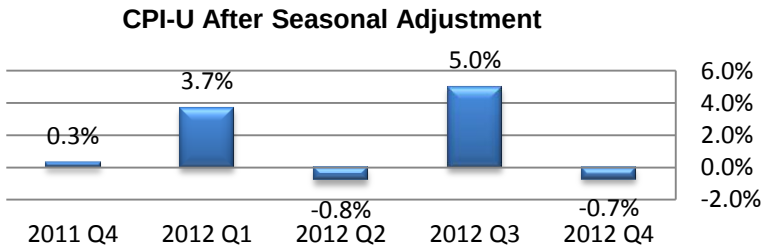
Economic Growth

- Real GDP decreased at an annualized rate of (0.1) percent in the fourth quarter of 2012, falling from 3.1 percent in the third quarter of 2012.
- Inventory investment turned down, mainly due to declines in the manufacturing industries. Federal government spending fell significantly due to a downturn in defense spending, as well.
- Positive movements included business investment turning up as spending on equipment and software rebounded, and an uptick in consumer spending driven mainly by financial services, autos and parts.



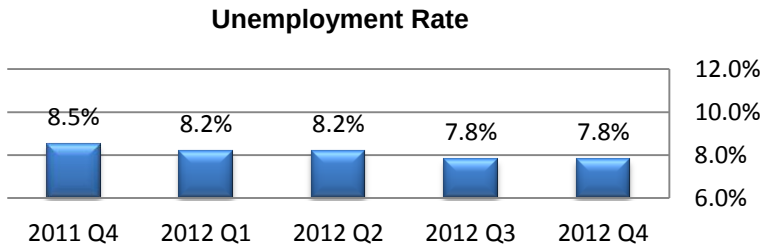
Inflation

- The Consumer Price Index for All Urban Consumers (CPI-U) declined by (0.7) percent in the quarter on an annualized basis, after seasonal adjustment.
- Quarterly percent changes may be adjusted between data publications due to periodic updates in seasonal factors.
- Core CPI-U increased by 1.6 percent for the quarter on an annualized basis.
- Over the last 12 months, CPI-U increased 1.7 percent before seasonal adjustment.



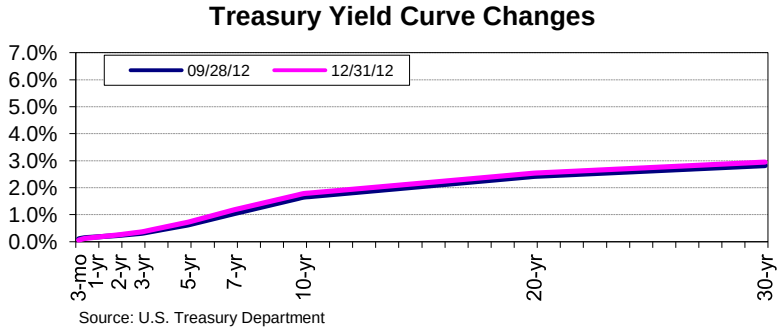
Unemployment

- The U.S. economy gained 472,000 jobs in the quarter.
- The official unemployment rate was essentially unchanged from the third quarter at 7.8%.
- The majority of jobs gained occurred in health care, professional and business services, and retail trade.



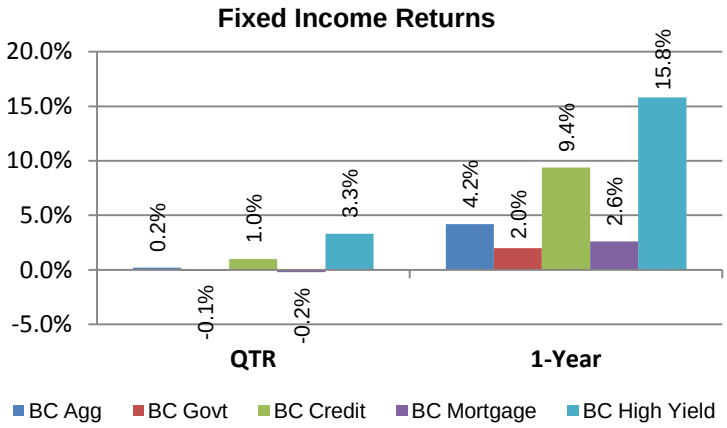
Interest Rates & U.S. Dollar

- U.S. Treasury yields slightly increased over the quarter.
- The Federal Reserve has maintained the federal funds rate between 0.00% and 0.25% since December 2008.
- The U.S. dollar depreciated against the Euro and the Sterling by 2.6% and 0.5%, respectively, while appreciating against the Yen by 11.3%.
- Subsequent to quarter end, rates remained near low historic levels.



Fixed Income

- The bond markets provided mixed results during the quarter, and were again led by high yield, which produced the best performance over the quarter and trailing one-year periods.
- The Governments and MBS sectors produced slightly negative returns over the quarter while all other sectors increased slightly. All sectors remained positive over the one-year period.

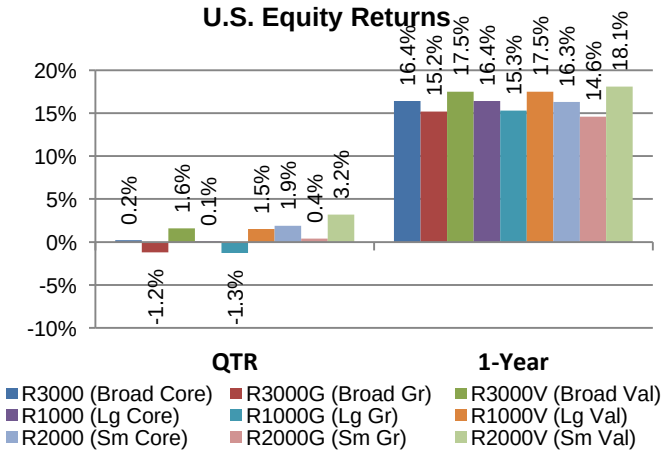


U.S. Fixed Income Sector Performance (BC Aggregate Index)			
Sector	Weight	QTR	1 Year
Governments*	40.4%	-0.1%	2.0%
Inv. Grade Credit	21.5%	1.0%	9.4%
Agencies	6.3%	0.2%	2.4%
MBS	29.6%	-0.2%	2.6%
ABS	0.4%	0.2%	3.7%
CMBS	1.8%	1.2%	9.7%

*U.S. Treasuries and Government Related

U.S. Equities

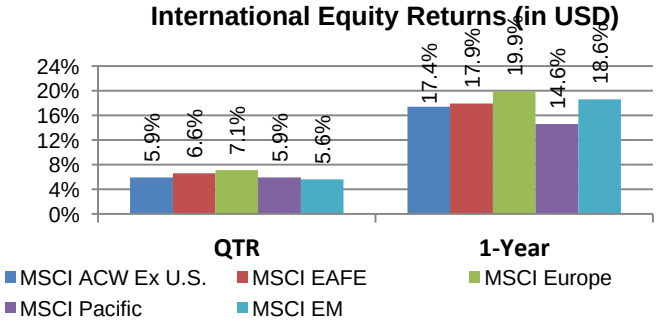
- Like the bond markets, the U.S. stock market provided mixed results over the fourth quarter while staying positive for the year. Investors remained relatively cautious during the quarter while U.S. Consumer Confidence decreased to near July levels.
- During the quarter, value indices outperformed growth throughout all market capitalizations. Six of ten sectors produced negative returns during the quarter as only Financials, Consumer Discretionary, Industrials, and Materials produced positive returns. All ten sectors produced positive returns for the trailing one-year period.



U.S. Equity Sector Performance (Russell 3000 Index)			
Sector	**Weight**	**QTR**	**1 Year**
Information Tech	18.2%	-4.7%	14.0%
Financials	16.8%	4.9%	26.2%
Consumer Disc	12.5%	2.9%	24.8%
Health Care	11.8%	-0.6%	19.4%
Industrials	11.3%	5.3%	17.2%
Energy	9.9%	-2.6%	3.9%
Consumer Staples	9.3%	-1.4%	10.9%
Materials	4.1%	3.5%	17.5%
Utilities	3.4%	-2.4%	2.1%
Telecom Svc	2.7%	-5.5%	18.8%

International Equities

- International equity markets produced positive returns during the fourth quarter and over the trailing one-year period. Canada produced the lowest return over the quarter.
- During the quarter financial markets in Europe showed improved signs of stabilization, as yields continued to decline in the most distressed countries in a steady response to the ECB government bond buying program.
- Emerging markets trailed developed markets over the quarter, but only lagged the MSCI Europe over the trailing one-year period.



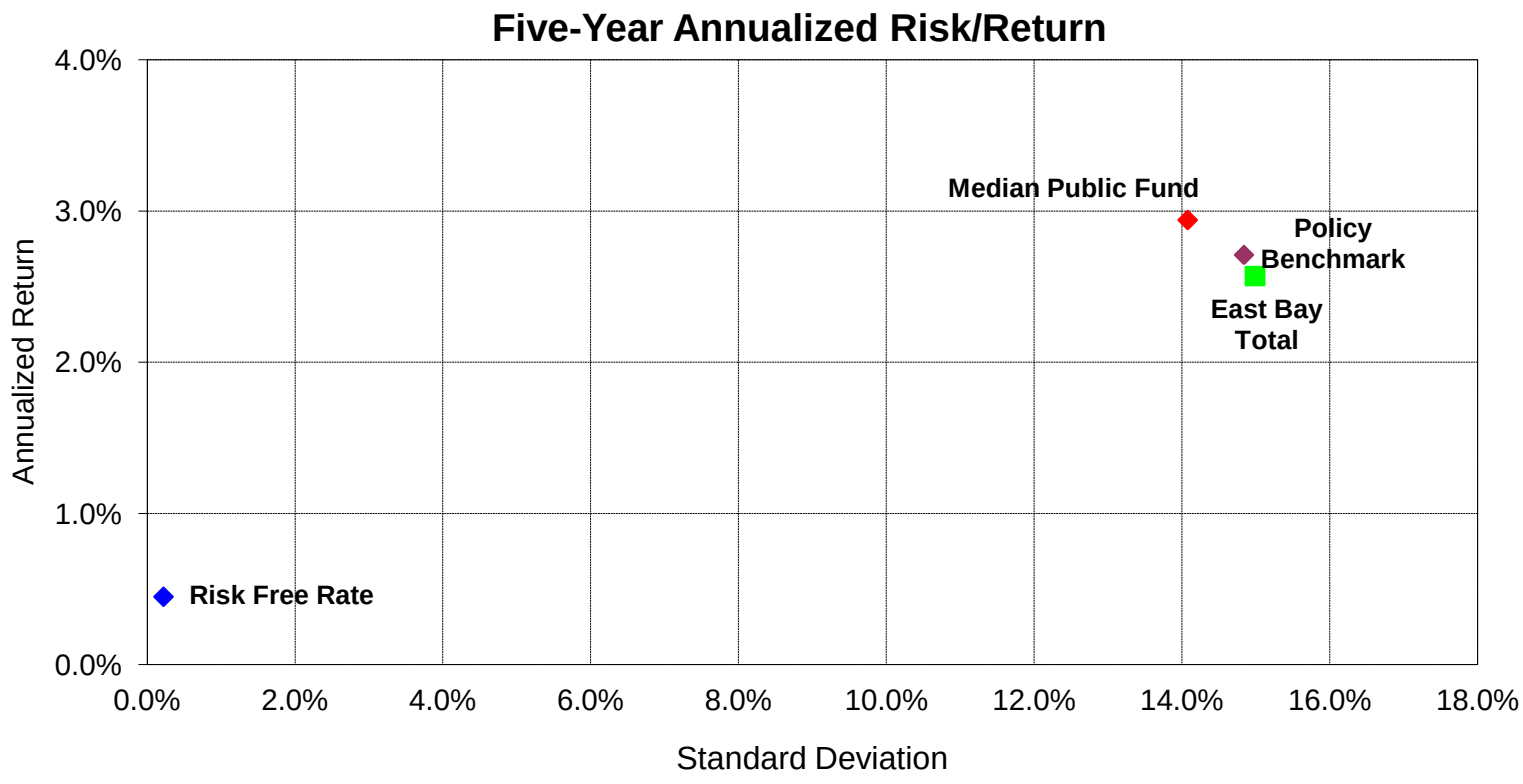
International Equity Region Performance (in USD) (MSCI ACW Index ex U.S.)			
Sector	**Weight**	**QTR**	**1 Year**
Emerging Markets	24.2%	5.6%	17.4%
Europe Ex. UK	29.2%	8.6%	22.5%
Japan	13.7%	5.8%	8.4%
Pacific Ex. Japan	9.6%	6.1%	24.7%
United Kingdom	15.4%	4.2%	15.3%
Canada	7.9%	0.9%	9.9%

Market Summary – Long-term Performance*

Indexes	1 Year	3 Year	5 Year	10 Year	20 Year
Global Equity					
MSCI All Country World	16.8%	7.2%	-0.6%	8.7%	7.5%
Domestic Equity					
S&P 500	16.0%	10.9%	1.7%	7.1%	8.2%
Russell 3000	16.4%	11.2%	2.0%	7.7%	8.3%
Russell 3000 Growth	15.2%	11.5%	3.2%	7.7%	7.0%
Russell 3000 Value	17.5%	10.9%	0.8%	7.5%	9.1%
Russell 1000	16.4%	11.1%	1.9%	7.5%	8.3%
Russell 1000 Growth	15.3%	11.4%	3.1%	7.5%	7.1%
Russell 1000 Value	17.5%	10.9%	0.6%	7.4%	9.1%
Russell 2000	16.3%	12.2%	3.6%	9.7%	8.4%
Russell 2000 Growth	14.6%	12.8%	3.5%	9.8%	6.2%
Russell 2000 Value	18.1%	11.6%	3.5%	9.5%	10.2%
CBOE BXM	5.2%	5.6%	1.1%	5.6%	8.0%
International Equity					
MSCI All Country World ex US	17.4%	4.3%	-2.4%	10.2%	7.2%
MSCI EAFE	17.9%	4.0%	-3.2%	8.7%	6.5%
MSCI Pacific	14.6%	4.7%	-1.8%	8.3%	3.4%
MSCI Europe	19.9%	3.9%	-3.7%	9.0%	8.7%
MSCI EM (Emerging Markets)	18.6%	5.0%	-0.6%	16.9%	8.8%
Fixed Income					
BC Universal Bond	5.5%	6.7%	6.2%	5.6%	6.5%
BC Global Agg – Hedged	5.7%	5.2%	5.3%	4.8%	6.3%
BC Aggregate Bond	4.2%	6.2%	5.9%	5.2%	6.3%
BC Government	2.0%	5.5%	5.2%	4.7%	6.1%
BC Credit Bond	9.4%	8.7%	7.7%	6.2%	7.0%
BC Mortgage Backed Securities	2.6%	4.7%	5.7%	5.1%	6.2%
BC High Yield Corporate Bond	15.8%	11.9%	10.3%	10.6%	8.2%
BC WGILB - Hedged	5.6%	7.3%	6.2%	6.1%	NA
BC Emerging Markets	17.9%	12.5%	10.3%	11.6%	11.7%
Real Estate					
NCREIF (Private RE)	10.5%	12.6%	2.1%	8.4%	8.9%
NAREIT (Public RE)	20.1%	18.0%	5.6%	11.0%	10.6%
Commodity Index					
DJ-UBS Commodity	-1.1%	0.1%	-5.2%	4.1%	5.4%

* Performance is annualized for periods greater than one year.

East Bay Risk/Return Analysis
Period ending December 31, 2012



*Median Fund is the Mellon Total Fund Public Universe.

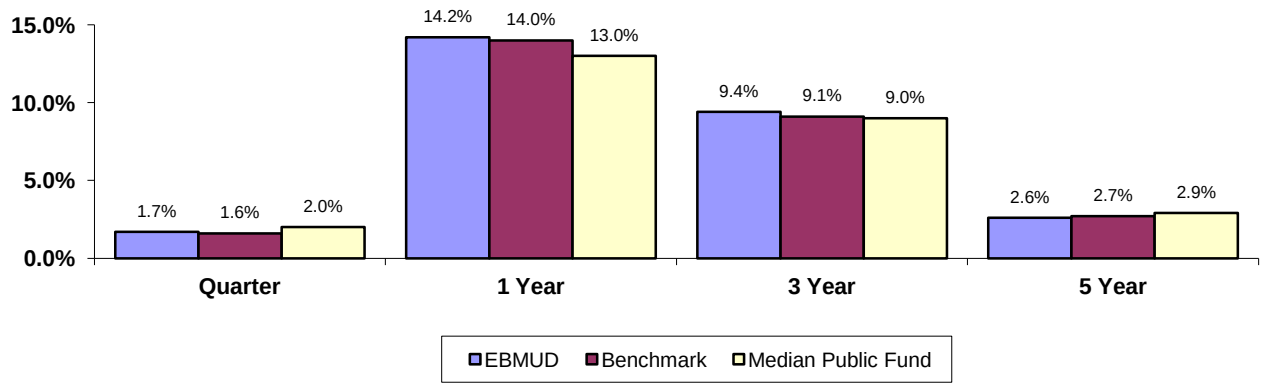
EBMUD PORTFOLIO PERFORMANCE

This section includes an overview of the performance of the EBMUD investment portfolio and a detailed analysis of asset classes and specific mandates.

Portfolio Performance Overview

For the period ending December 31, 2012, the EBMUD Total Portfolio generated a 1.7% quarterly return, modestly outperforming the policy target benchmark's[4] return by 10 basis points, but trailing the Median Public Fund's[5] return by (30) basis points. During the latest 1-year period, the EBMUD Total Portfolio exceeded both the policy benchmark and Median Public Fund by 0.2% and 1.2%, respectively. Relative outperformance versus the Median Fund can be attributable to asset allocation differences. The EBMUD Total Portfolio outperformed the benchmark and Median Fund over the 3-year period by 30 and 40 basis points, respectively, but underperformed over the 5-year period by (10) and (30) basis points, respectively.

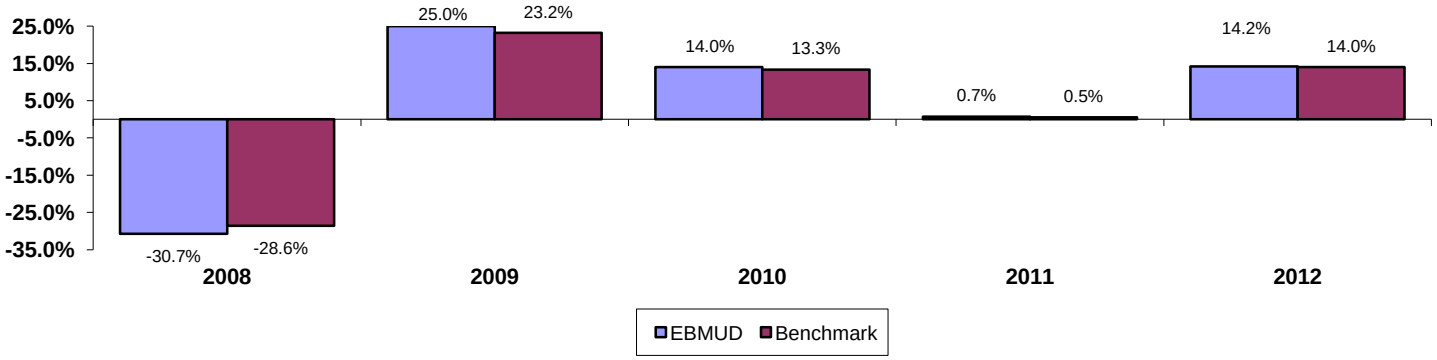
Periods Ending December 31, 2012 (annualized)



[4] Total Portfolio Benchmark consists of 50% Russell 3000 (blend), 20% MSCI ACWIxU.S. (blend), 25% Barclay's Capital Universal (blend), 2.5% NCREIF (lagged), and 2.5% FTSE NAREIT All Equity REITs index as of 11/1/11; 50% Russell 3000 (blend), 20% MSCI ACWI x U.S. (blend), 25% Barclay's Capital Universal (blend), and 5% NCREIF, previously.
[5] Mellon Total Fund Public Universe.

Trailing 12-month absolute results have been positive over four of the last five discrete 12-month periods. The EBMUD Total Portfolio also outperformed the policy benchmark return over each of these four periods.

12-month Performance – Periods Ending December 31



Portfolio Valuation

The EBMUD Total Portfolio had an aggregate value of $1.0 billion as of December 31, 2012. During the latest quarter the Total Portfolio increased by $15.5 million and over the latest year the Total Portfolio increased by $127.5 million.

Portfolio Valuation as of December 31, 2012
(in millions $)

	Dec. 31, 2012	Sept. 30, 2012	Quarterly Change	Percentage Change*	Dec. 31, 2011	Annual Change	Percentage Change*
EBMUD	$1,045.7	$1,030.2	$15.5	1.5%	$918.2	$127.5	13.9%

*Percentage change in value due to both investment results and cash flows.

Actual vs. Target Allocations

With respect to policy targets, the Total Portfolio ended the latest quarter overweight Domestic Equity and Cash, underweight International Equity and Fixed Income, and relatively at target in Real Estate. Target allocations represent those as adopted by the Board in 2006.

As of December 31, 2012

Actual vs. Target Allocation

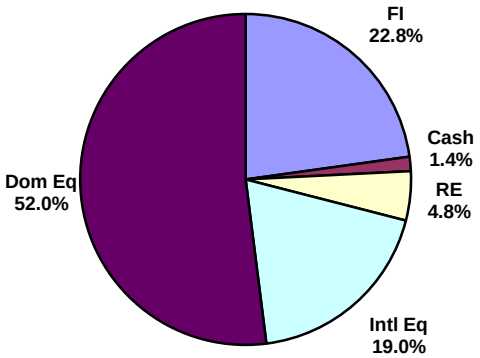
Segment	Actual $(000)	Actual %	Target %*	Variance
Total Portfolio	1,045,704	100%	100%	---
Domestic Equity	544,128	52.0%	50.0%	2.0%
International Equity	198,542	19.0%	20.0%	-1.0%
Fixed Income	238,773	22.8%	25.0%	-2.2%
Real Estate**	50,069	4.8%	5.0%	-0.2%
Cash	14,193	1.4%	0.0%	1.4%

*2006 asset allocation policy targets.
**RREEF performance results and allocation are lagged one-quarter.

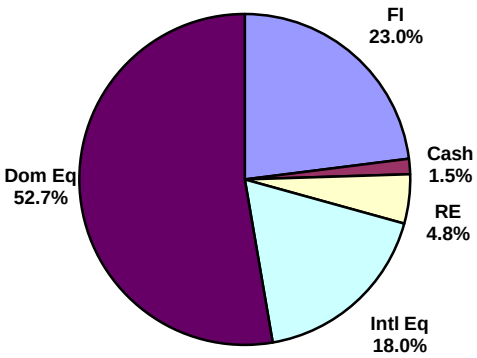
During the latest quarter, the actual weighting of Domestic Equity decreased by (0.7%), while the actual weighting of International Equity increased by 1.0%. Allocations to the remaining asset classes were relatively unchanged (variance < 0.5%).

Actual Asset Allocation Comparison

December 31, 2012



September 30, 2012



Asset Class Performance (Gross of Fees)

The Domestic Equity asset class matched the Russell 3000 (blend) Index return over the latest quarter, 1-, and 3-year periods. The portfolio slightly trailed the benchmark over the 5- and 10-year periods by (10) and (30) basis points per annum, respectively.

The International Equity portfolio outperformed its policy benchmark, the MSCI ACWI x U.S. (blend) Index, by 1.3% over the quarter and 0.9% over the 1-year period. Both of EBMUD's reporting international equity managers exceeded the benchmark over the quarter, contributing to relative results. The portfolio surpassed the benchmark annually by 1.3%, 0.8%, and 0.4% during the 3-, 5-, and 10-year periods, respectively. Relative outperformance over the 3-year period can be attributed to one of EBMUD's two reporting international equity managers exceeding the benchmark over the period.

The Fixed Income asset class surpassed the BC Universal (blend) Index over the quarter, 1-, 3-, 5-, and 10-year periods by 0.3%, 1.7%, 1.7%, 0.4%, and 0.6%, respectively. Positive relative performance from both of EBMUD's reporting fixed income managers contributed to results.

Periods ending December 31, 2012

Asset Class	Quarter	1 Year	3 Year	5 Year	10 Year	20 Year
Total Portfolio	1.7	14.2	9.4	2.6	7.8	8.0
*Policy Benchmark^*	*1.6*	*14.0*	*9.1*	*2.7*	*7.9*	*8.1*
Domestic Equity	0.2	16.4	11.2	1.9	7.7	8.1
*Russell 3000 (blend)**	*0.2*	*16.4*	*11.2*	*2.0*	*8.0*	*8.8*
International Equity	7.2	18.3	5.6	-1.6	9.9	---
*MSCI ACWI x U.S.(blend)***	*5.9*	*17.4*	*4.3*	*-2.4*	*9.5*	*---*
Fixed Income	0.9	7.2	8.4	6.6	5.9	7.0
*BC Universal (blend)****	*0.6*	*5.5*	*6.7*	*6.2*	*5.3*	*6.4*
Real Estate	2.4	14.4	13.5	-1.6	---	---
*50/50 NCREIF/FTSE NAREIT All Equity*****	*2.3*	*15.6*	*12.2*	*3.0*	*---*	*---*
Cash	0.1	0.4	0.4	1.3	2.5	---
Citigroup T-bills	*0.0*	*0.1*	*0.1*	*0.4*	*1.7*	*---*

^Total Portfolio Benchmark consists of 50% Russell 3000 (blend), 20% MSCI ACWIxU.S. (blend), 25% Barclay's Capital Universal (blend), 2.5% NCREIF (lagged), and 2.5% FTSE NAREIT All Equity REITs index as of 11/1/11; 50% Russell 3000 (blend), 20% MSCI ACWI x U.S. (blend), 25% Barclay's Capital Universal (blend), and 5% NCREIF, previously

*Russell 3000 (10/1/05-present). Prior: 30% S&P500, 10% S&P400, 10% Russell 2000 (4/1/05-9/30/05); 33% S&P500, 10% S&P400, 10% Russell 2000 (9/1/98-3/31/05); 30% S&P500, 15% Wilshire 5000 (4/1/96-8/31/98)

**MSCI ACWIxU.S. as of 1/1/07; MSCI EAFE ND thru 12/31/06

***BC Universal as of 1/1/08; BC Aggregate thru 12/31/07

****50% NCREIF (lagged), 50% FTSE NAREIT All Equity REITs Index as of 11/1/11; NCREIF (lagged) thru 10/31/11

Manager Performance
(Gross of Fees)

Domestic Equity – Periods ending December 31, 2012

Manager	Mkt Value ($000)	Asset Class	Management Style	Quarter	1 YR	3 YR	5 YR	Estimated Annual Fee (bps)[6]	Current Monitoring Status
Northern Trust Co.	240,032	Large Cap Core	Passive	0.1	16.5	11.2	2.0	3	---
Russell 1000 Index	---	---	---	*0.1*	*16.4*	*11.1*	*1.9*	---	---
Intech	64,050	Large Cap Growth	Active	-1.7	17.4	13.0	2.6	50	---
T. Rowe Price	62,563	Large Cap Growth	Active	-0.8	19.8	12.0	3.8	49	---
Russell 1000 Growth Index	---	---	---	*-1.3*	*15.3*	*11.4*	*3.1*	---	---
Barrow Hanley	138,517	Large Cap Value	Active	1.0	15.1	9.6	1.3	32	---
Russell 1000 Value Index	---	---	---	*1.5*	*17.5*	*10.9*	*0.6*	---	---
Northern Trust Co.	16,435	Small Cap Growth	Passive	0.6	15.0	13.2	---	5	---
Russell 2000 Growth Index	---	---	---	*0.4*	*14.6*	*12.8*	---	---	---
Opus	22,532	Small Cap Value	Active	4.1	11.9	12.1	4.8	67[7]	Heightened
Russell 2000 Value Index	---	---	---	*3.2*	*18.1*	*11.6*	*3.5*	---	---

During the latest three-month period ending December 31, 2012, four of EBMUD's six reporting Domestic Equity managers either matched or outperformed their respective benchmarks.

Northern Trust, EBMUD's passive large cap manager, posted a 0.1% fourth quarter return, matching its Russell 1000 Index target. Over the 1-, 3-, and 5-year periods, the portfolio slightly outperformed the benchmark by 10 basis points per annum and was within tracking error expectations.

Intech, one of EBMUD's two large cap growth managers, trailed the Russell 1000 Growth Index return by (0.4%) during the most recent quarter, but exceeded the benchmark by 2.1% and 1.6% over the 1- and 3-year periods, respectively. The portfolio's outperformance is a demonstration of "positive trending," which, according to Intech, occurs when the proportion of the overweighted stocks with a positive relative return is above that of the underweights. During the 5-year period the portfolio trailed the benchmark by (50) basis points annually.

[6] Reviewed annually. Last reviewed June 30, 2012.
[7] The Estimated Annual Fee reported for Opus is based on the new management fee schedule approved by the Board at the November 2012 Board meeting.

T. Rowe Price, EBMUD's other large cap growth manager, outperformed the Russell 1000 Growth Index by 0.5% over the quarter and by 4.5%, 0.6%, and 0.7% over the latest 1-, 3-, and 5-year periods, respectively. Stock selection in Information Technology and Telecommunication Services contributed to results over the 1-year period.

Barrow Hanley, EBMUD's large cap value manager, underperformed the Russell 1000 Value Index by (0.5%), (2.4%), and (1.3%) during the latest quarter, 1- and 3-year periods, respectively. Security selection and an underweight in Consumer Discretionary, as well as security selection in Information Technology, detracted from 1- and 3-year results. During the 5-year period the portfolio outperformed the benchmark by 70 basis points per annum.

Northern Trust, the portfolio's passive small cap growth manager, outperformed the Russell 2000 Growth Index by 20 basis points over the quarter and 40 basis points annually over the 1- and 3-year periods.

Opus, EBMUD's active small cap value manager, outperformed the Russell 2000 Value Index by 90 basis points over the latest quarter. During the 1-year period the portfolio underperformed the benchmark by (6.2%) as low quality characteristics (i.e. negative earnings, high leverage) was a significant challenge to the high quality portfolio; stock selection in Consumer Discretionary, Financial Services, and Technology also compounded this negative environment hurting portfolio results. The portfolio surpassed the benchmark by 0.5% and 1.3% annually over the 3- and 5-year periods. Relative outperformance over the 5-year period was primarily attributable to stock selection and overweight in Health Care and Technology, as well as stock selection in Energy, Producer Durables, and Utilities. Opus was placed on "heightened monitoring" status as of December 2012, as the portfolio's performance fell below EBMUD's performance thresholds.

International Equity – Periods ending December 31, 2012

Manager	Mkt Value ($000)	Asset Class	Management Style	Quarter	1 YR	3 YR	5 YR	Estimated Annual Fee (bps)[8]	Current Monitoring Status
Franklin Templeton[9]	97,078	ACWI x U.S.	Active	7.4	19.9	4.3	-2.6	58	Heightened
Fisher Investments	101,465	ACWI x U.S.	Active	7.0	16.6	6.5	-0.7	66	---
*MSCI ACWI x U.S. (blend)**	---	---	---	*5.9*	*17.4*	*4.3*	*-2.4*	---	---

*As of January 1, 2007, the benchmark changed from MSCI EAFE to MSCI ACWI x U.S.

During the latest three-month period ending December 31, 2012, both of EBMUD's International Equity managers outperformed the MSCI ACWI x U.S. (blend) Index.

The **Franklin Templeton** account exceeded the MSCI ACWI x U.S. (blend) Index over the quarter and 1-year period by 1.5% and 2.5%, respectively. Stock selection in Financials, Industrials, and Consumer Discretionary contributed to performance over both time periods. Additionally, an overweight to Financials helped performance over the quarter and an underweight to Materials aided 1-year results. The portfolio matched the benchmark's return over the 3-year period and modestly trailed the benchmark by (20) basis points over the 5-year period. Franklin was placed on "heightened monitoring" status as of June 2010, as the portfolio's performance fell below EBMUD's performance thresholds. The Board approved extending Franklin's "heightened monitoring" status in March 2012.

Fisher outperformed the MSCI ACWI x U.S. (blend) Index by 1.1% during the latest quarter as the portfolio's underweight to Canada and overweight to China added value. The portfolio trailed the benchmark by (0.8%) over the 1-year period, but surpassed the benchmark by 2.2% and 1.7% per annum over the 3- and 5-year periods, respectively. On a country basis, the portfolio's underweight to Japan and overweight to South Korea, as well as stock selection decisions in France, helped returns over the longer time periods.

[8] Reviewed annually. Last reviewed June 30, 2012.

[9] Franklin Templeton's returns are reported net of fees thru 6/30/2011; gross of fees, thereafter. The Franklin Templeton institutional mutual fund account was liquidated in June 2011 and moved to a transition account which later funded the Franklin Templeton new separate account in the same month. The Q2-2011 return is an aggregate of the institutional mutual fund account, Franklin transition account, and new separate account.

Fixed Income – Periods ending December 31, 2012

Manager	Mkt Value ($000)	Asset Class	Management Style	Quarter	1 YR	3 YR	5 YR	Estimated Annual Fee (bps)[10]	Current Monitoring Status
Western Asset Management	81,732	Core Plus	Active	1.4	11.5	10.3	7.6	26	---
*BC Universal (blend)**	---	---	---	*0.6*	*5.5*	*6.7*	*6.2*	---	---
CS McKee	157,041	Core	Active	0.6	5.1	---	---	20	---
BC Aggregate	---	---	---	*0.2*	*4.2*	---	---	---	---

*As of January 1, 2008, the benchmark changed from BC Aggregate to BC Universal.

Over the latest three-month period ending December 31, 2012, both of EBMUD's Fixed Income managers outperformed their respective benchmarks.

WAMCO outperformed the BC Universal (blend) Index over the latest quarter by 0.8%. During the 1-, 3-, and 5-year periods the portfolio exceeded the benchmark by 6.0%, 3.6%, and 1.4% per annum, respectively, as the portfolio's exposure to high yield corporates and non-agency mortgages boosted relative results.

The **CS McKee** portfolio outperformed the BC Aggregate Index over the recent quarter by 40 basis points and 1-year period by 90 basis points.

[10] Reviewed annually. Last reviewed June 30, 2012.

Real Estate – Periods ending December 31, 2012

Manager	Mkt Value ($000)	Asset Class	Quarter	1 YR	3 YR	5 YR	Estimated Annual Fee (bps)[11]	Current Monitoring Status
RREEF II*	20,489	Real Estate	2.6	12.0	12.8	-2.0	161	Heightened
*NCREIF**	---	---	*2.3*	*11.0*	*10.9*	*2.3*	---	---
Urdang	29,579	Real Estate	2.2	17.4	---	---	27.5 bps + 15% on excess returns	---
FTSE NAREIT All Equity REITs	---	---	*2.2*	*20.1*	---	---	---	---

*Results are lagged one quarter.

East Bay's Real Estate manager, **RREEF II**, outperformed its benchmark, the NCREIF Property Index, over the latest quarter by 0.3%, 1-year period by 1.0%, and 3-year period by 1.9% per annum; however, the portfolio trailed the benchmark over the 5-year period by (4.3%) per annum. RREEF America REIT II operations generated an income return of 1.5% before fees, holding steady from the previous quarter. Same store net operating income for the 1-year period ending September 30, 2012, was up 2% from the period ending September 30, 2011. Quarter-end gross real estate market value weighted occupancy remained at 92 percent (excluding the Fund's value-added assets).

Urdang, East Bay's REIT manager, matched the FTSE NAREIT All Equity REITs Index return over the quarter, but underperformed it by (2.7%) over the 1-year period.

[11] Reviewed annually. Last reviewed June 30, 2012.

Performance Monitoring

Portfolio	Violation Type (Window)*	Date of Initial Violation	Corrective Action(s)	Current Status: Current Status	Current Status: Est. Beg. Date of Current Status	Current Status: Months Since Est. Beg. Date	Current Status: Performance Since Est. Beg. Date**
Opus	Short-Term	09/30/2012	Placed on Heightened Monitoring (Nov-12)	Heightened Monitoring	12/01/2012	1	3.8
Russell 2000 Value				---			*4.2*
Franklin Templeton	Short-Term	03/31/10	Placed on Heightened Monitoring (May-10), (Mar-12)	Heightened Monitoring	06/01/10	31	10.3
MSCI ACWI x U.S. (blend)				---			*9.3*
RREEF	Short-Term	04/01/07	PCA review memos (Dec-07), (Jan-09), (Mar-09), (Sept-09), (Oct-09), (Dec-09)	Heightened monitoring	01/01/08	60	-2.0
NCREIF				---			*2.3*

* Defined as: Short-Term (12 months), Medium-Term (36 months), Long-Term (60 months)

** Annualized for periods greater than 12 months

- The Board placed Opus on Heightened Monitoring as of December 2012 due to performance concerns. Since its Heightened Monitoring period began, Opus produced a 3.8% 1-month return, which is (40) basis points below its benchmark.
- The Board placed Franklin Templeton on Heightened Monitoring as of June 2010 due to performance concerns. The Board last reviewed Franklin's status in February 2012. Since its Heightened Monitoring period began, Franklin produced a 10.3% 31-month return, which is 1.0% above its benchmark.
- The Board placed RREEF on Heightened Monitoring in January 2008 due to organizational issues. The Board last reviewed RREEF's status in July 2008. Since its date of violation, RREEF produced a minus (2.0%) 60-month return, which is (4.3%) below its benchmark.

Investment Performance Criteria by Asset Class

Asset Class	Short-term (rolling 12-month periods)	Medium-term (rolling 36-month periods)	Long-term (60+ months)
Active Domestic Equity	Fd return < bench return - 3.5%	Fd annlzd return < bench annlzd return -1.75% for 6 consecutive months	VRR < 0.97 for 6 consecutive months
Passive Domestic Equity	Tracking error > 0.30%	Tracking error > 0.25% for 6 consecutive months	Fd annlzd return < bench annlzd return -0.40% for 6 consecutive months
Active International Equity	Fd return < bench return - 4.5%	Fd annlzd return < bench annlzd return -2.0% for 6 consecutive months	VRR < 0.97 for 6 consecutive months
Fixed Income	Fd return < bench return - 1.5%	Fd annlzd return < bench annlzd return -1.0% for 6 consecutive months	VRR < 0.98 for 6 consecutive months
Passive Fixed Income	Tracking error > 0.25%	Tracking error > 0.20% for 6 consecutive months	Fd annlzd return < bench annlzd return -0.30% for 6 consecutive months

All criteria are on an annualized basis.
VRR – Value Relative Ratio – is calculated as: manager cumulative return / benchmark cumulative return.

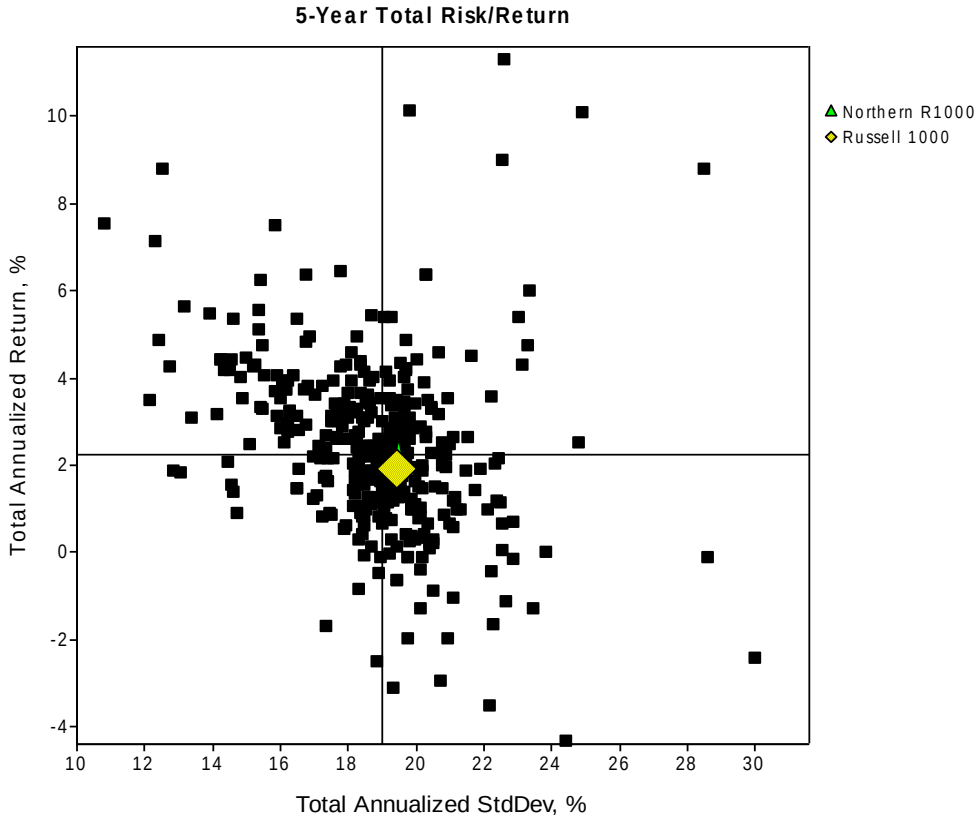
EBMUD Total Fund Universe Rankings
as of December 31, 2012

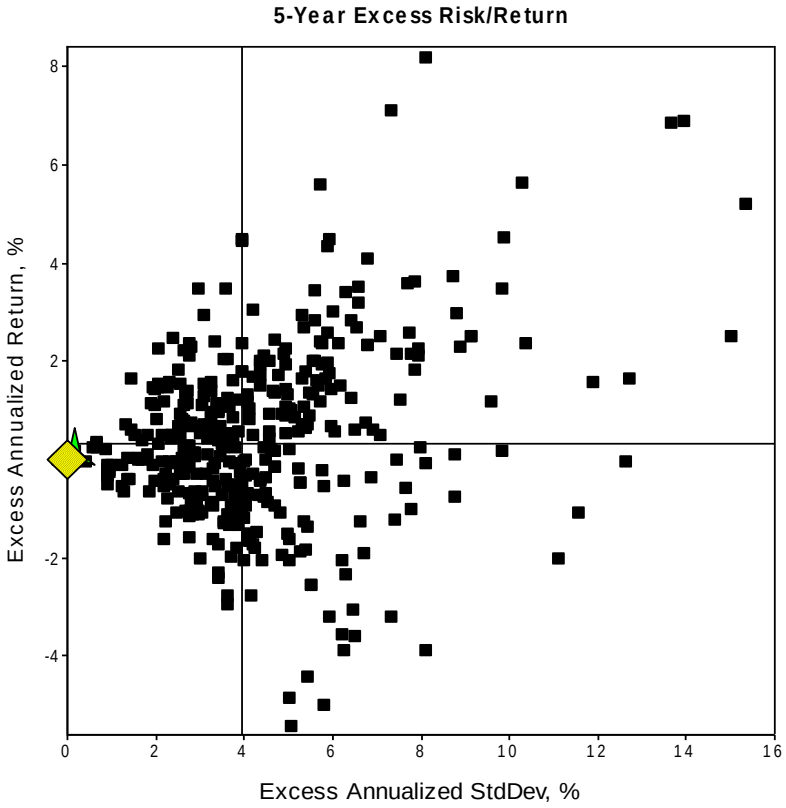
Mellon Total Funds – Public Universe

	Quarter	1-Year	3-Year	5-Year	10-Year
Maximum	3.5	17.2	15.4	7.2	10.4
Percentile 25	2.5	14.0	9.6	3.8	8.2
Median	**2.0**	**13.0**	**9.0**	**2.9**	**7.5**
Percentile 75	1.4	12.0	8.3	2.3	6.9
Minimum	-0.2	0.0	0.9	0.8	3.0
# of Portfolios	112	108	99	97	85
EBMUD Total					
Return	1.7	14.2	9.4	2.6	7.8
Quartile Rank	3rd	1st	2nd	3rd	2nd

Notes:
Sources: Universe Information; Mellon Total Public Funds
All performance is shown **gross of fees**.

EBMUD Large Cap Manager Comparisons
as of December 31, 2012

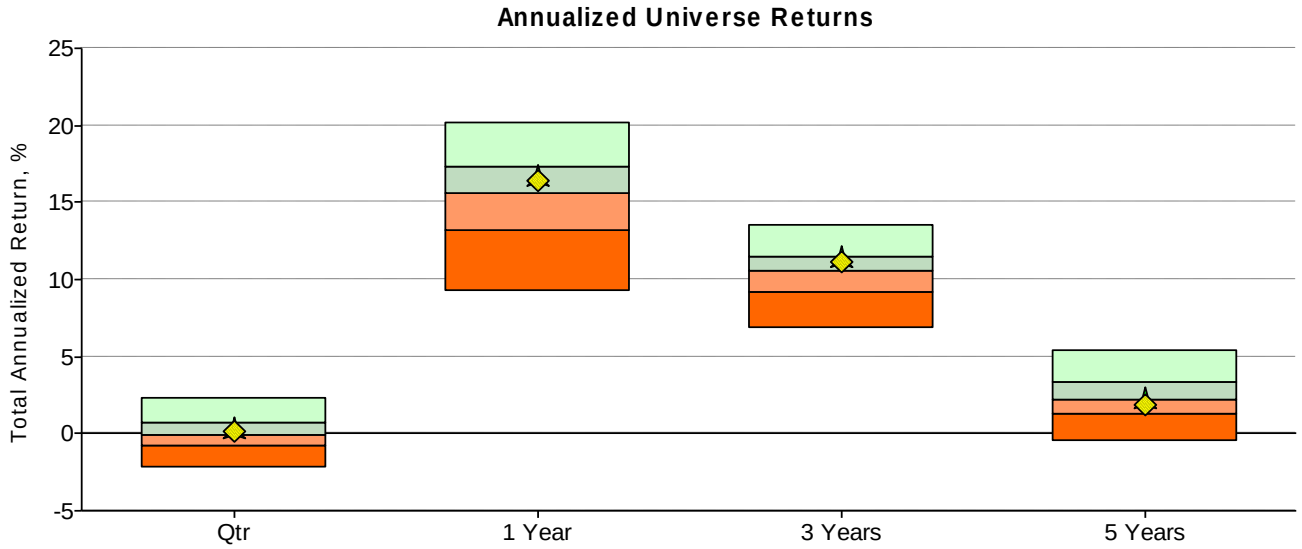


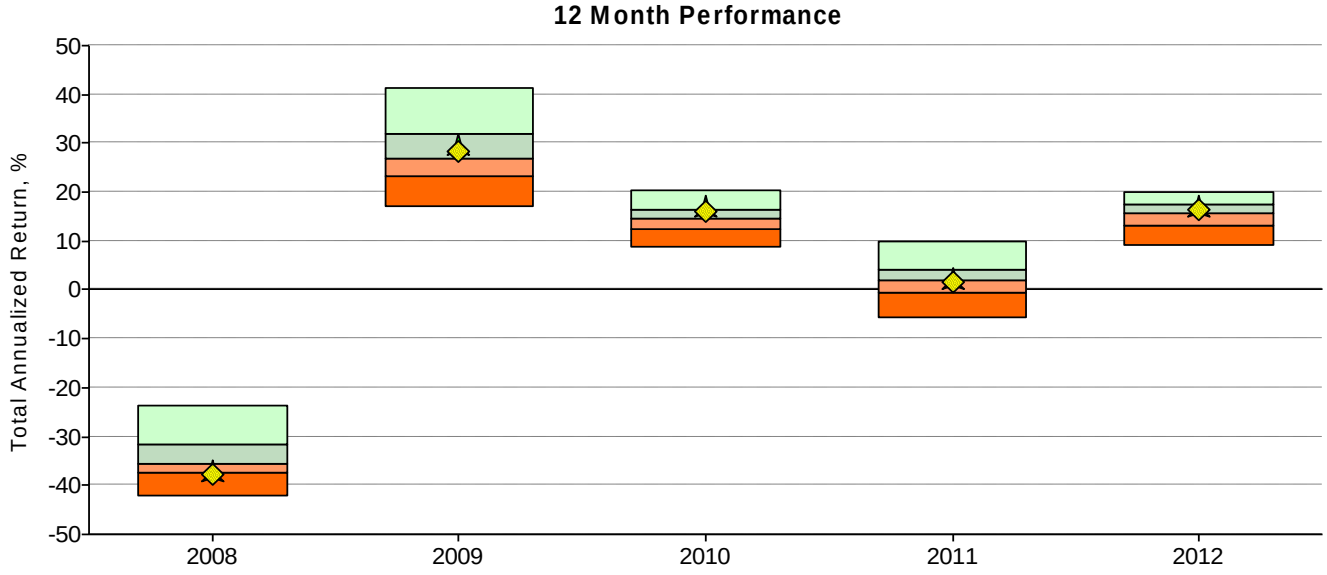


	Annualized Return, %	Annualized StdDev, %	Sharpe Ratio
Northern R1000	2.04	19.50	0.10
Russell 1000	1.92	19.45	0.10
Large Cap Universe Median	2.24	19.02	0.12

	Annualized Excess Return, %	Annualized Excess StDev, %	Sharpe Ratio, Excess
Northern R1000	0.13	0.18	0.70
Russell 1000	0.00	0.00	NA
Large Cap Universe Median	0.32	3.93	0.11

EBMUD Large Cap Manager Comparisons as of December 31, 2012

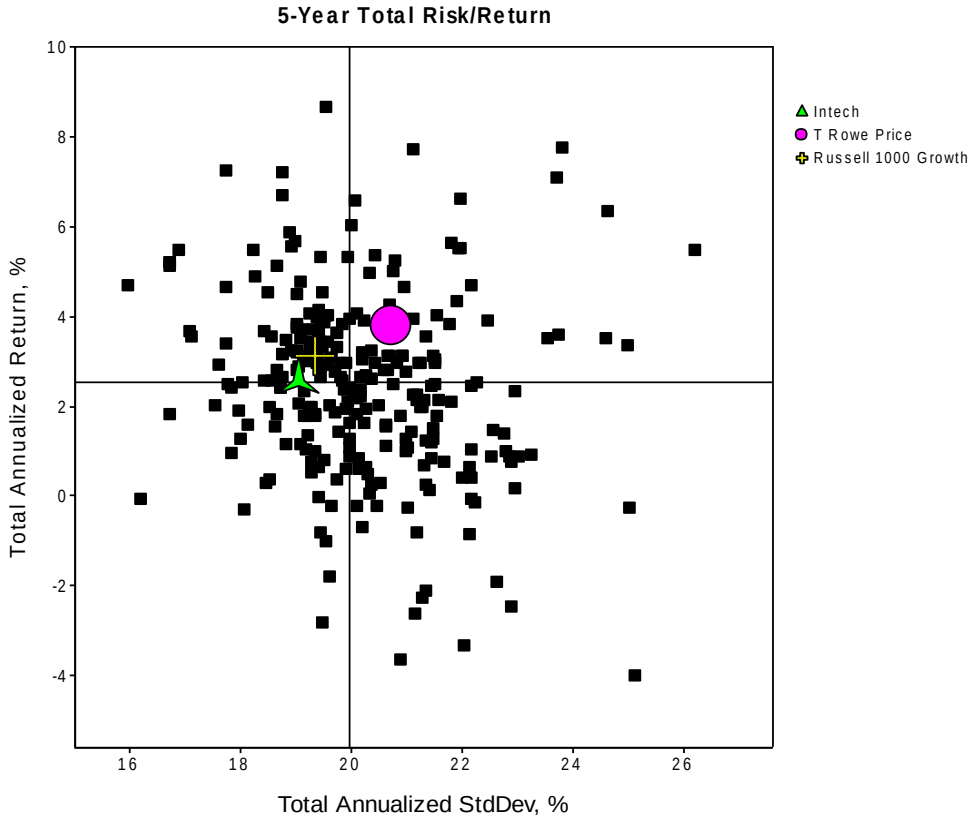


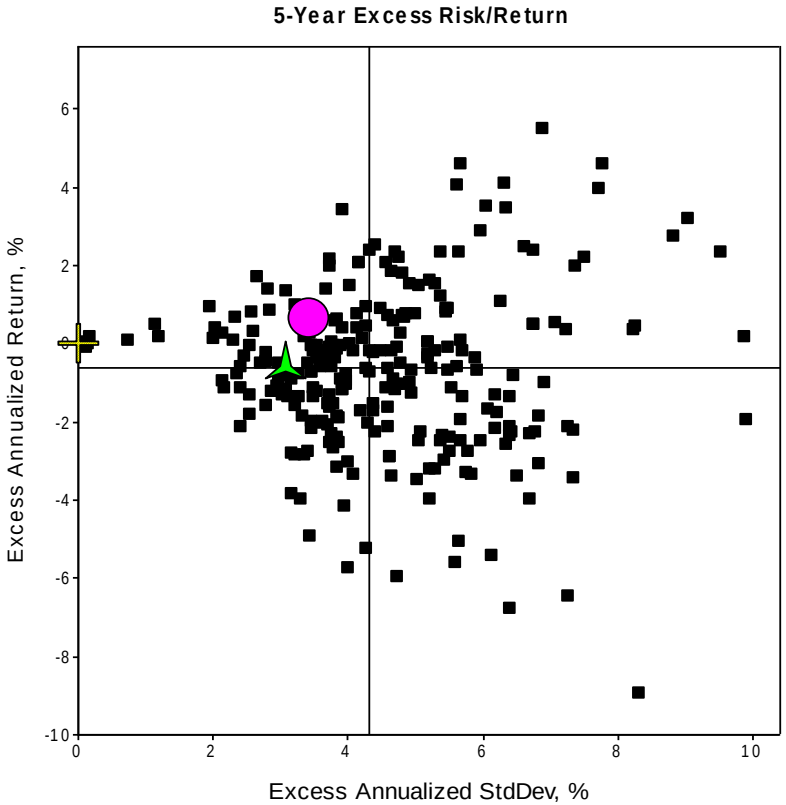


5th to 25th Percentile
25th to Median
Median to 75th Percentile
75th to 95th Percentile

Northern R1000
Russell 1000

EBMUD Large Cap Growth Manager Comparisons
as of December 31, 2012

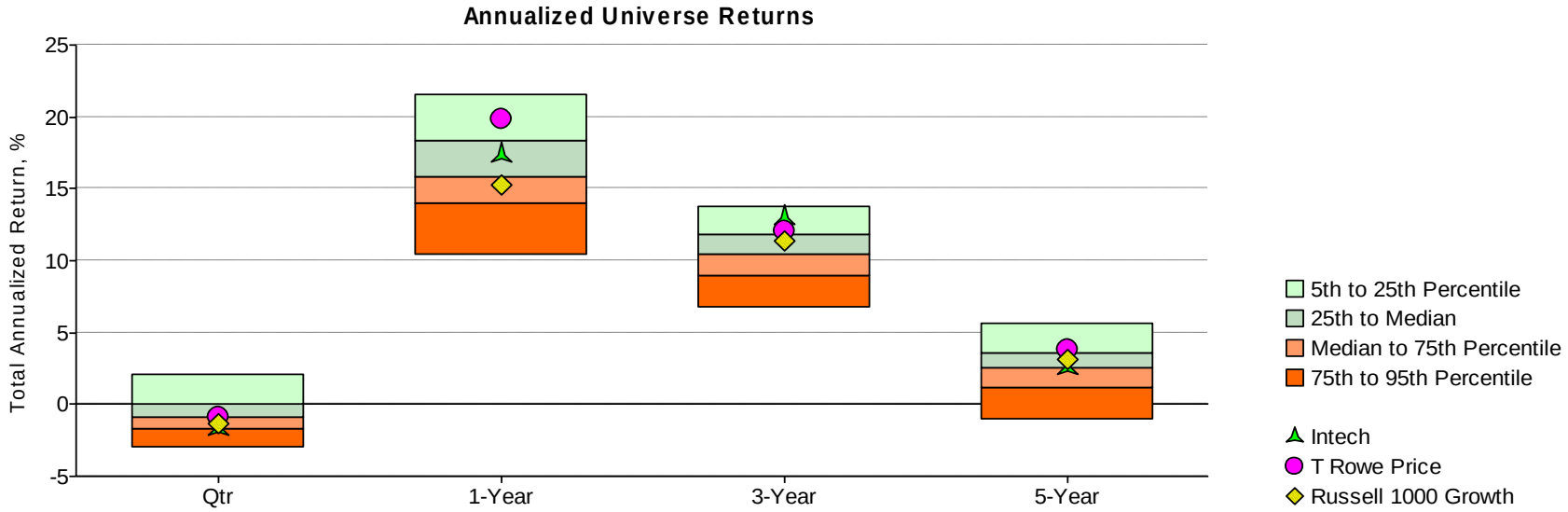


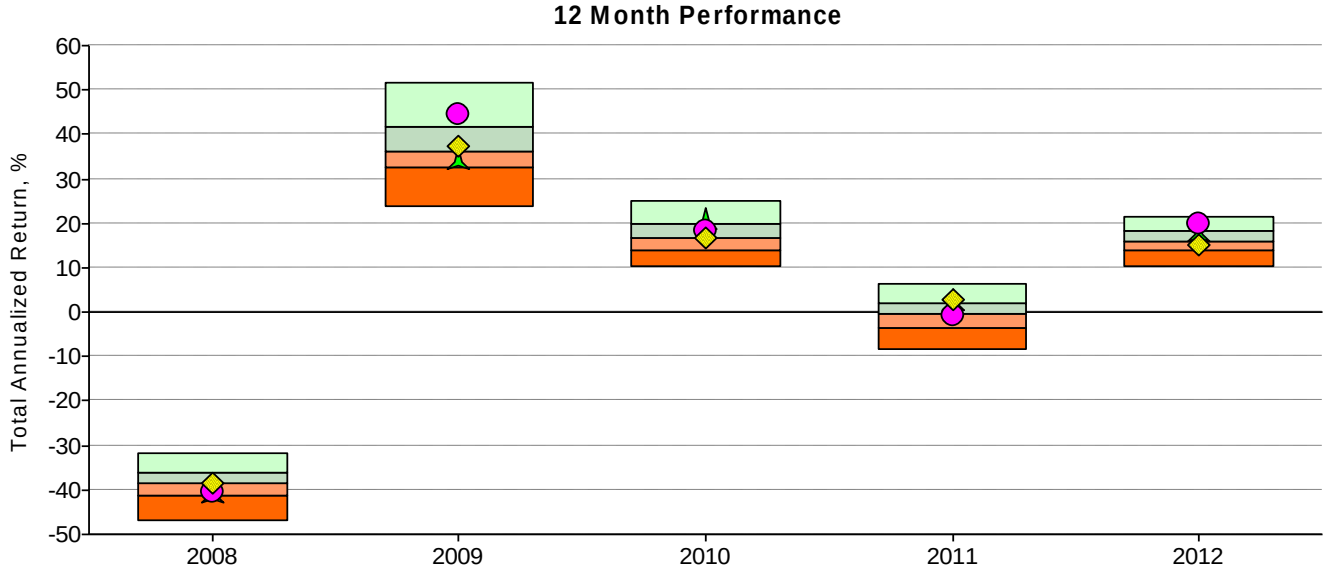


	Annualized Return, %	Annualized StdDev, %	Sharpe Ratio
Intech	2.55	19.03	0.13
T Rowe Price	3.79	20.70	0.18
Russell 1000 Growth	3.12	19.32	0.16
Large Growth Manager Universe Median	2.52	19.95	0.13

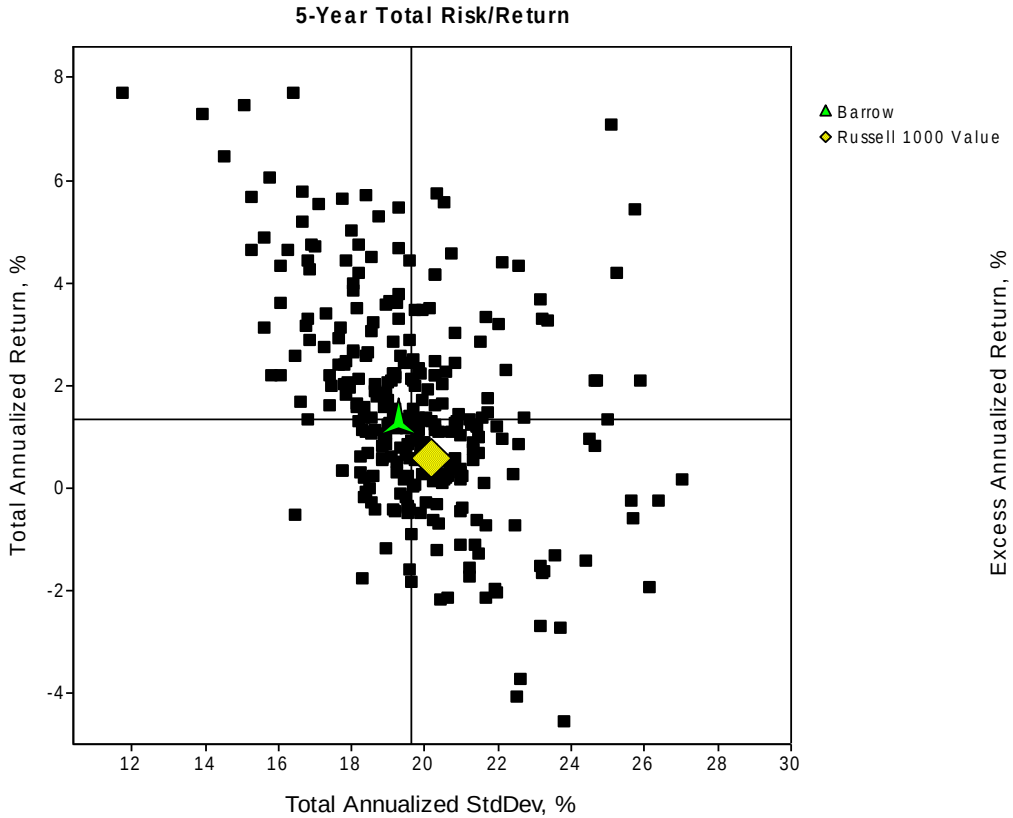
	Annualized Excess Return, %	Annualized Excess StDev, %	Sharpe Ratio, Excess
Intech	-0.57	3.08	-0.19
T Rowe Price	0.67	3.42	0.20
Russell 1000 Growth	0.00	0.00	NA
Large Growth Manager Universe Median	-0.61	4.32	-0.14

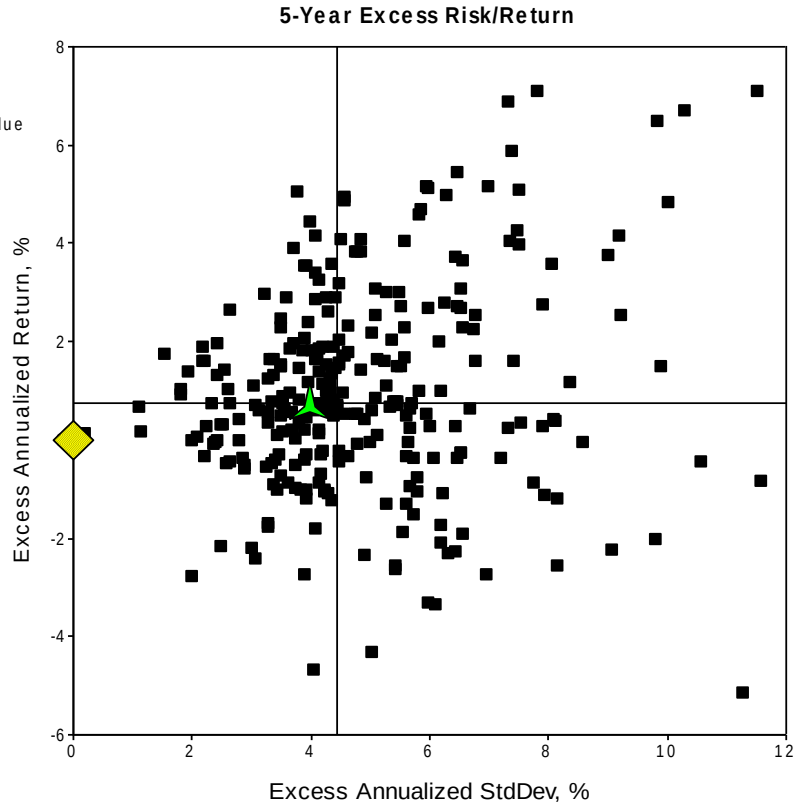
EBMUD Large Cap Growth Manager Comparisons as of December 31, 2012





EBMUD Large Cap Value Manager Comparisons
as of December 31, 2012

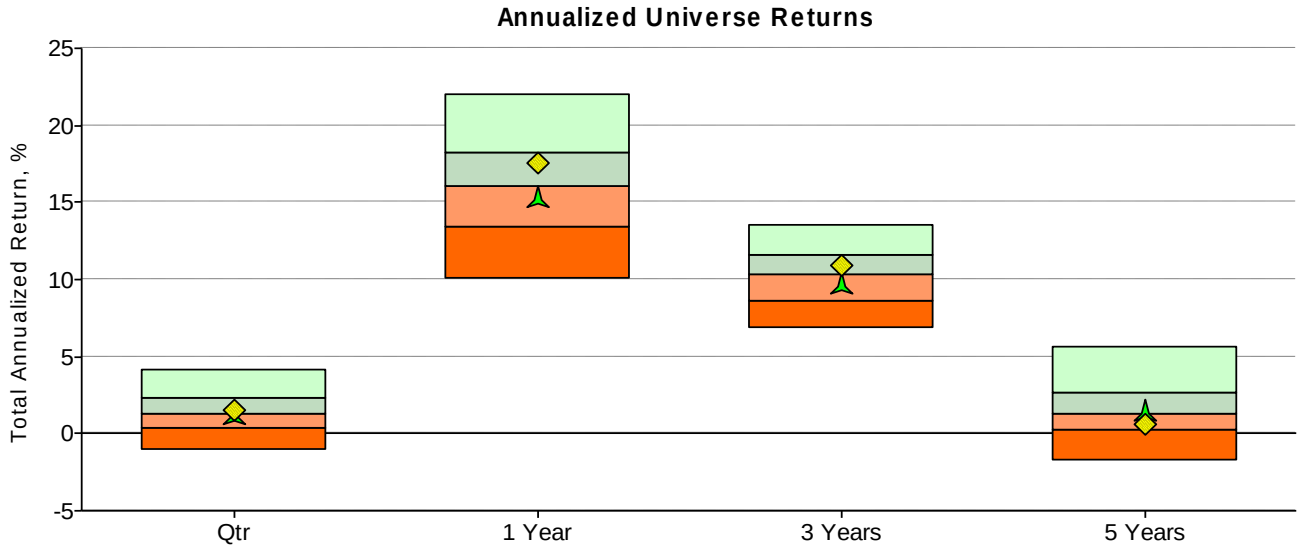




	Annualized Return, %	Annualized StdDev, %	Sharpe Ratio
Barrow	1.26	19.28	0.07
Russell 1000 Value	0.59	20.18	0.03
Large Cap Value Universe Median	1.34	19.64	0.07

	Annualized Excess Return, %	Annualized Excess StDev, %	Sharpe Ratio, Excess
Barrow	0.67	3.99	0.17
Russell 1000 Value	0.00	0.00	NA
Large Cap Value Universe Median	0.75	4.44	0.18

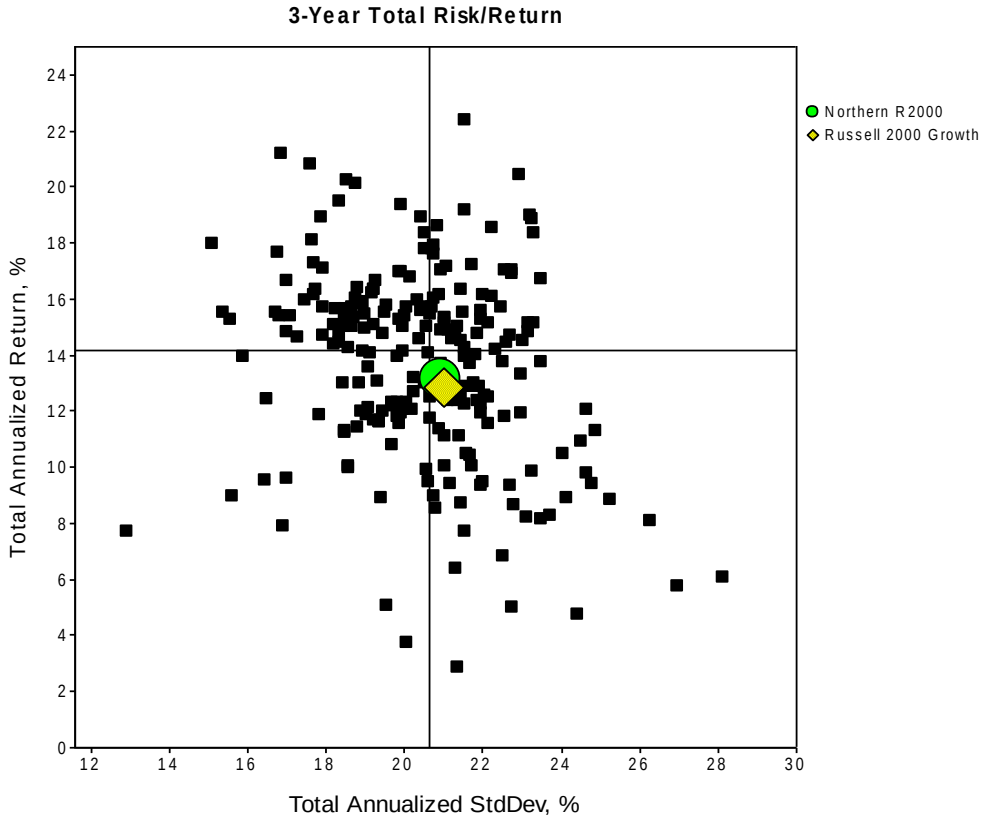
EBMUD Large Cap Value Manager Comparisons as of December 31, 2012

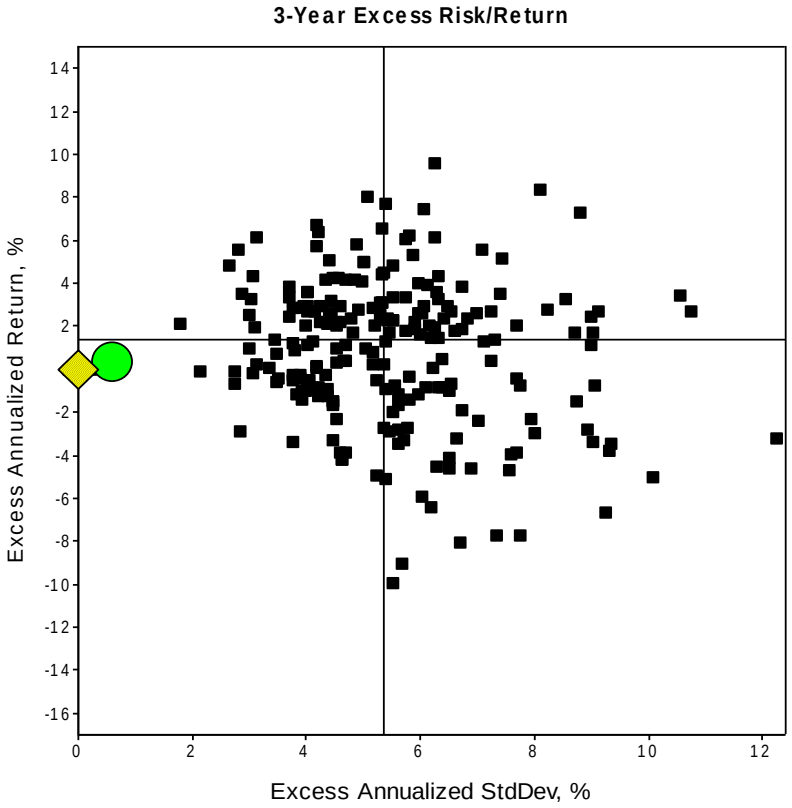


5th to 25th Percentile
25th to Median
Median to 75th Percentile
75th to 95th Percentile

Barrow
Russell 1000 Value

EBMUD Small Cap Growth Manager Comparisons
as of December 31, 2012

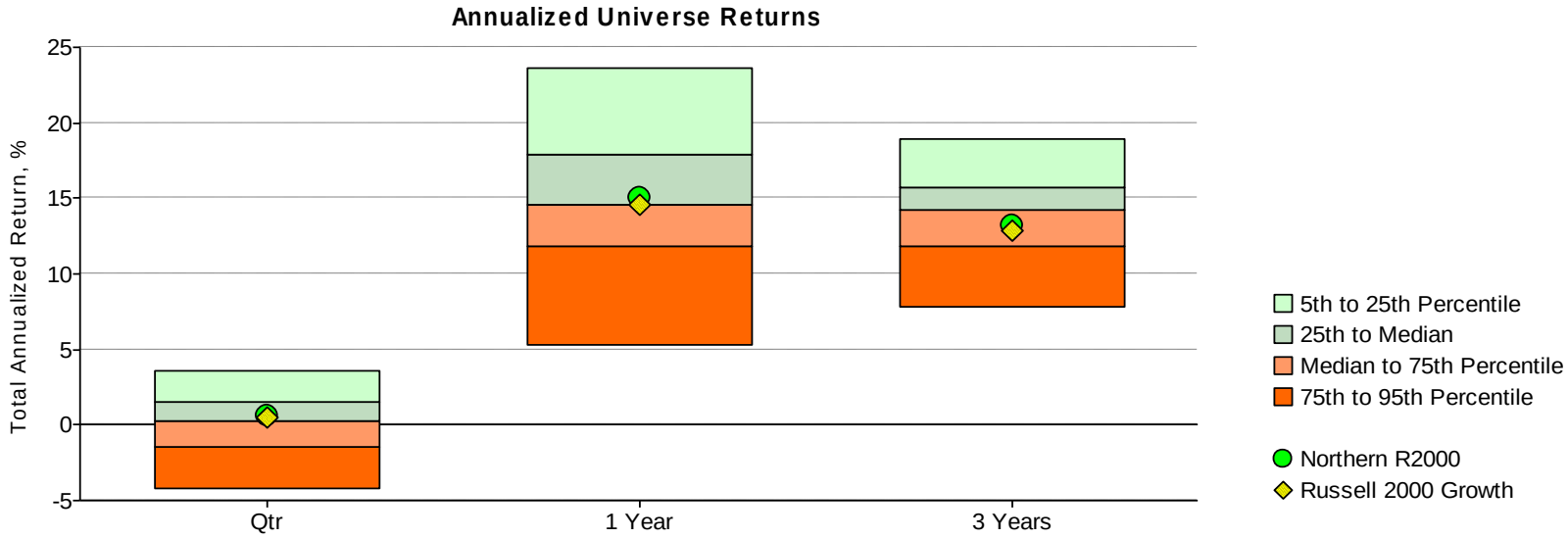


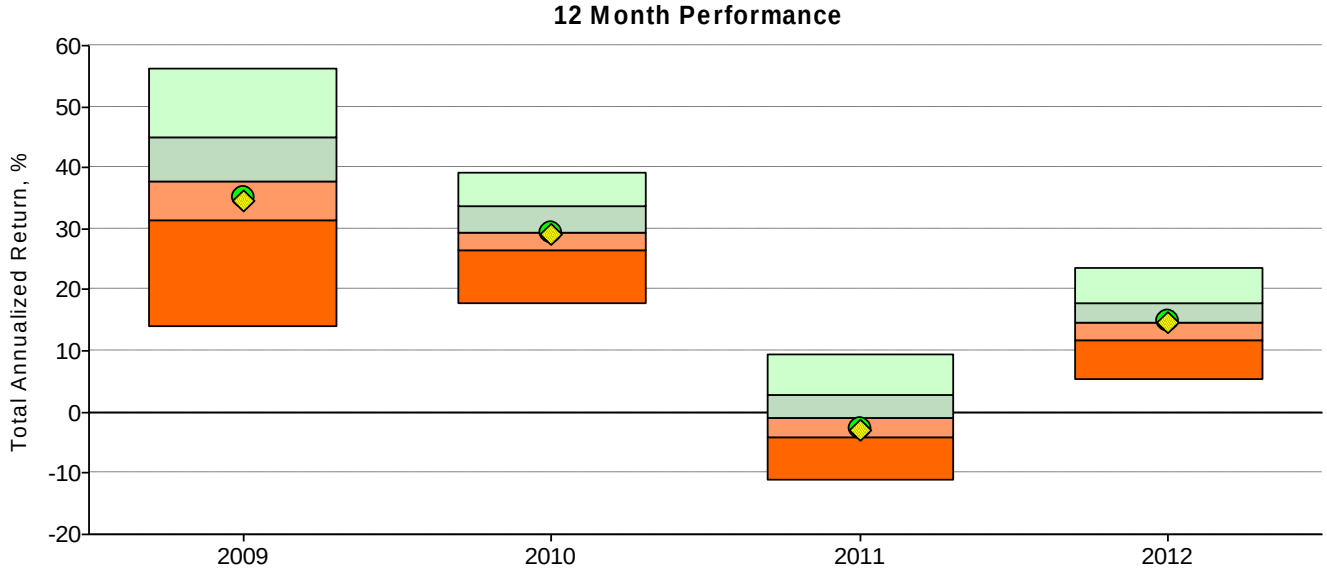


	Annualized Return, %	Annualized StdDev, %	Sharpe Ratio
Northern R2000	13.17	20.93	0.63
Russell 2000 Growth	12.82	21.01	0.61
Small Cap Growth Manager Universe Median	14.19	20.63	0.68

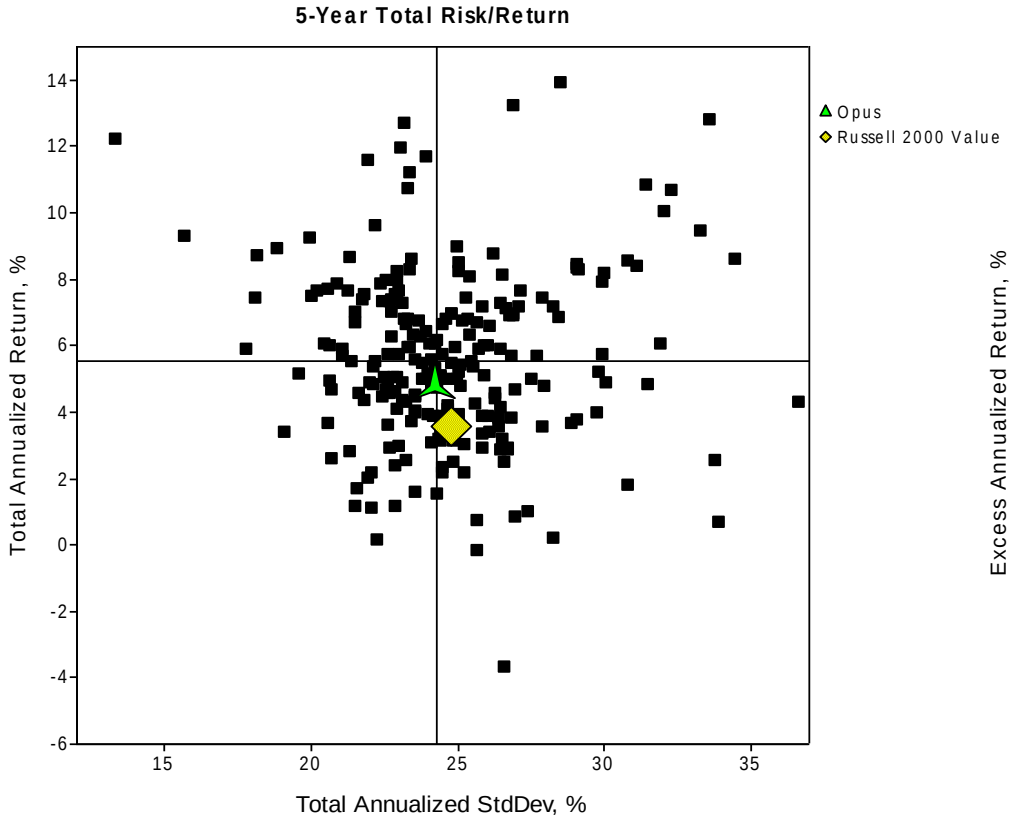
	Annualized Excess Return, %	Annualized Excess StDev, %	Sharpe Ratio, Excess
Northern R2000	0.35	0.61	0.57
Russell 2000 Growth	0.00	0.00	NA
Small Cap Growth Manager Universe Median	1.37	5.35	0.25

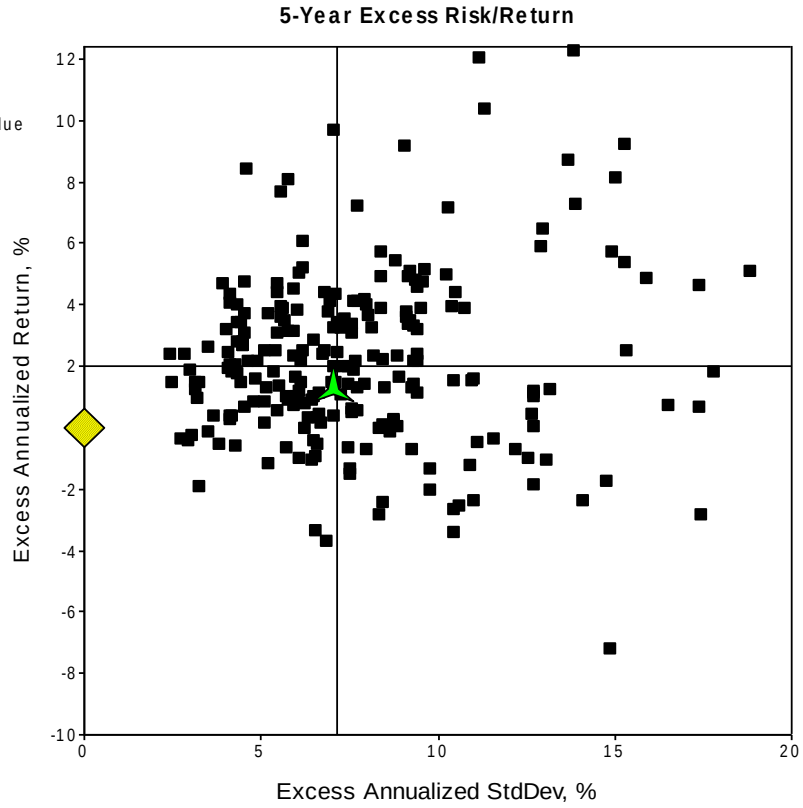
EBMUD Small Cap Growth Manager Comparisons
as of December 31, 2012





EBMUD Small Cap Value Manager Comparisons
as of December 31, 2012

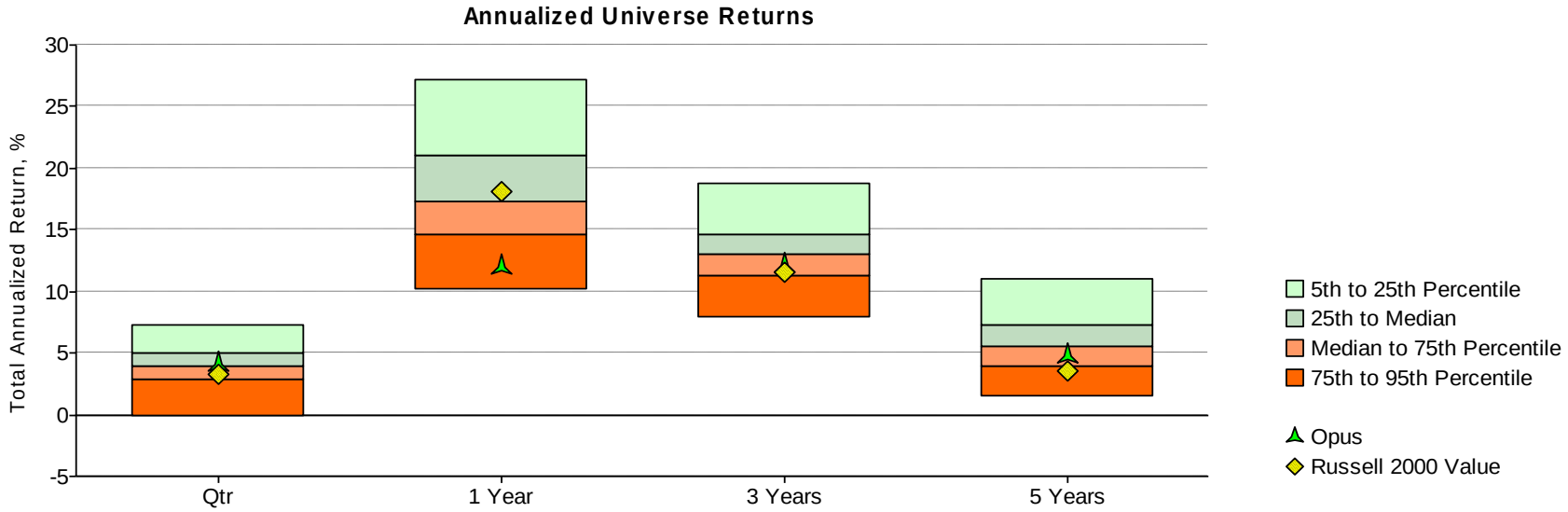


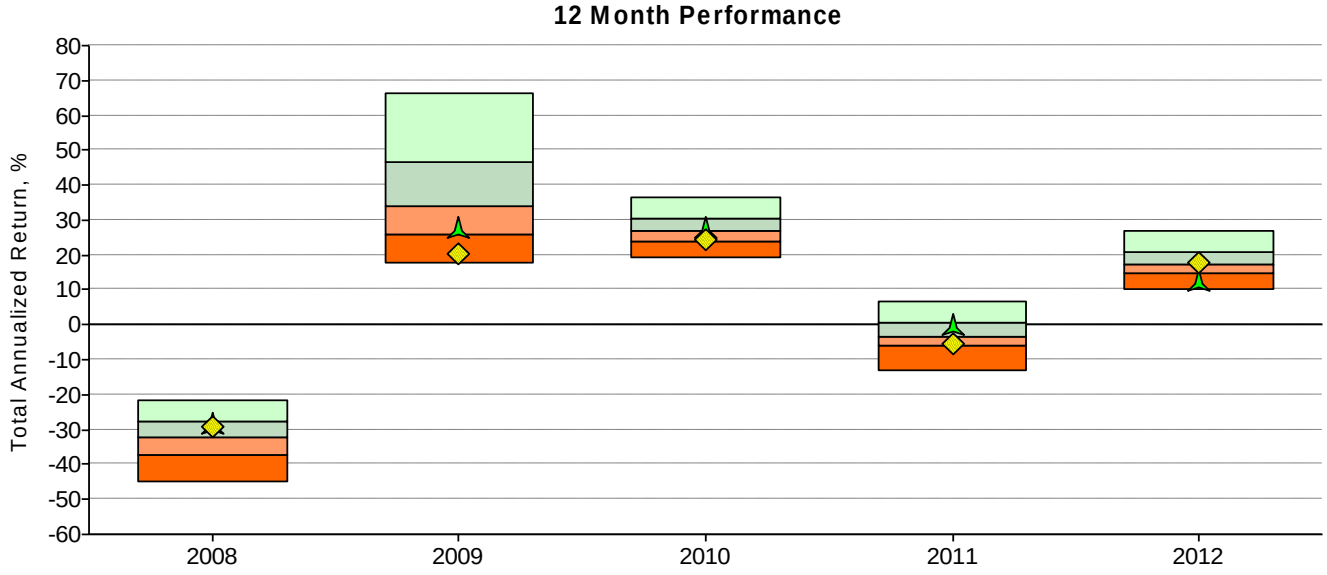


	Annualized Return, %	Annualized StdDev, %	Sharpe Ratio
Opus	4.78	24.22	0.20
Russell 2000 Value	3.55	24.81	0.14
Small Cap Value Universe Median	5.54	24.28	0.22

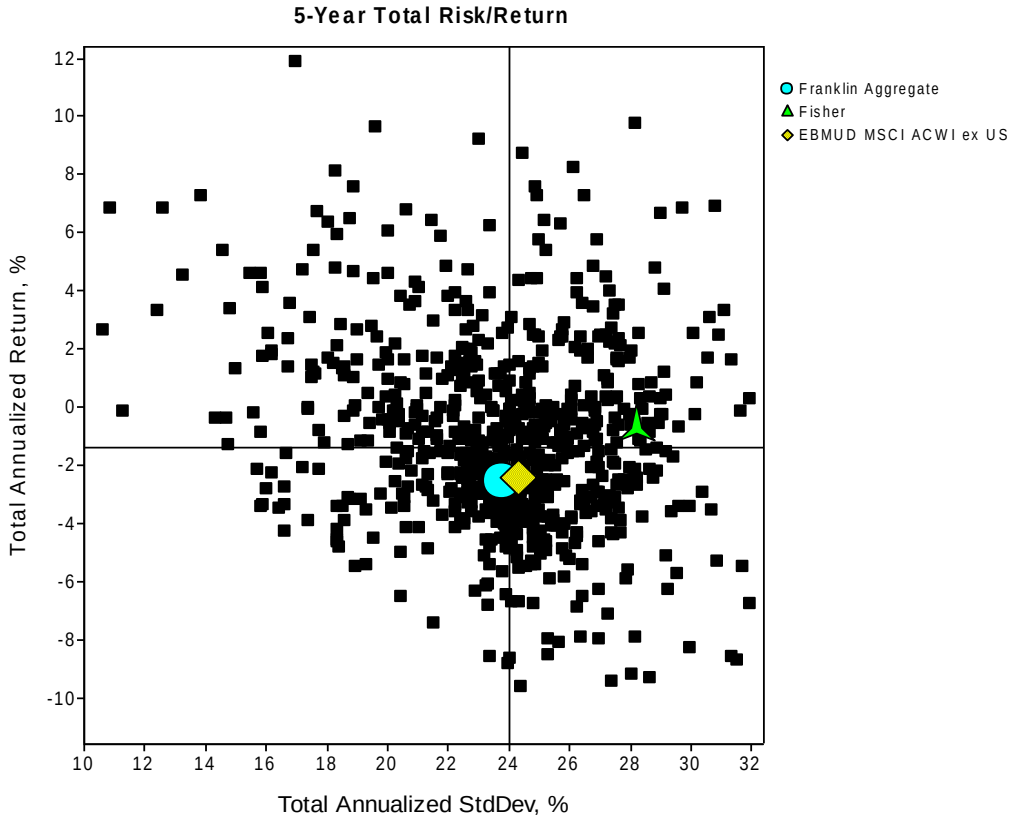
	Annualized Excess Return, %	Annualized Excess StDev, %	Sharpe Ratio, Excess
Opus	1.24	7.04	0.18
Russell 2000 Value	0.00	0.00	NA
Small Cap Value Universe Median	1.99	7.16	0.29

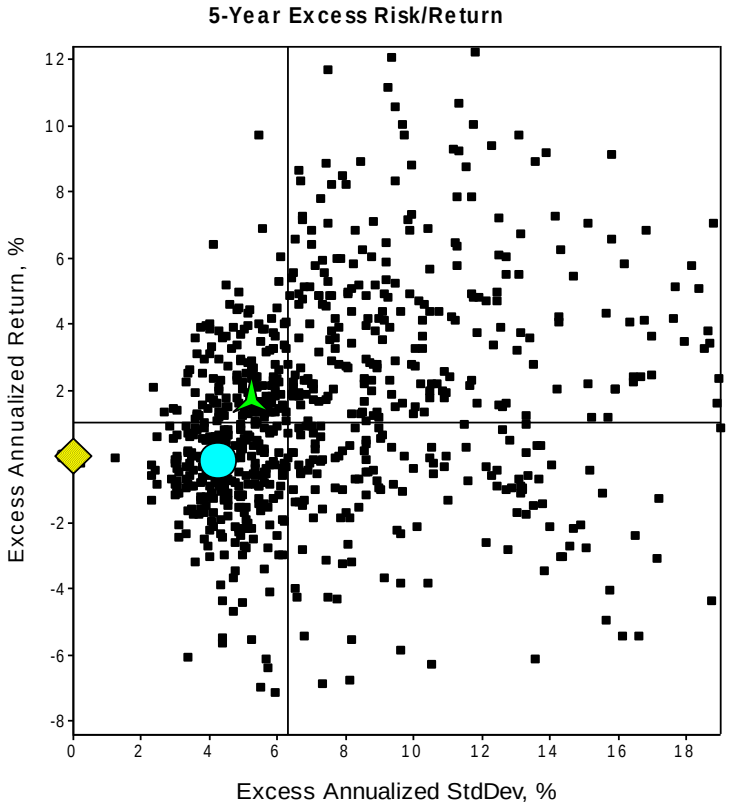
EBMUD Small Cap Value Manager Comparisons as of December 31, 2012





EBMUD International Equity Manager Comparisons as of December 31, 2012

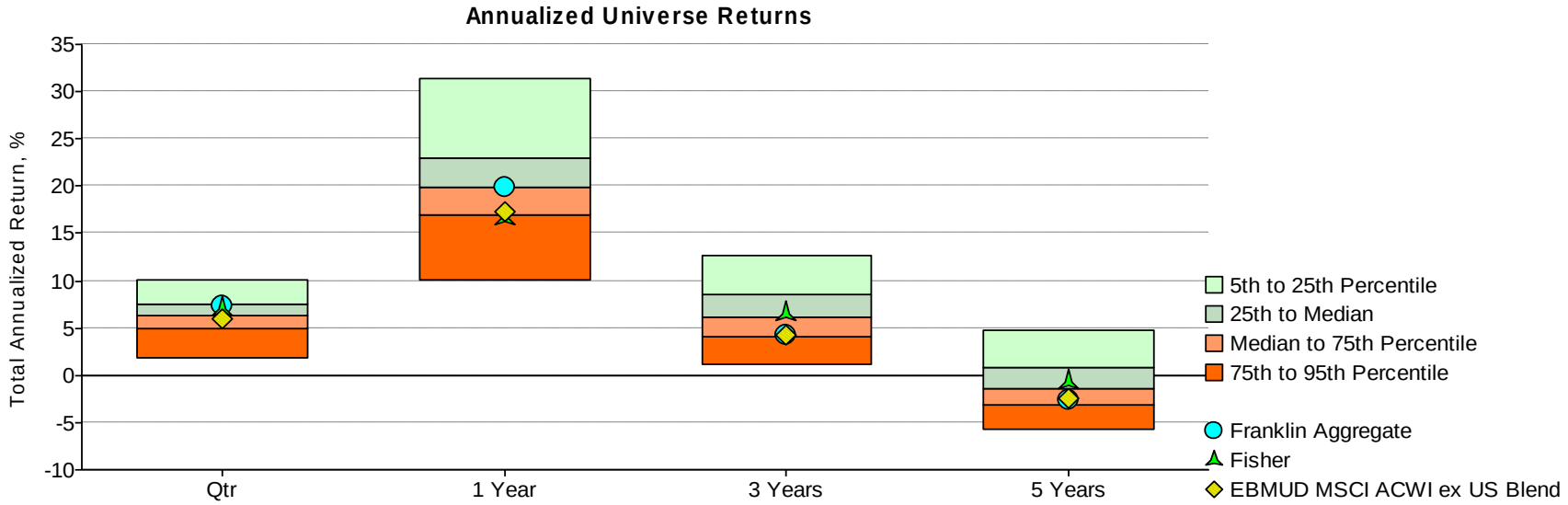


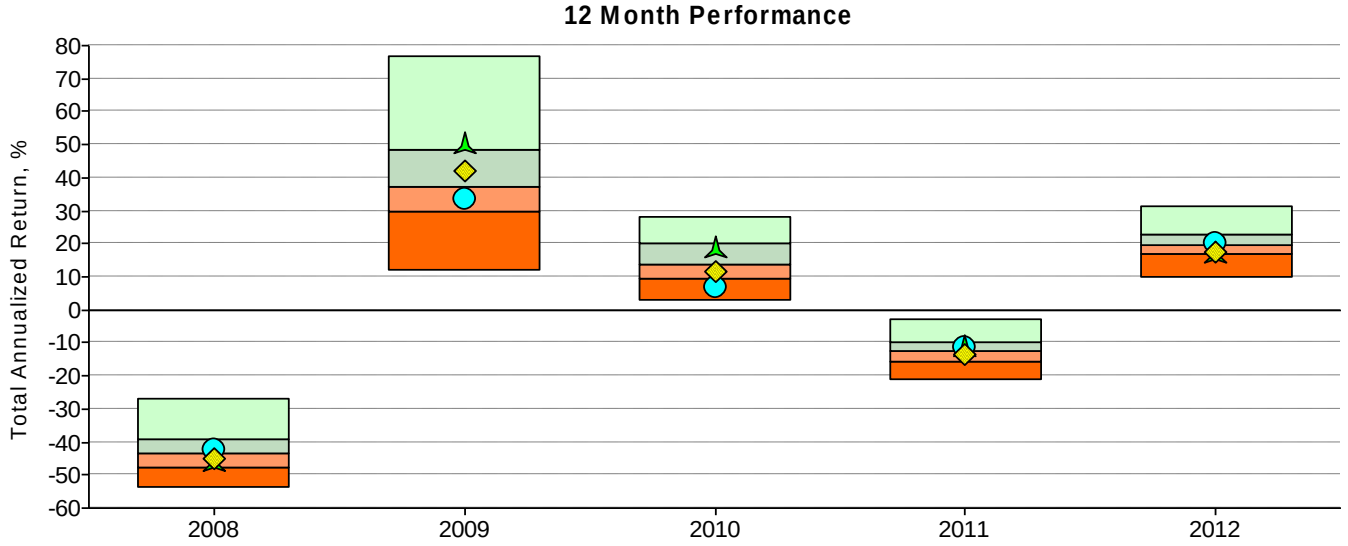


	Annualized Return, %	Annualized StdDev, %	Sharpe Ratio
Franklin Aggregate	-2.56	23.79	-0.11
Fisher	-0.72	28.20	-0.03
MSCI ACWI xUS Blend	-2.44	24.28	-0.10
International Equity Manager Universe Median	-1.41	24.03	-0.06

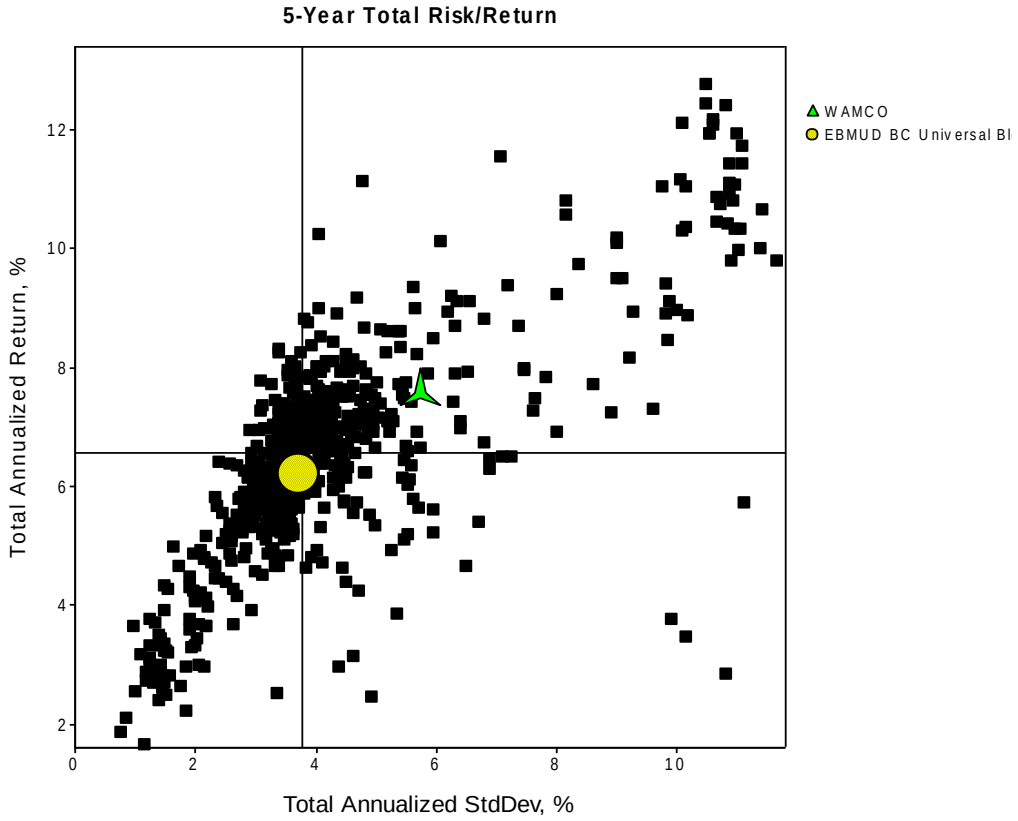
	Annualized Excess Return, %	Annualized Excess StDev, %	Sharpe Ratio, Excess
Franklin Aggregate	-0.12	4.26	-0.03
Fisher	1.72	5.21	0.33
ACWI xUS Blend	0.00	0.00	NA
International Equity Manager Universe Median	1.03	6.28	0.15

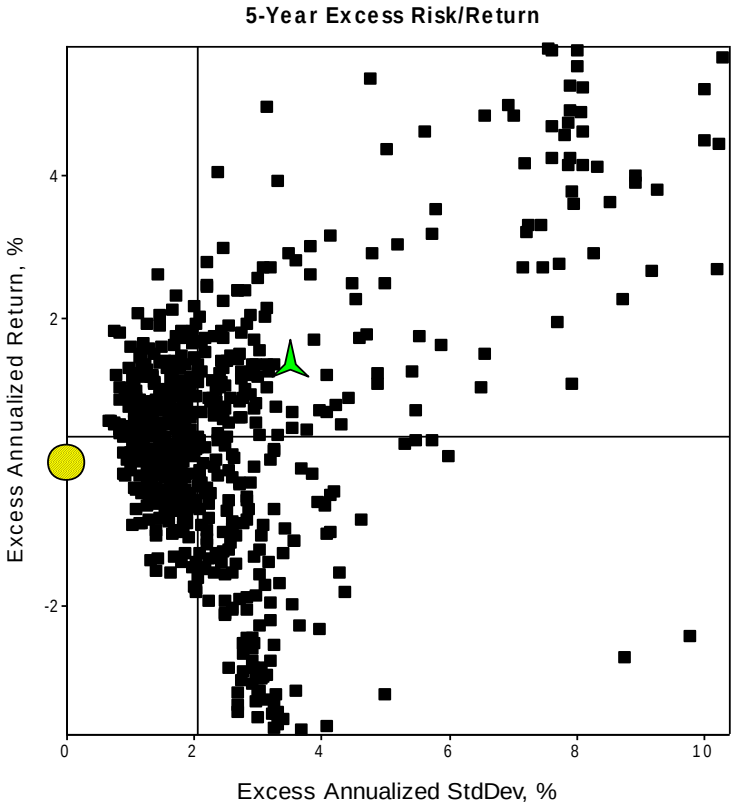
EBMUD International Equity Manager Comparisons as of December 31, 2012





EBMUD Fixed Income Manager Comparisons
as of December 31, 2012

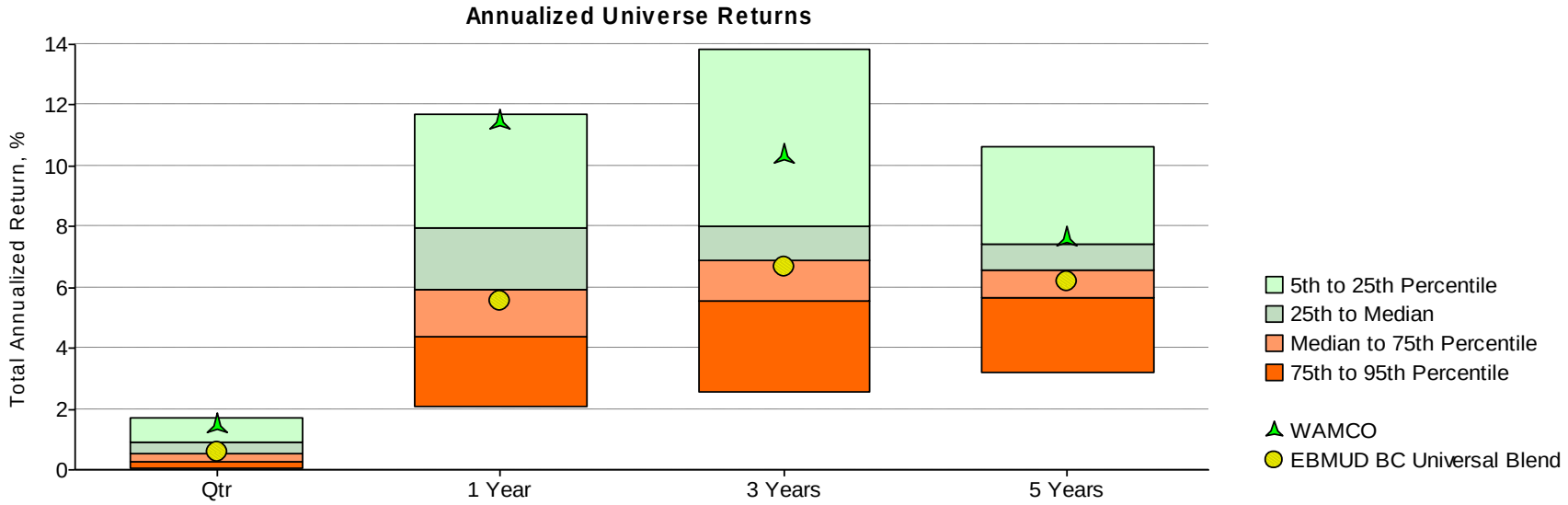


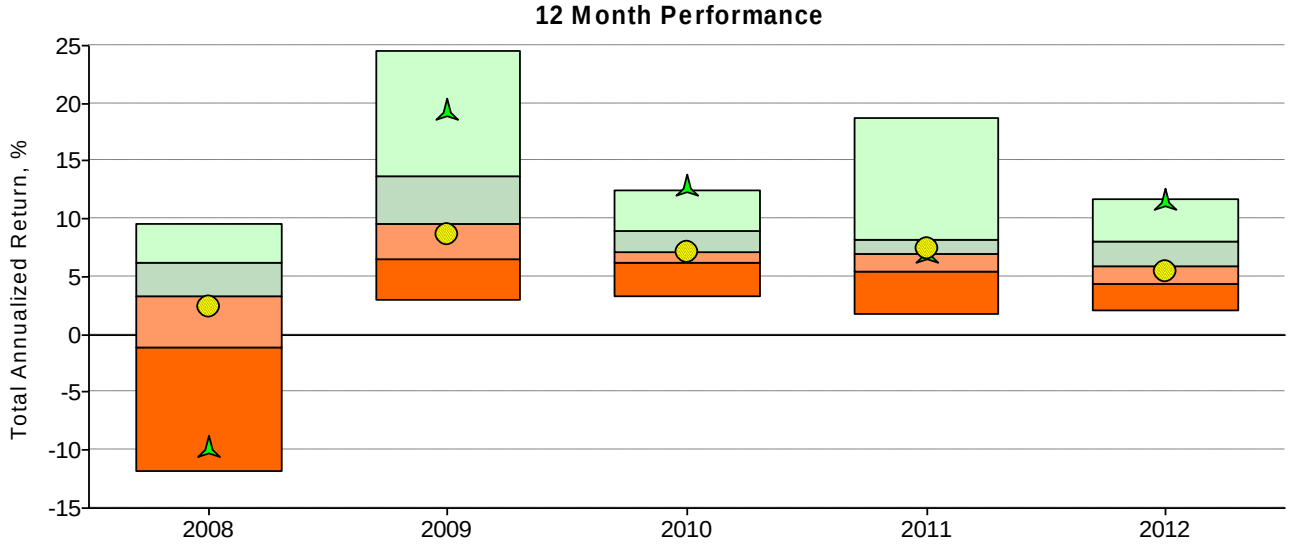


	Annualized Return, %	Annualized StdDev, %	Sharpe Ratio
WAMCO	7.57	5.75	1.32
EBMUD BC Universal Blend	6.19	3.71	1.67
US Fixed Income Univ Median	6.55	3.77	1.70

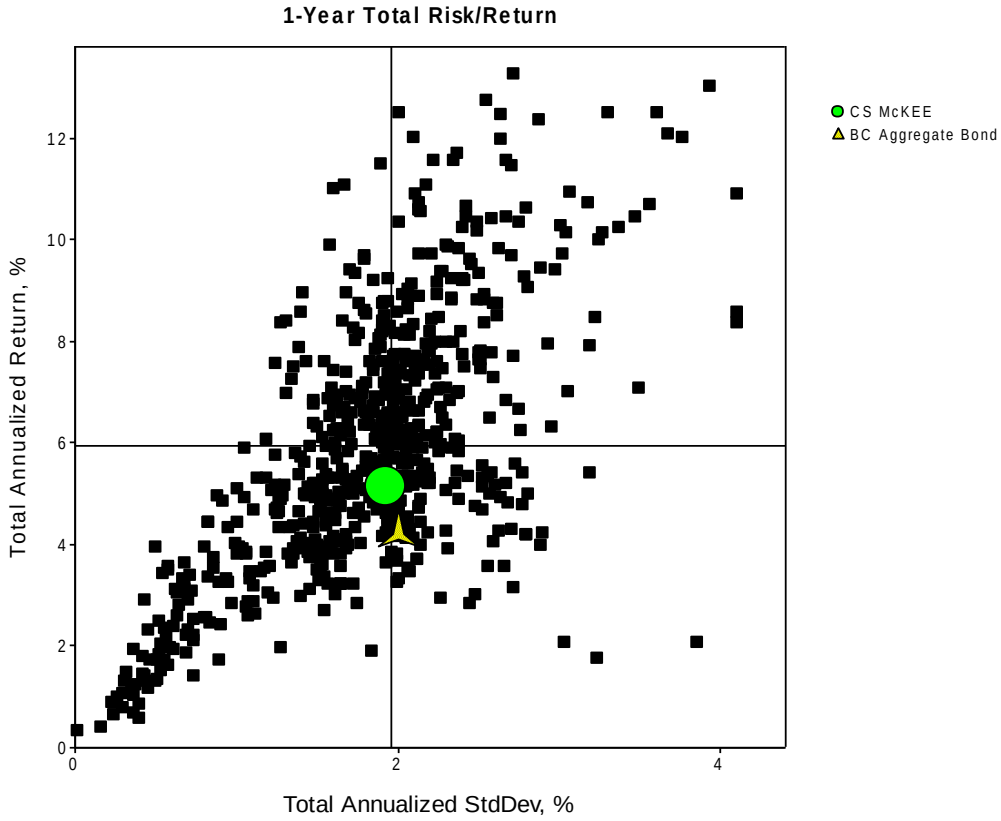
	Annualized Excess Return, %	Annualized Excess StDev, %	Sharpe Ratio, Excess
WAMCO	1.38	3.49	0.39
EBMUD BC Universal Blend	0.00	0.00	NA
US Fixed Income Univ Median	0.36	2.04	0.18

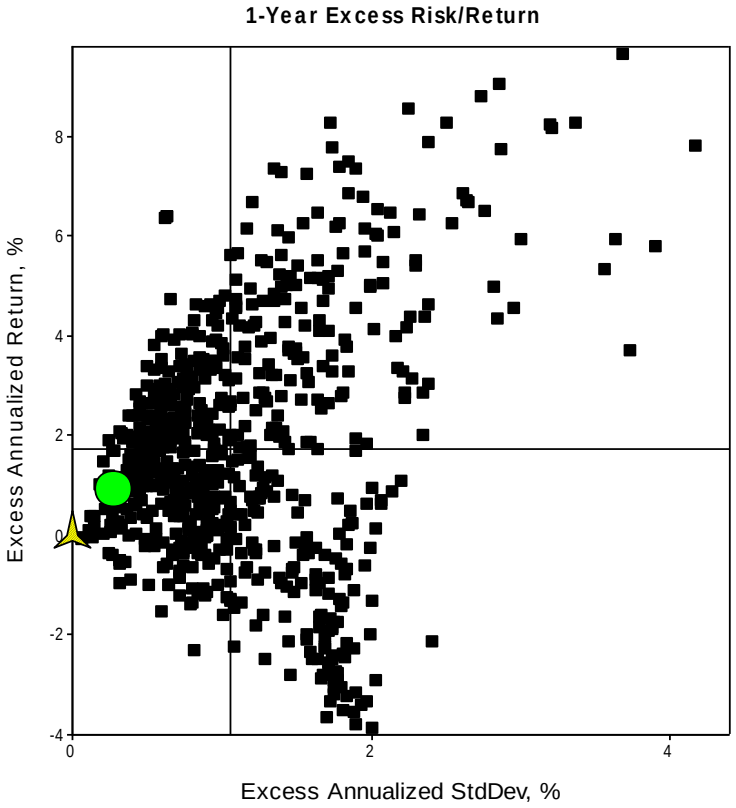
EBMUD Fixed Income Manager Comparisons as of December 31, 2012





EBMUD Fixed Income Manager Comparisons
as of December 31, 2012

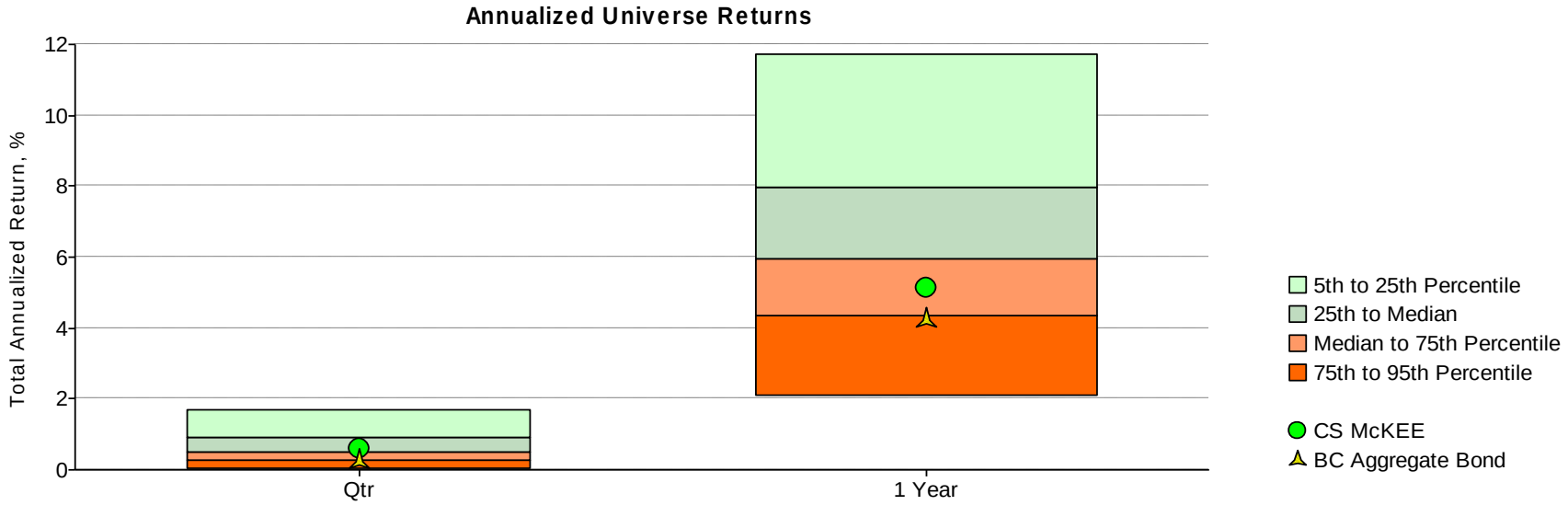


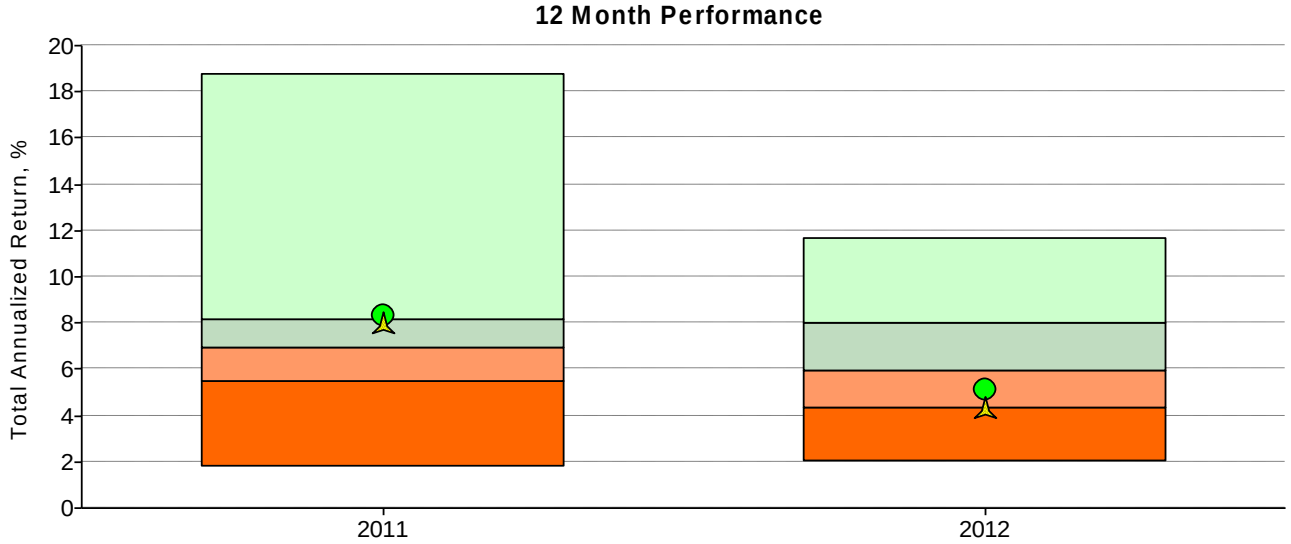


	Annualized Return, %	Annualized StdDev, %	Sharpe Ratio
CS McKEE	5.13	1.92	2.67
BC Aggregate Bond	4.22	2.01	2.10
US Fixed Income Univ Median	5.95	1.95	3.13

	Annualized Excess Return, %	Annualized Excess StDev, %	Sharpe Ratio, Excess
CS McKEE	0.92	0.27	3.36
BC Aggregate Bond	0.00	0.00	NA
US Fixed Income Univ Median	1.74	1.05	1.63

EBMUD Fixed Income Manager Comparisons as of December 31, 2012





GLOSSARY OF TERMS

Alpha: The premium an investment earns above a set standard. This is usually measured in terms of a common index (i.e., how the stock performs independent of the market). An Alpha is usually generated by regressing a security's excess return on the S&P 500 excess return.

Annualized Performance: The annual rate of return that when compounded t times generates the same t-period holding return as actually occurred from period 1 to period t.

Batting Average: Percentage of periods a portfolio outperforms a given index.

Beta: The measure of an asset's risk in relation to the Market (for example, the S&P 500) or to an alternative benchmark or factors. Roughly speaking, a security with a Beta of 1.5 will have moved, on average, 1.5 times the market return.

Bottom-up: A management style that de-emphasizes the significance of economic and market cycles, focusing instead on the analysis of individual stocks.

Dividend Discount Model: A method to value the common stock of a company that is based on the present value of the expected future dividends.

Growth Stocks: Common stock of a company that has an opportunity to invest money and earn more than the opportunity cost of capital.

Information Ratio: The ratio of annualized expected residual return to residual risk. A central measurement for active management, value added is proportional to the square of the information ratio.

R-Squared: Square of the correlation coefficient. The proportion of the variability in one series that can be explained by the variability of one or more other series a regression model. A measure of the quality of fit. 100% R-square means perfect predictability.

Standard Deviation: The square root of the variance. A measure of dispersion of a set of data from its mean.

Sharpe Ratio: A measure of a portfolio's excess return relative to the total variability of the portfolio.

Style Analysis: A returns-based analysis using a multi-factor attribution model. The model calculates a product's average exposure to particular investment styles over time (i.e., the product's normal style benchmark).

Top-down: Investment style that begins with an assessment of the overall economic environment and makes a general asset allocation decision regarding various sectors of the financial markets and various industries.

Tracking Error: The standard deviation of the difference between the performance of a portfolio and an appropriate benchmark.

Turnover: For mutual funds, a measure of trading activity during the previous year, expressed as a percentage of the average total assets of the fund. A turnover rate of 25% means that the value of trades represented one-fourth of the assets of the fund.

Value Stocks: Stocks with low price/book ratios or price/earnings ratios. Historically, value stocks have enjoyed higher average returns than growth stocks (stocks with high price/book or P/E ratios) in a variety of countries.

DEFINITION OF BENCHMARKS

BC Aggregate: an index comprised of approximately 6,000 publicly traded investment-grade bonds including U.S. Government, mortgage-backed, corporate, and yankee bonds with an approximate average maturity of 10 years.

BC High Yield: covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (e.g., Argentina, Brazil, Venezuela, etc.) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included. Original issue zeroes, step-up coupon structures, 144-As and pay-in-kind bonds (PIKs, as of October 1, 2009) are also included. Must be rated high-yield (Ba1/BB+ or lower) by at least two of the following ratings agencies: Moody's, S&P, Fitch. If only two of the three agencies rate the security, the lower rating is used to determine index eligibility. All issues must have at least one year to final maturity regardless of call features and have at least $150 million par amount outstanding.

BC Multiverse Non-US Hedged: provides a broad-based measure of the international fixed-income bond market. The index represents the union of the BC Global Aggregate Index and the BC Global High Yield Index. In this sense, the term “Multiverse” refers to the concept of multiple universes in a single macro index.

BC US Credit: includes publicly issued U.S. corporate and foreign debentures and secured notes that which are rated investment grade or higher by Moody’s Investor Services, Standard and Poor’s Corporation, or Fitch Investor’s Service, with all issues having at least one year to maturity and an outstanding par value of at least $250 million. Issues must be publicly issued, dollar-denominated and non-convertible.

BC US Government: includes treasuries (i.e., public obligations of the U.S. Treasury that have remaining maturities of more than one year) and agencies (i.e., publicly issued debt of U.S. Government agencies, quasi-federal corporations, and corporate or foreign debt guaranteed by the U.S. Government).

BC Universal: includes market coverage by the Aggregate Bond Index fixed rate debt issues, which are rated investment grade or higher by Moody’s Investor Services, Standard and Poor’s Corporation, or Fitch Investor’s Service, with all issues having at least one year to maturity and an outstanding par value of at least $100 million) and includes exposures to high yield CMBS securities. All returns are market value weighted inclusive of accrued interest.

Citigroup 3-Month Treasury Bills (T-bills): tracks the performance of U.S. Treasury bills with 3-month maturity.

MSCI ACWI x US ND: comprises both developed and emerging markets less the United States. As of August 2008, the index consisted of 23 counties classified as developed markets and 25 classified as emerging markets. This series approximates the minimum possible dividend reinvestment. The dividend is reinvested after deduction of withholding tax, applying the rate to non-resident individuals who do not benefit from double taxation treaties. MSCI Barra uses withholding tax rates applicable to Luxembourg holding companies, as Luxembourg applies the highest rates.

MSCI EAFE Free (Europe, Australasia, Far East) ND: is a free float-adjusted market capitalization index that is designed to measure developed market equity performance, excluding the US & Canada. This series approximates the minimum possible dividend reinvestment. The dividend is reinvested after deduction of withholding tax, applying the rate to non-resident individuals who do not benefit from double taxation treaties. MSCI Barra uses withholding tax rates applicable to Luxembourg holding companies, as Luxembourg applies the highest rates.

MSCI EM (Emerging Markets) GD: is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets. This series approximates the maximum possible dividend reinvestment. The amount reinvested is the entire dividend distributed to individuals resident in the country of the company, but does not include tax credits.

MSCI Europe is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of the developed markets in Europe. As of June 2007, this index consisted of the following 16 developed market country indices: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

MSCI Pacific is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of the developed markets in the Pacific region. As of June 2007, this index consisted of the following 5 Developed Market countries: Australia, Hong Kong, Japan, New Zealand, and Singapore.

NAREIT Index: consists of all tax-qualified REITs listed on the New York Stock Exchange, American Stock Exchange, and the NASDAQ National Market System. The data is market weighted.

NCREIF Property Index: the NPI contains investment-grade, non-agricultural, income-producing properties which may be financed in excess of 5% gross market value; were acquired on behalf of tax exempt institutions; and are held in a fiduciary environment. Returns are gross of fees; including income, realized gains/losses, and appreciation/depreciation; and are market value weighted. Index is lagged one quarter.

Russell 1000: measures the performance of the 1,000 largest securities in the Russell 3000 Index. Russell 1000 is highly correlated with the S&P 500 Index and capitalization-weighted.

Russell 1000 Growth: measures the performance of those Russell 1000 securities with a greater-than-average growth orientation. Securities in this index tend to exhibit higher price-to-book and price-earnings ratios, lower dividend yields and higher forecasted growth values than the Value universe.

Russell 1000 Value: measures the performance of those Russell 1000 securities with a less-than-average growth orientation. Securities in this index tend to exhibit lower price-to-book and price-earnings ratios, higher dividend yields and lower forecasted growth values than the Growth universe.

Russell 2000: measures the performance of the 2,000 smallest companies in the Russell 3000 Index, which represents approximately 8% of the total market capitalization of the Russell 3000 Index.

Russell 2000 Growth: measures the performance of those Russell 2000 securities with a greater-than-average growth orientation. Securities in this index tend to exhibit higher price-to-book and price-to-earnings ratios.

Russell 2000 Value: measures the performance of those Russell 2000 securities with a less-than-average growth orientation. Securities in this index tend to exhibit lower price-to-book and price-to-earnings ratios.

Russell 3000: represents the largest 3,000 US companies based on total market capitalization, representing approximately 98% of the investable US equity market.

RISK METRIC DESCRIPTION – Rationale for selection and calculation methodology

US Equity Markets
Metric: P/E ratio = Price / "Normalized" earnings for the S&P 500 Index

To represent the price of US equity markets, we have chosen the S&P 500 index. This index has the longest published history of price, is well known, and also has reliable, long-term, published quarterly earnings. The price=P of the P/E ratio is the current price of the market index (the average daily price of the most recent full month for the S&P 500 index). Equity markets are very volatile. Prices fluctuate significantly during normal times and extremely during periods of market stress or euphoria. Therefore, developing a measure of earnings power (E) which is stable is vitally important, if the measure is to provide insight. While equity prices can and do double, or get cut in half, real earnings power does not change nearly as much. Therefore, we have selected a well known measure of real, stable earnings power developed by Yale Professor Robert Shiller known as the Shiller E-10. The calculation of E-10 is simply the average real annual earnings over the past 10 years. Over 10 years, the earnings shenanigans and boom and bust levels of earnings tend to even out (and often times get restated). Therefore, this earnings statistic gives a reasonably stable, slow-to-change estimate of average real earnings power for the index. Professor Shiller's data and calculation of the E-10 are available on his website at http://www.econ.yale.edu/~shiller/data.htm. We have used his data as the base for our calculations. Details of the theoretical justification behind the measure can be found in his book *Irrational Exuberance* [Princeton University Press 2000, Broadway Books 2001, 2nd ed., 2005].

Developed Equity Markets Excluding the US
Metric: P/E ratio = Price / "Normalized" earnings for the MSCI EAFE Index

To represent the price of non-US developed equity markets, we have chosen the MSCI EAFE index. This index has the longest published history of price for non-US developed equities. The price=P of the P/E ratio is the current price of the market index (the average daily price of the most recent full month for the MSCI EAFE index). The price level of this index is available starting in December 1969. Again, for the reasons described above, we elected to use the Shiller E-10 as our measure of earnings (E). Since 12/1972, a monthly price earnings ratio is available from MSCI. Using this quoted ratio, we have backed out the implied trailing-twelve month earnings of the EAFE index for each month from 12/1972 to the present. These annualized earnings are then inflation adjusted using CPI-U to represent real earnings in US dollar terms for each time period. The Shiller E-10 for the EAFE index (10 year average real earnings) is calculated in the same manner as detailed above.

However, we do not believe that the pricing and earnings history of the EAFE markets are long enough to be a reliable representation of pricing history for developed market equities outside of the US. Therefore, in constructing the Long-Term Average Historical P/E for developed ex-US equities for comparison purposes, we have elected to use the US equity market as a developed market proxy, from 1881 to 1982. This lowers the Long-Term Average Historical P/E considerably. We believe this methodology provides a more realistic historical comparison for a market with a relatively short history.

Emerging Market Equity Markets
Metric: Ratio of Emerging Market P/E Ratio to Developed Market P/E Ratio

To represent the Emerging Markets P/E Ratio, we have chosen the MSCI Emerging Market Free Index, which has P/E data back to January 1995 on Bloomberg. To represent the Developed Markets PE Ratio, we have chosen the MSCI World Index, which also has data back to January 1995 on Bloomberg. Although there are issues with published, single time period P/E ratios, in which the denominator effect can cause large movements, we feel that the information contained in such movements will alert investors to market activity that they will want to interpret.

US Private Equity Markets
Metrics: S&P LCD Average EBITDA Multiples Paid in LBOs and US Quarterly Deal Volume

The Average Purchase Price to EBITDA multiples paid in LBOs is published quarterly by S&P in their LCD study. This is the total price paid (both equity and debt) over the trailing-twelve month EBITDA (earnings before interest, taxes, depreciation and amortization) as calculated by S&P LCD. This is the relevant, high-level pricing metric that private equity managers use in assessing deals. Data is published monthly.

US quarterly deal volume for private equity is the total deal volume in $ billions (both equity and debt) reported in the quarter by Thomson Reuters Buyouts. This metric gives a measure of the level of activity in the market. Data is published quarterly.

US Private Real Estate Markets
Metrics: US Cap Rates, Cap Rate Spreads, and Transactions as a % of Market Value

Real estate cap rates are a measure of the price paid in the market to acquire properties versus their annualized income generation before financing costs (NOI=net operating income). The data, published by NCREIF, describes completed and leased properties (core) on an unleveraged basis. We chose to use current value cap rates. These are capitalization rates from properties that were revalued during the quarter. This data relies on estimates of value and therefore tends to be lagging (estimated prices are slower to rise and slower to fall than transaction prices). The data is published quarterly.

Spreads between the cap rate (described above) and the 10-year nominal Treasury yield, indicate a measure of the cost of properties versus a current measure of the cost of financing.

Transactions as a % of Market Value Trailing-Four Quarters is a measure of property turnover activity in the NCREIF Universe. This quarterly metric is a measure of activity in the market.

Credit Markets Fixed Income
Metric: Spreads

The absolute level of spreads over treasuries and spread trends (widening / narrowing) are good indicators of credit risk in the fixed income markets. Spreads incorporate estimates of future default, but can also be driven by technical dislocations in the fixed income markets. Abnormally narrow spreads (relative to historical levels) indicate higher levels of valuation risk, wide spreads indicate lower levels of valuation risk and / or elevated default fears. Investment grade bond spreads are represented by the Barclays Capital US Corporate Investment Grade Index Intermediate Component. The high yield corporate bond spreads are represented by the Barclays Capital US Corporate High Yield Index.

Measure of Equity Market Fear / Uncertainty
Metric: VIX – Measure of implied option volatility for US equity markets

The VIX is a key measure of near-term volatility conveyed by implied volatility of S&P 500 index option prices. VIX increases with uncertainty and fear. Stocks and the VIX are negatively correlated. Volatility tends to spike when equity markets fall.

Measure of Monetary Policy
Metric: Yield Curve Slope

We calculate the yield curve slope as the 10 year treasury yield minus the 1 year treasury yield. When the yield curve slope is zero or negative, this is a signal to pay attention. A negative yield curve slope signals lower rates in the future, caused by a contraction in economic activity. Recessions are typically preceded by an inverted (negatively sloped) yield curve. A very steep yield curve (2 or greater) indicates a large difference between shorter-term interest rates (the 1 year rate) and longer-term rates (the 10 year rate). This can signal expansion in economic activity in the future, or merely higher future interest rates.

Measures of US Inflation Expectations
Metrics: Breakeven Inflation and Inflation Adjusted Commodity Prices

Inflation is a very important indicator impacting all assets and financial instruments. Breakeven inflation is calculated as the 10 year nominal treasury yield minus the 10 year real yield on US TIPS (treasury inflation protected securities). Abnormally low long-term inflation expectations are indicative of deflationary fears. A rapid rise in breakeven inflation indicates an acceleration in inflationary expectations as market participants sell nominal treasuries and buy TIPs. If breakeven inflation continues to rise quarter over quarter, this is a signal of inflationary worries rising, which may cause Fed action and / or dollar decline.

Commodity price movement (above the rate of inflation) is an indication of anticipated inflation caused by real global economic activity putting pressure on resource prices. We calculate this metric by adjusted in the Dow Jones UBS Commodity Index (formerly Dow Jones AIG Commodity Index) by US CPI-U. While rising commodity prices will not necessarily translate to higher US inflation, higher US inflation will likely show up in higher commodity prices, particularly if world economic activity is robust.

These two measures of anticipated inflation can, and often are, conflicting.

Measures of US Treasury Bond Interest Rate Risk
Metrics: 10-Year Treasury Forward-Looking Real Yield and 10-Year Treasury Duration

The expected annualized real yield of the 10 year US Treasury Bond is a measure of valuation risk for US Treasuries. A low real yield means investors will accept a low rate of expected return for the certainly of receiving their nominal cash flows. PCA estimates the expected annualized real yield by subtracting an estimate of expected 10 year inflation (produced by the Survey of Professional Forecasters as collected by the Federal Reserve Bank of Philadelphia), from the 10 year Treasury constant maturity interest rate.

Duration for the 10-Year Treasury Bond is calculated based on the current yield and a price of 100. This is a measure of expected percentage movements in the price of the bond based on small movements in percentage yield. We make no attempt to account for convexity.

Definition of "Extreme" Metric Readings
A metric reading is defined as "extreme" if the metric reading is in the top or bottom decile of its historical readings. These "extreme" reading should cause the reader to pay attention. These metrics have reverted toward their mean values in the past.

What is the PCA Market Sentiment Indicator (PMSI)?

The PMSI is a measure meant to gauge the market's sentiment regarding economic growth risk. Growth risk cuts across most financial assets, and is the largest risk exposure that most portfolios bear. The PMSI takes into account the momentum12 (trend over time, positive or negative) of the economic growth risk exposure of publicly traded stocks and bonds, as a signal of the future direction of growth risk returns; either positive (risk seeking market sentiment), or negative (risk averse market sentiment).

How do I read the PCA Market Sentiment Indicator (PMSI) graph?

Simply put, the PMSI is a color coded indicator that signals the market's sentiment regarding economic growth risk. It is read left to right chronologically. A green indicator on the PMSI indicates that the market's sentiment towards growth risk is positive. A gray indicator indicates that the market's sentiment towards growth risk is neutral or inconclusive. A red indicator indicates that the market's sentiment towards growth risk is negative. The black line on the graph is the level of the PMSI. The degree of the signal above or below the neutral reading is an indication the signal's current strength.

How is the PCA Market Sentiment Indicator (PMSI) Constructed?

The PMSI is constructed from two sub-elements representing investor sentiment in stocks and bonds:

1. Stock return momentum: Return momentum for the S&P 500 Equity Index (trailing 12-months)
2. Bond yield spread momentum: Momentum of bond yield spreads (excess of the measured bond yield over the identical duration U.S. Treasury bond yield) for corporate bonds (trailing 12-months) for both investment grade bonds (75% weight) and high yield bonds (25% weight). The scale of this measure is adjusted to match that of the stock return momentum measure.

The black line reading on the graph is calculated as the average of the stock return momentum measure and the bonds spread momentum measure. The color reading on the graph is determined as follows:

1. If both stock return momentum and bond spread momentum are positive = GREEN (positive)
2. If one of the momentum indicators is positive, and the other negative = GRAY (inconclusive)
3. If both stock return momentum and bond spread momentum are negative = RED (negative)

What does the PCA Market Sentiment Indicator (PMSI) mean? Why might it be useful?

There is strong evidence that time series momentum is significant and persistent.[13] In particular, across an extensive array of asset classes, the sign of the trailing 12-month return (positive or negative) is indicative of future returns (positive or negative) over the next 12 month period. The PMSI is constructed to measure this momentum in stocks and corporate bond spreads. A reading of green or red is agreement of both the equity and bond measures, indicating that it is likely that this trend (positive or negative) will continue over the next 12 months. When the measures disagree, the indicator turns gray. A gray reading does not necessarily mean a new trend is occurring, as the indicator may move back to green, or into the red from there. The level of the reading (black line) and the number of months at the red or green reading, gives the user additional information on which to form an opinion, and potentially take action.

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[12] Momentum is defined as the persistence of relative performance. There is a significant amount of academic evidence indicating that positive momentum (e.g., strong performing stocks over the recent past continue to post strong performance into the near future) exists over near-to-intermediate holding periods. See, for example, "Understanding Momentum," *Financial Analysts Journal*, Scowcroft, Sefton, March, 2005.

[13] "Time Series Momentum" Moskowitz, Ooi, Pedersen, August 2010 http://pages.stern.nyu.edu/~lpederse/papers/TimeSeriesMomentum.pdf

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: March 21, 2013

MEMO TO: Retirement Board

FROM: Eric Sandler, Director of Finance

SUBJECT: Timberland and other energy/natural resource investment options.

At a previous Retirement Board meeting, a Board member requested Pension Consulting Alliance (PCA) to provide educational information on timberland investments and other energy/natural resource investment options.

The attached presentation from PCA provides specific information on timberland investment options as well as more general information on Master Limited Partnerships (MLP). MLP's are publically traded partnerships that own and operate assets in the energy and natural resource sectors.

Staff from PCA will be at the Board meeting to review the attached presentation.

Attachment

ES:WH

W:\shared\treausry\retirement board\Timberland&MLP Investments

Introduction to Timberland & Master Limited Partnerships

East Bay Municipal Utility District

Introduction to Timberland & MLP Investments

This education piece is the result of Board member Mellon's request for education on the two asset classes.

Director Mellon's interest in Timberland investments was in part sparked by Harvard's endowment's success in their Timberland investments.

- Businessweek recently published an article "Can Timber Rebuild Harvard's Endowment" that spotlighted Harvard's timberland investments

The Businessweek article highlighted Harvard's U.S. and International Timberland investments.

- Currently 10% of Harvard's endowment is in natural resources, including timber – approximately $3 billion
- Directly buys land in and outside the US
- Over the past decade, Harvard's natural resource investments have earned an average return of 13% per year

http://www.businessweek.com/articles/2012-09-20/can-timber-rebuild-harvards-endowment#p1

Timberland

Timberland – Introduction

- Timberland has the potential to enhance portfolio performance but also adds a unique set of risks:

Benefits

- Has a low correlation to equities
- Offers inflation protection
- Biological growth provides unique return characteristics
- Ownership shifted from industrial to financial investors

Risks

- Opaque and illiquid market
- Private Partnership
- 10 to 15 year investment cycle increases risks
- No investable index
- Regional / idiosyncratic risk
- Large investment minimums to access institutional quality managers

Timberland – Introduction

- Timberland Investment is the acquisition and management of a forest asset for the purpose of producing a financial return.

- Traditionally, a large percentage of non-government timberlands has been owned by large integrated forest products companies.

- Over the last 30 years, a fundamental change has occurred in the ownership of a significant part of these commercial timberlands. Institutional investors, have purchased large tracts of timberlands. These investors, in turn, sell harvested logs back to the forest products companies. This frees up significant capital for the forest product companies.

- These investments have generally been made through private equity investments in limited partnerships, commingled funds, and fund-of-funds. This trend is expected to accelerate as more forest products companies sell portions of their timberland in order to focus on their core business of forest product development and production.

Timberland – Rationale

- One of the most compelling reasons for including timberland investment in a long-term institutional portfolio is the ability to enhance the risk/return characteristics of the total portfolio.
- Timberland has a low correlation to other major asset classes, including stocks and bonds.
- Timberland has a high correlation to inflation.
- Creates a new return driver for the total portfolio – Biological Growth

Timberland – Risk and Return

20-year Average Risk and Return

Asset Class	Index	Annualized Return	Standard Deviation	Sharpe Ratio
Timberland	NCREIF Timberland	11.0%	7.9%	0.95
Equities	S&P 500	8.2%	15.1%	0.39
Real Estate	NCREIF	8.6%	2.7%	1.98
Fixed Income	BC Aggregate	6.3%	3.7%	0.84
Commodities	DJ UBS	5.4%	15.6%	0.21

- Timberland has exhibited high risk adjusted returns
  - Returns may moderate going forward due to increased competition for assets
  - Standard deviation likely understated given appraisal valuation method

Timberland – Correlation

Timberland Returns Correlation Matrix

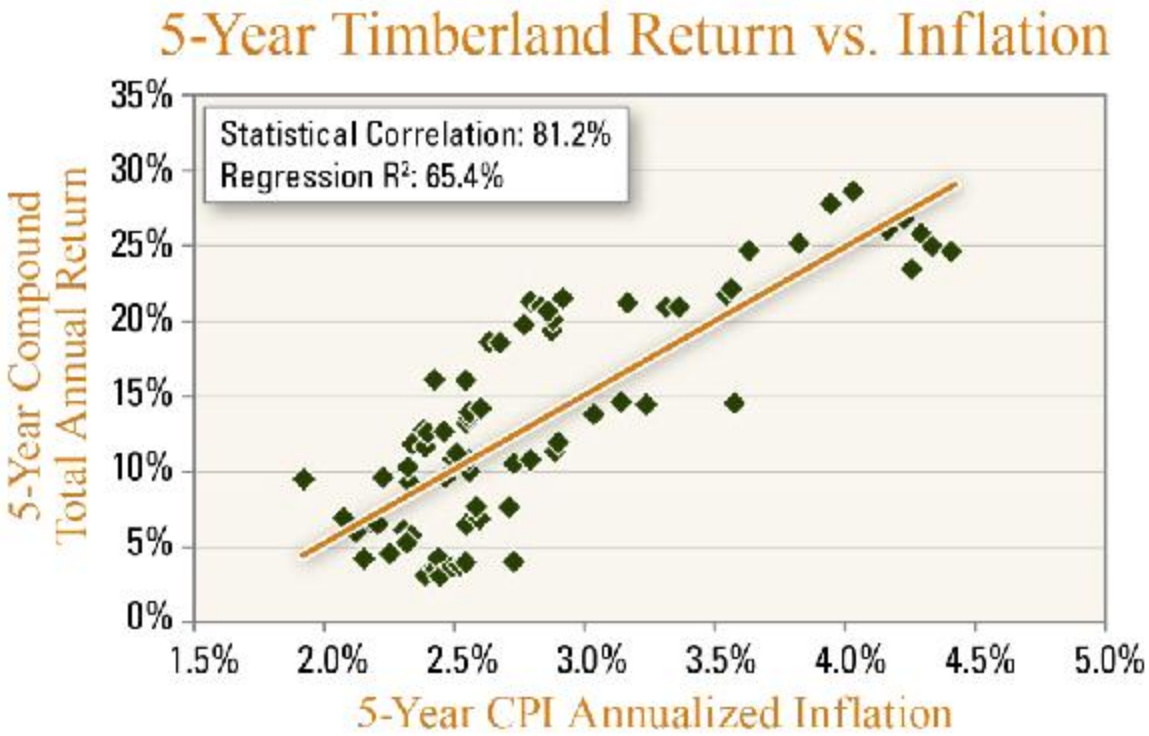
(1970-2010)

	Timberland*	Core Real Estate**	EAFE	S&P 500	Core Fixed***
Timberland*	1.00				
Core Real Estate**	0.02	1.00			
EAFE	-0.08	0.19	1.00		
S&P 500	-0.17	0.12	0.66	1.00	
Core Fixed***	-0.43	-0.15	0.11	0.39	1.00

*Timberland returns: NCREIF Timberland Index from 1987-2010 , JH Timberland Index from 1970-1986
**Core Real Estate: NCREIF Property Index from 1978-2010, modeled returns prior to 1978
***Core Fixed: Barclays Capital Universal Index

- Timberland returns exhibit low to negative correlations with other asset classes making timberland a good diversifier.

Timberland – Inflation Hedge



- Timberland returns are positively correlated with changes in CPI making timberland a good inflation hedge.

Source: Timberland Investment Recourses

Timberland – Investment Vehicles

Investment Vehicle	Control & Flexibility	Liquidity	Typical Investor	Comments
Direct Investment - Self purchase and management of timberland	Highest	Low	Investor with in-house forestry expertise (Harvard)	Large commitment with dedicated staff
Timberland Investment Management Org - Account with a timberland manager (separate account)	High	Low	Large capital, willingness to make Private Equity direct investments	Tailored portfolio. Manager idiosyncratic risk
Commingled Account - Pooled assets with a timberland manager	Low	Limited	Investors with moderate capital or desires broad diversification	Limited control of assets. Pooled fund allows for greater diversification
Fund-of-Funds - Diversified in variety of funds	Very Limited	Limited	Investor with small capital and desire for minimal risks	Low maintenance with high diversification. Additional layer of fees

Source: Timberland Investment Recourses

Timberland – Risks

- Opaque and illiquid market
  - Despite growth, timberland is still a relatively new asset class with few transactions
  - Appraisal Valuation Method – assets are valued annually using third party appraisals
- Private investment class
  - Private equity structure
  - High separate account minimums
- 10 to 15 year investment cycle increases risks
  - Long lockup periods – 10+ years
- No investable index
- Large minimum investment
  - $10+ millions needed for institutional quality asset manager
- Regional / idiosyncratic risk
  - Manager risk similar to other PE investments

Timberland – Conclusions

- Timberland may offer many desirable attributes to an institutional portfolio:
  - Strong historical risk and return dynamic
  - Low correlation offers diversification benefits
  - Biological growth offers unique return attributes
  - Hedge against inflation

- However, Timberland also subjects investors to many unique risks:
  - Private Equity structure
  - Long lockup periods – illiquidity
  - Idiosyncratic risk
  - Future returns might not resemble past performance
  - Large required minimum allocation

Master Limited Partnerships

MLPs




MLPs – Introduction

- MLPs have the potential to enhance portfolio performance, but also add a unique set of risks:

Benefits

- Generate high free cash flows paid out quarterly to investors
- Offers inflation protection
- Low correlation to traditional asset classes
- MLPs allow for pass-through income – not subject to corporate taxes
- Liquid and transparent – publicly traded

Risks

- Regulatory risk
- Unrelated Business Taxable Income
- Concentration risk – limited number of MLPs
- Limited rights to vote on matters affecting the MLP
- Commodity risk

MLPs – Introduction

- MLPs are publicly traded partnerships that own and operate assets in the energy and natural resource sectors which are pass-through entities and not required to pay corporate-level taxes

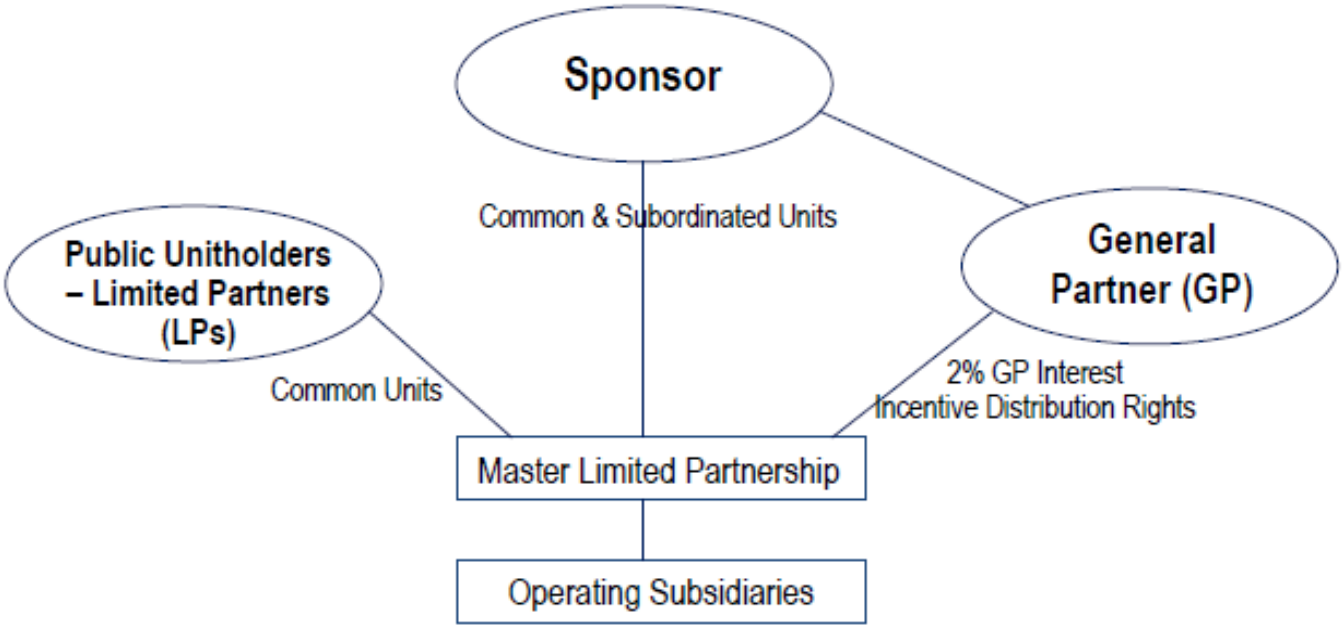
- MLPs are required to generate at least 90% of its income from “qualified sources”
  - Qualified income is generated through activities related to the exploration and production, development, mining, processing, refining, transportation, storage, or marketing of minerals or natural resources

- MLPs are publically traded similarly to common stocks

- MLPs operate capital-intensive businesses that typically generate revenue streams at either fixed (with annual inflation-linked increases) or federally regulated rates

MLPs – Introduction

Typical Partnership Structure

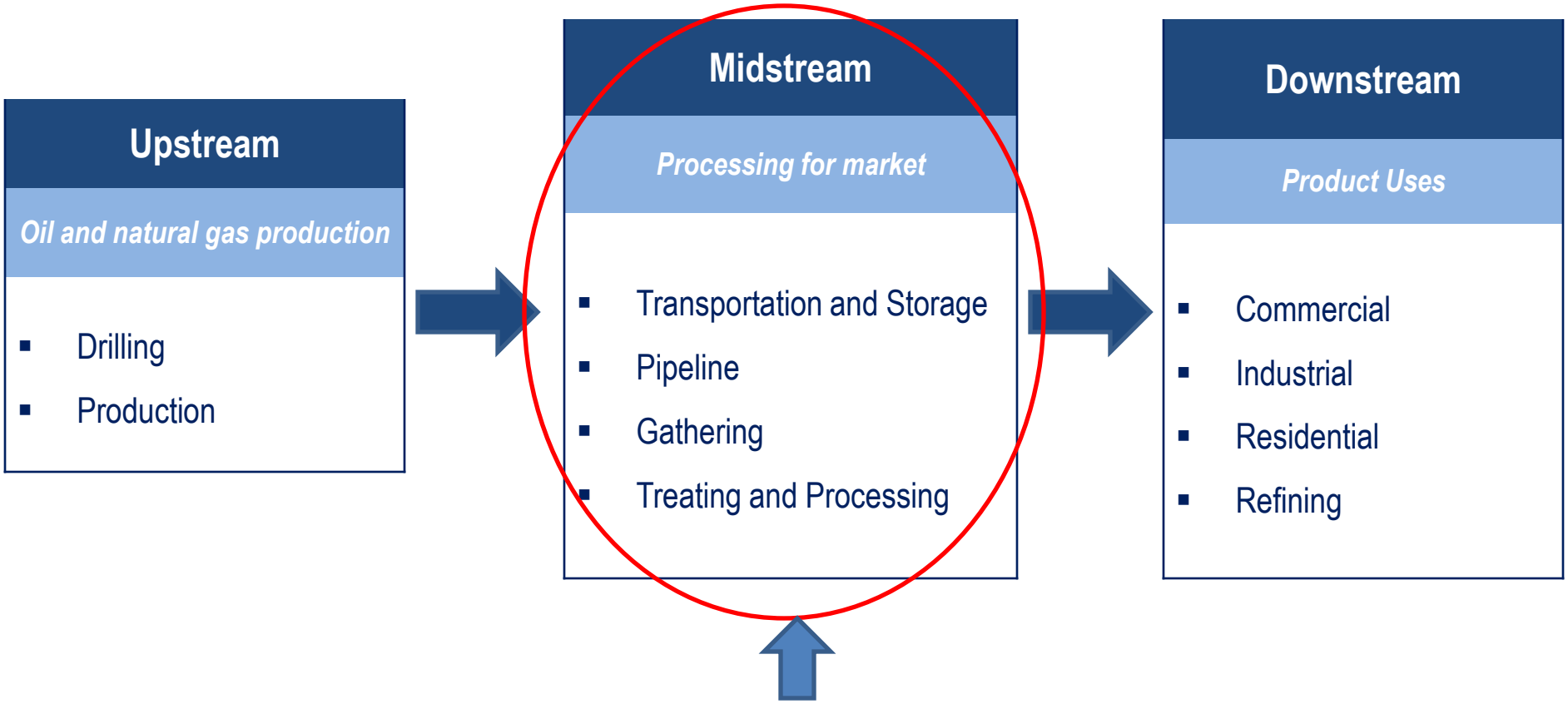


- Ownership Structure - General Partner: 2%, Limited Partner: Remaining 98%
- The GP has full management responsibility and owns the Incentive Distribution Rights. The LPs provide capital but have no role in daily operations or voting rights.
- GP provides quarterly cash distributions to LPs

Source: J.P. Morgan , Morgan Stanley

MLPs – Introduction

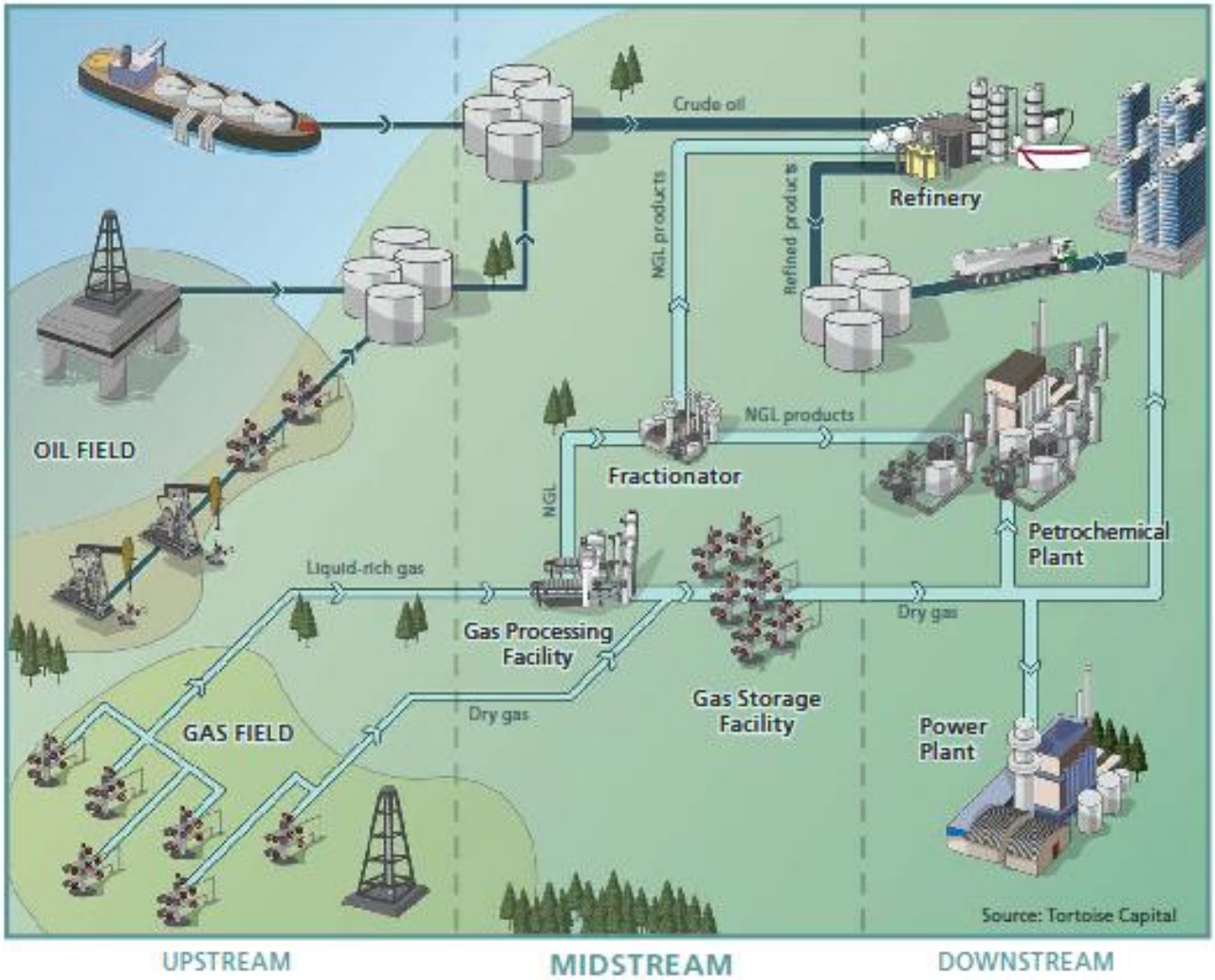
Energy Supply Chain



Focus of MLPs is in the Midstream segment of the energy supply chain

MLPs – Introduction

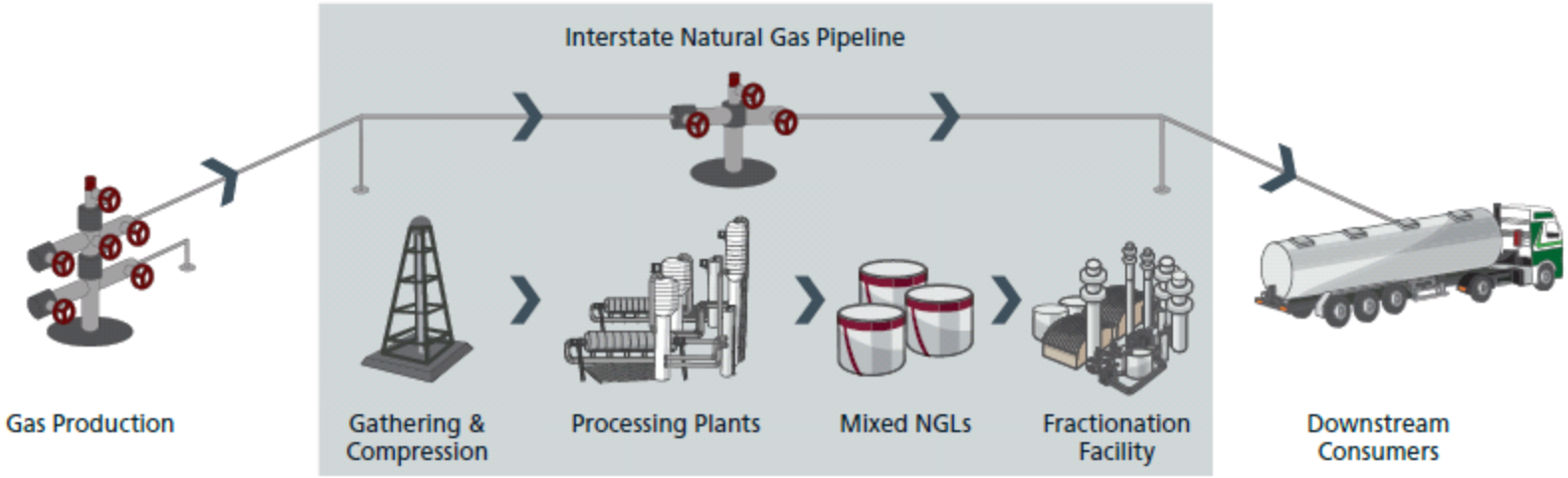
Energy Supply Chain



Source: Tortoise

MLPs – Introduction

- MLPs are publicly traded companies operating essential as energy toll roads



Traditional Midstream MLP Portion of Value Chain

- MLP investments are usually focused on Midstream MLPs
- Midstream MLPs usually have steady, recurring, fee-based cash flows with limited direct commodity price exposure

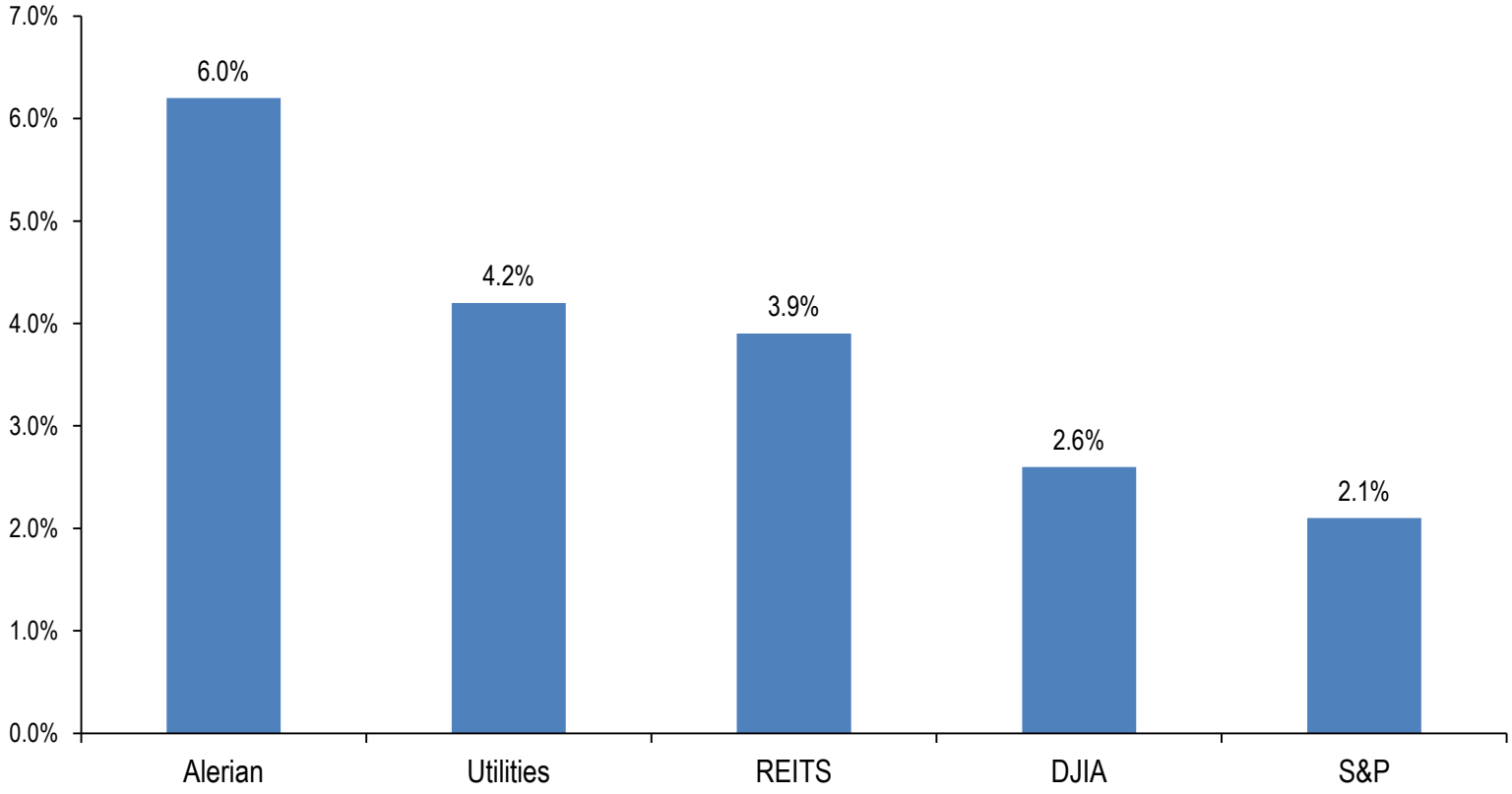
Source: Tortoise

MLPs – Rationale

- Publicly traded – Alerian MLP Index
- Attractive risk-adjusted return potential
- Attractive yield among income oriented vehicles
- Stable and predictable cash flows (fee-based revenue model)
- Hedge against inflation
- Low correlation to other asset classes
- Long-term, non-cyclical assets with limited exposure to commodities
- Monopolistic asset

MLPs – Rationale

Current Yields Comparison



- MLPs offer high current yields

Source: Alerian.com

MLPs – Risk and Return

17-year Average Risk and Return

Alerian Inception – January 1996

Asset Class	Index	Annualized Return	Standard Deviation	Sharpe Ratio
MLPs	Alerian	15.9%	15.6%	0.84
Equities	S&P 500	7.0%	16.0%	0.32
Real Estate	NCREIF	9.5%	2.9%	2.16
Fixed Income	BC Aggregate	6.0%	3.5%	0.85
Commodities	DJ UBS	4.6%	16.6%	0.18

- MLPs have exhibited high risk-adjusted returns
  - Risk similar to equities
  - Returns may moderate going forward due to increased competition

MLPs – Correlation

MLP Returns Correlation Matrix

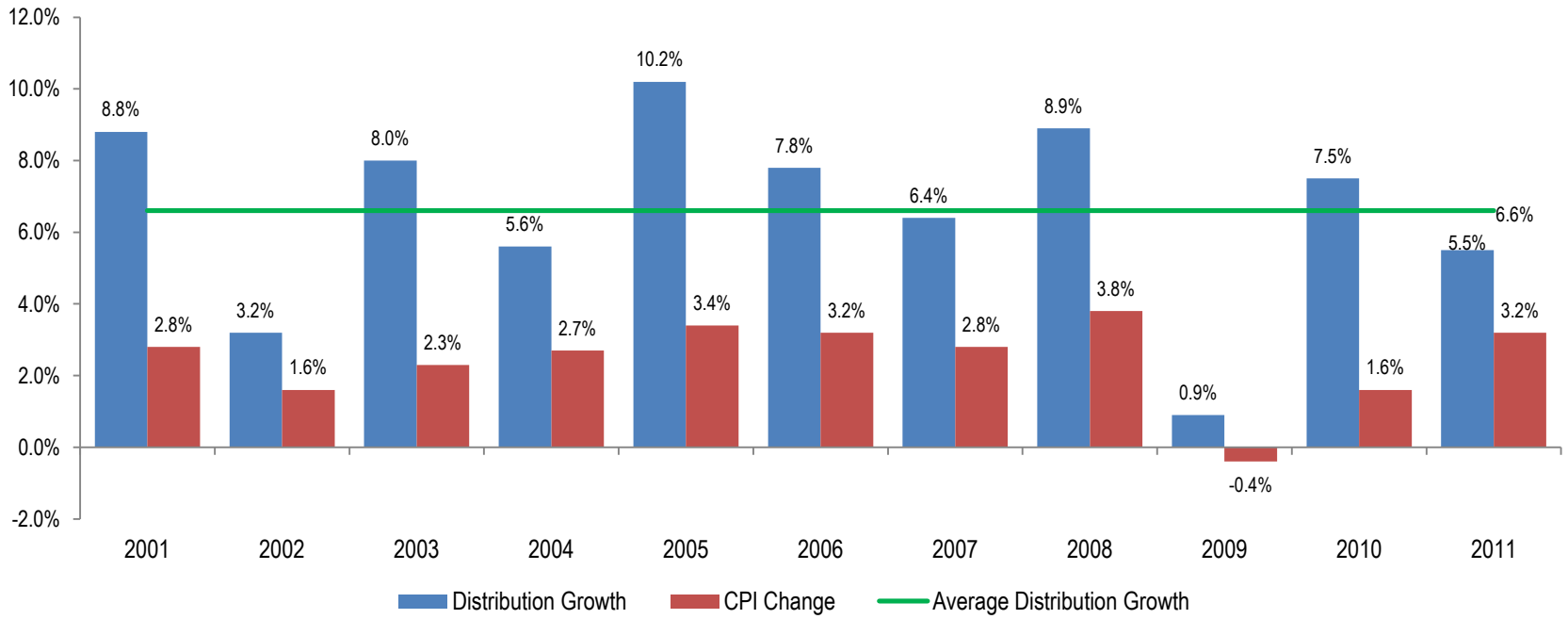
(1996-2012)

	Alerian	NCREIF	DJ UBS	S&P 500	BC Aggregate
Alerian	1.00				
NCREIF	0.01	1.00			
DJ UBS	0.35	0.15	1.00		
S&P 500	0.38	0.14	0.34	1.00	
BC Aggregate	0.03	-0.05	0.04	-0.02	1.00

- MLP returns exhibit low to negative correlations (<40) with other asset classes making MLPs a good diversifier

MLPs – Inflation Hedge

Distribution Growth and Expected Return Forecasts



- MLP distribution growth has historically been more than two times the rate of inflation[1]
  - MLP contracts usually contain CPI adjustment factors
- MLP current yield at 6.0% and future distribution growth estimates are between 6% to 8%[2]
- Target Return: Current Yield + Distribution Growth

1. Salient Capital Advisors, LLC, April 2012.
2. Alerian.com, Tortoise Capital Advisors

MLPs – Risks

- Regulatory risk
  - Regulators may change the tax status of MLPs or impose new legislation detrimental to MLPs
- Unrelated Business Taxable Income
- Concentration risk
  - Limited number of MLPs – limits diversification
  - Industry dominated by a few large companies similar to REITs
- Limited rights to vote on matters affecting the MLP
  - LPs do not have same voting rights as common stock holders
- Commodity risk
  - Some MLPs are exposed to commodity prices
  - Most MLPs are exposed to commodity usage

MLPs – Tax Considerations for Institutional Investors

- MLP investments may produce Unrelated Business Taxable Income (UBTI) for institutional investors:
  - According to the IRS, "if an exempt organization regularly carries on a trade or business not substantially related to its exempt purpose…the organization is subject to tax on its income from that unrelated trade or business."
  - Each of these terms are defined by the IRS, as are possible exemptions.

- Investing in an MLP means the exempt entity is now a partner engaged in operating a business, and therefore subject to UBTI law
  - i.e. The 'organization' (pension, endowment) is engaging in an 'unrelated business' (oil transportation or refining)
  - The income or loss earned by the MLP likely will be largely treated as UBTI

- MLP managers can take steps to avoid the UBTI
  - C-corporation, Group Variable Annuity
  - Formal legal advice should be sought

MLPs – Conclusions

- MLPs may offer many desirable attributes to an institutional portfolio:
  - Strong historical risk and return dynamic
  - Low correlation offers diversification benefits
  - High current yields
  - Hedge against inflation

- However, MLPs also subjects investors to many unique risks:
  - Regulatory risk
  - Unrelated Business Taxable Income
  - Concentration risk
  - Commodity risk
  - Future returns might not resemble past performance

SEGAL

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March 10, 2008

Mr. Gary Breaux
Director of Finance
East Bay Municipal Utility District
375 Eleventh Street
Oakland, CA 94607-4240

Re: Follow-up Items to the June 30, 2007 Actuarial Valuation

Dear Gary:

This letter is in regards to the follow-up items to the June 30, 2007 actuarial valuation requested by the Board at their January 17 meeting. The items addressed herein are as follows:

1. **Health Insurance Benefit (HIB):** We are providing the costs associated with a $50 per month increase in the current benefit.

2. **Elimination of the 415 Limit:** We are providing the employer rate based on an alternative schedule of the phase-in of the cost to remove the 415 limits on pensionable earnings and retirement benefits.

3. **Returns on Pension Assets vs. HIB Assets:** We have calculated the rate of return on Market and Actuarial Value of Assets separately for pension assets vs. HIB assets.

4. **Breakdown of the $14.9M Experience Loss:** We are providing a breakdown of the $14.9M experience loss from other sources in the pension plan into components.

Each of these items is discussed below.

Health Insurance Benefit (HIB)

The current maximum HIB amounts are $450 per month for single retirees and $550 per month for married retirees and retirees with qualified, financially dependent registered domestic partners. We have determined the costs associated with increasing both of these amounts by $50 per month. These costs, shown on the following page, are calculated based on the same actuarial assumptions used in the June 30, 2007 HIB valuation.

Health Insurance Benefit Costs as of June 30, 2007			
	Current Plan	**$50 Monthly Increase to Current Plan**	**Additional Cost**
Valuation Value of Assets	$ 4,208,061	$ 4,208,061	$ 0
Actuarial Accrued Liabilities			
Current Recipients	$ 45,576,005	$ 49,369,490	$ 3,793,485
Future Recipients	30,267,525	33,197,547	2,930,022
Total	$ 75,843,530	$ 82,567,037	$ 6,723,507
Surplus/(Deficient) Assets	$ (71,635,469)	$ (78,358,976)	$ (6,723,507)
Funding Ratio	5.5%	5.1%	(0.4)%
Employer Contribution Rate			
Normal Cost	0.86%	0.95%	0.09%
UAAL	3.12%	3.39%	0.27%
Total	3.98%	4.34%	0.36%

In determining the above employer rates, we have assumed the current employee rate of 0.09% applies before and after the $50 increase in monthly benefit.

Below we show required information on a Projected Benefit Obligation basis, separately for the HIB plan and on a combined basis with the pension plan.

Health Insurance Benefit Costs as of June 30, 2007 ($ in 000s)			
	Current Plan	**$50 Monthly Increase to Current Plan**	**Additional Cost**
Market Value of Assets			
A. Retirement and HIB	$ 911,104	$ 911,104	$ 0
B. Retirement	$ 906,492	$ 906,492	$ 0
C. Health Insurance Benefits	$ 4,612	$ 4,612	$ 0
Projected Benefit Obligation			
A. Retirement and HIB	$ 1,160,325	$ 1,167,666	$ 7,341
B. Funded Ratio*	78.5%	78.0%	(0.5)%
C. Retirement	$ 1,078,090	$ 1,078,090	$ 0
D. Funded Ratio*	84.1%	84.1%	0.0%
E. Health Insurance Benefits	$ 82,235	$ 89,576	$ 7,341
F. Funded Ratio*	5.6%	5.1%	(0.5)%

* Based on market value of assets.

Elimination of the 415 Limit

Original Schedule

We provided a handout at the January 17 Board meeting that showed the original rate phase-in schedule for the cost of removing the 415 limits on pensionable earnings and retirement benefits, as developed by the prior actuary. That schedule was as follows:

	Original Rate Phase-In Schedule *	
Valuation Date	**Additional Rate**	**Accumulated Phase-In**
June 30, 2005	0.60%	0.60%
June 30, 2006	0.60%	1.20%
June 30, 2007	0.60%	1.80%
June 30, 2008	0.60%	2.40%
June 30, 2009	1.82%	4.22%

* Developed by the prior actuary. The schedule was initially established in the June 30, 2005 valuation.

Since this is the third year of the five year phase-in, the aggregate employer rate shown on page 12 of our June 30, 2007 valuation report ("with phase-in of 415 limit") was increased by 1.80% of pay.

Revised Schedule

We noted in our June 30, 2007 valuation report (see page ii) that "the cost to remove the 415 limits on pensionable earnings and retirement benefits has been remeasured with updated membership data since the June 30, 2005 valuation. The (re-measured) total cost was 4.62% in the June 30, 2006 valuation and 4.96% in the June 30, 2007 valuation. The actual cost to remove the 415 limits determined in the June 30, 2009 valuation will be used in lieu of the 4.22% in determining the cost increase required for the last year of the phase-in rate."

Based on the 0.74% difference between the 4.96% and 4.22% rates, our handout showed the following revised rate phase-in schedule, starting with the current valuation date:

Valuation Date	Revised Rate Phase-In Schedule*	
	Additional Rate	Accumulated Phase-In
June 30, 2007	0.60%	1.80%
June 30, 2008	0.60%	2.40%
June 30, 2009	2.56%**	4.96%***

* Developed by Segal, based on the results of the June 30, 2007 valuation.

** Equals 4.96% minus 4.22% plus 1.82%.

*** This assumes no change in District rate from June 30, 2007 to June 30, 2009 due to the elimination of the 415 Limit.

This revised schedule had no effect on the June 30, 2007 phase-in employer rate. It was provided to alert the Board of a possible increase in the rate starting with the June 30, 2009 valuation. If the Board chooses to fund the additional rate of 0.74% starting with the June 30, 2009 valuation, then the rates shown on page 12 of our report can be adopted for June 30, 2007 (effective fiscal 2008/2009).

Alternative Schedule

We provided an alternative schedule in our handout at the January 17 Board meeting in case the Board chooses to begin funding the additional 0.74% before June 30, 2009. This alternative schedule keeps the additional rate to be added in the fifth year (i.e., the June 30, 2009 valuation) the same 1.82% as in the original schedule. Under this alternative schedule, the rate increases for each of the two interim valuations as of June 30, 2007 and June 30, 2008 will be increased from the current 0.60% by one-half of the 0.74%, for a total of 0.97% each.

The alternative rate phase-in schedule is as follows:

Valuation Date	Alternative Rate Phase-In Schedule *	
	Additional Rate	Accumulated Phase-In
June 30, 2007	0.97%	2.17%
June 30, 2008	0.97%	3.14%
June 30, 2009	1.82%	4.96% **

* Developed by Segal, based on the results of the June 30, 2007 valuation.

** This assumes no change in District rate from June 30, 2007 to June 30, 2009 due to the elimination of the 415 Limit.

The original contribution rate page from our June 30, 2007 valuation report (see page 12), adjusted to reflect the alternative phase-in schedule described above, is attached to this letter and is relabeled as page "12(a)."

Returns on Pension Assets vs. HIB Assets

In the June 30, 2007 valuation, we continued the prior actuary's practice of developing the Actuarial Value of Assets (AVA) for the pension and HIB plans by first developing the AVA for the combined pension and HIB plans, then splitting the total AVA into pension and HIB components based on the breakdown of the Market Value of Assets (MVA) between the two plans, as determined by EBMUD.

The Board asked whether this practice may distort the AVA for each of the pension and HIB plans. To answer this question, we compared the rates of return on the MVA and AVA assets on a combined and stand-alone basis for each of the last two years, calculated using the above method.

Here are the results of our calculations:

Investment Return – Pension Assets vs. HIB Assets			
	Pension	**HIB**	**Combined**
Year Ended 6/30/2007			
Market Value	18.97%	16.01%	18.95%
Actuarial Value	11.33%	8.13%	11.31%
Year Ended 6/30/2006			
Market Value	9.55%	8.79%	9.55%
Actuarial Value	6.52%	5.78%	6.52%

While we expect the Market Value returns to be comparable for the stand-alone and the combined plans, the actual returns have not been the same for the last two years. Since the Actuarial Value returns are derived from the Market Value returns, we recommend that the next step should be for your Retirement Staff to research how the Market Value of Assets are split between the two plans and confirm that the market value returns will not necessarily be the same for both plans based on EBMUD's accounting methods.

Breakdown of the $14.9M Experience Loss

The Board requested that we provide a breakdown of the $14.9M experience loss from other sources (shown on page 7 of our pension valuation report) into major components. We have identified the following sources of the loss:

Actuarial Experience for Year Ended June 30, 2007	
Net Loss from Other Experience due to:	
1. Higher than Expected Salary Increases	$ 2,754,486
2. Continuation of Prior Actuary's Practice*	4,530,473
3. Difference in Methods and Procedures	3,581,557
4. Miscellaneous Sources	4,061,698
Total	$ 14,928,214
* Regarding calculation of expected liabilities.	

Each of these four items is discussed below.

Item 1: Higher than Expected Salary Increases

The average age of continuing active members was 49 years, as of June 30, 2007. Based on our actuarial assumptions, a 49 year-old employee was expected to receive about a 5.26% increase in their June 30, 2006 salary over the following year. However, salary increases averaged about 5.75%. This difference between the actual and the expected salary increase resulted in a loss to the plan of approximately $2.75 million.

Item 2: Continuation of Prior Actuary's Practice

In determining the actuarial gain/loss for the June 30, 2006 valuation, it appears that the prior actuary calculated the expected unfunded actuarial accrued liability (UAAL) using their normal cost after adjustment for phase-in of the 415 limit. For the June 30, 2007 valuation, we continued the prior actuary's method for consistency. However, we believe that the expected UAAL should instead be developed using the full normal cost determined with complete elimination of the 415 limit, since members actually accrue a year's worth of benefits based on unlimited pensionable earnings and retirement benefits.

Continuing the prior actuary's practice "created" this category of actuarial loss of $4,530,473. Note that this has no direct impact on employer contribution rates. It only affects how gains/losses are categorized.

Item 3: Difference in Methods and Procedures

In reconciling results with the prior actuary as of June 30, 2006, our calculation of the actuarial accrued liability (AAL) was higher than that produced by the prior actuary, but that higher AAL was offset by our lower present value of future normal cost (PVFNC). Overall, there is no rate increase as a result of the higher $3,581,557 liability.

Item 4: Miscellaneous Sources

The miscellaneous loss of $4.1 M was about 0.4% of the total liability of the pension plan and was due to the difference in actual versus expected experience from all other sources (e.g., mortality, retirement, withdrawal, etc.).

Please let us know if you have any questions on this information.

Sincerely,

Andy Yeung

Andy Yeung

DNA/bqb
Enclosure

cc: Wanda Hendrix-Talley

D. RECOMMENDED CONTRIBUTION

The amount of annual contribution required to fund the Plan is comprised of an employer normal cost payment and a payment on the unfunded actuarial accrued liability. This total amount is then divided by the projected payroll for active members to determine the funding rate of 24.96% of payroll.

The aggregate employer rate has been adjusted to reflect the phase-in of the cost to remove the 415 limits on pensionable earnings and retirement benefits. The phase-in recognizes 0.60% of pay in each of the subsequent two years beginning with the June 30, 2005 valuation, an additional 0.97% of pay in each of the subsequent two years beginning with this valuation, and the remaining balance (1.82%) will be fully recognized in the fifth year. Since this year is the third year, the aggregate employer rate without the elimination of the 415 limits was increased by 2.17% of pay. For illustration purposes, the employer rate based on full elimination of the 415 limits is also provided.

The chart compares this valuation's recommended contribution with the prior valuation.

CHART 13

Recommended Contribution (% of payroll)

	Without Elimination of the 415 Limit		With Elimination of the 415 Limit		Effective Rates With Phase-In of 415 Limit	
	6/30/07	6/30/06	6/30/07	6/30/06	6/30/07	6/30/06
1. Total normal cost	16.32%	17.21%	19.43%	20.64%	19.43%	17.81%
2. Expected employee contributions	-6.74%	-6.74%	-6.74%	-6.74%	-6.74%	-6.74%
3. Employer normal cost: (1) + (2)	9.58%	10.47%	12.69%	13.90%	12.69%	11.07%
4. Unfunded/(overfunded) actuarial accrued liability	12.32%	12.84%	13.98%	14.03%	11.30%	13.44%
5. Total recommended contribution, beginning of year: (3) + (4)	21.90%	N/A	26.67%	N/A	23.99%	N/A
6. Total recommended contribution, end of each pay period	22.79%	23.31%	27.75%	27.93%	24.96%[1]	24.51%

[1] *Includes 2.17% due to the phase-in of the cost to remove the 415 limits on pensionable earnings and retirement benefits.*

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: March 21 2013

MEMO TO: Members of the Retirement Board

FROM: Elizabeth Grassetti, Interim Manager of Employee Services

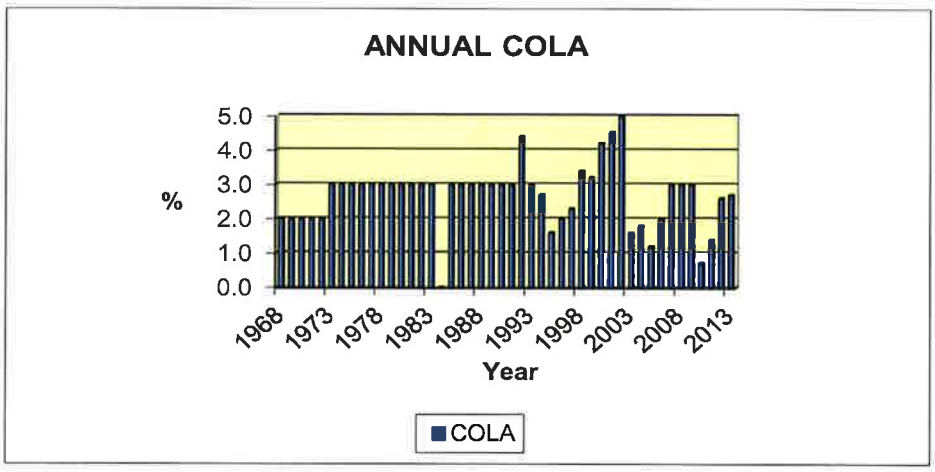
SUBJECT: Annual Information on Retiree COLA and the Health Insurance Benefit

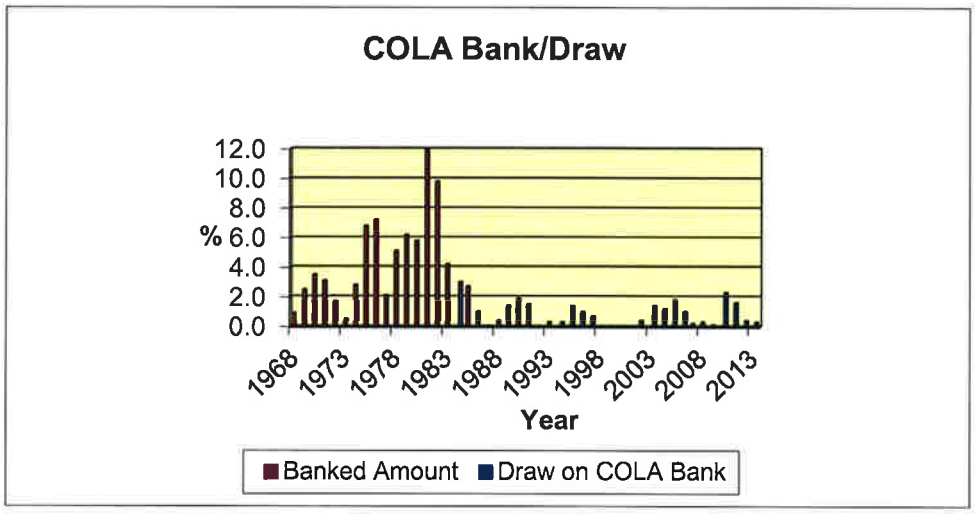
This memo provides annual information regarding retiree Cost of Living Adjustments (COLAs) and Health Insurance Benefits (HIB).

COST OF LIVING ADJUSTMENTS

The average District retiree's pension has more than doubled since 1997 to $4,326 a month in 2013. One of the contributors to the increase in retiree pension benefits for District retirees is the COLA increase based on the Consumer Price Index-U for the San Francisco-Oakland-San Jose area. Pursuant to the Retirement Ordinance Section 33, the COLA is dependent on the current long-term funding level of the Retirement System, calculated as the ratio of the market value of the assets to the projected benefit obligation, referred to as the Assets/PBO funding. The COLA may be up to 5% in years where the funding ratio is above 85%; otherwise, the COLA is capped at 3%. If the percentage of the CPI is above the maximum allowed COLA amount, the difference between the CPI and the COLA is added to retiree COLA banks. In years where the CPI is less than the capped amount, COLA banks can be drawn from to raise members' COLA to the cap.

The Annual COLA graph shows annual COLAs from 1968 to 2013. During this time, the average COLA was 2.7%, and, over the past 10 years, the average COLA was 2.1%. The COLA Bank Draw graph shows the COLA draws and additions that retirees have received from the COLA bank from 1968 through 2013.



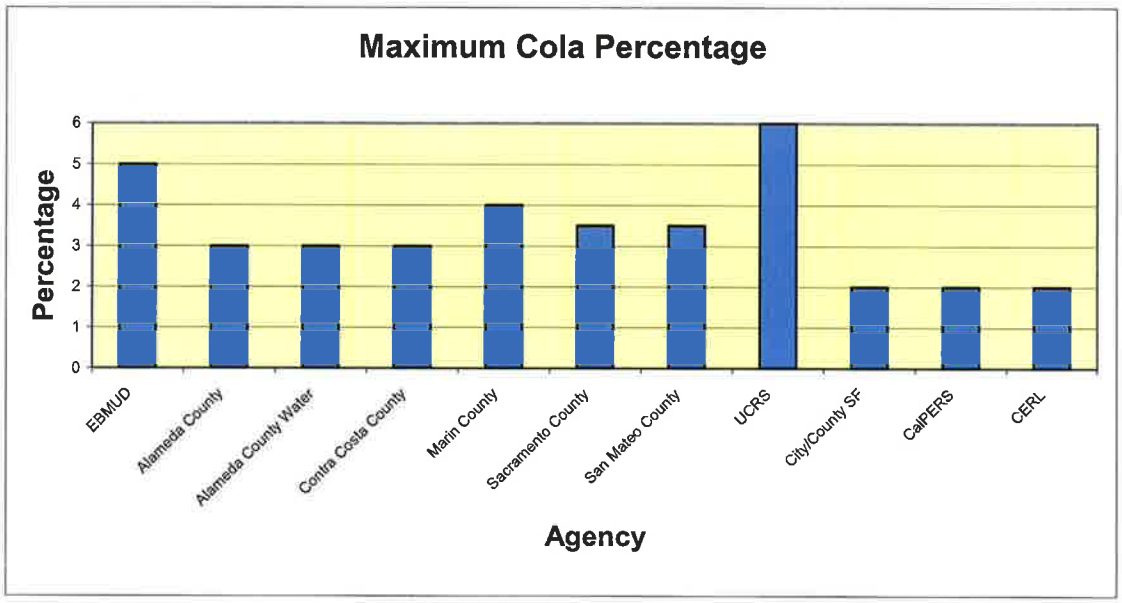


A survey of comparable California pension systems shows that the District's COLA parameters are generous as highlighted below:

- CalPERS, which administers defined benefit retirement plans for more than 2,500 public agencies covering 1.4 million members, has a standard annual COLA allowance for a majority of its members of the lesser of the CPI compounded from the date of retirement or 2% COLA compounded from the date of retirement. Participating agencies can contract with PERS for COLAs of 3, 4, or 5 percent at an extra employer cost.

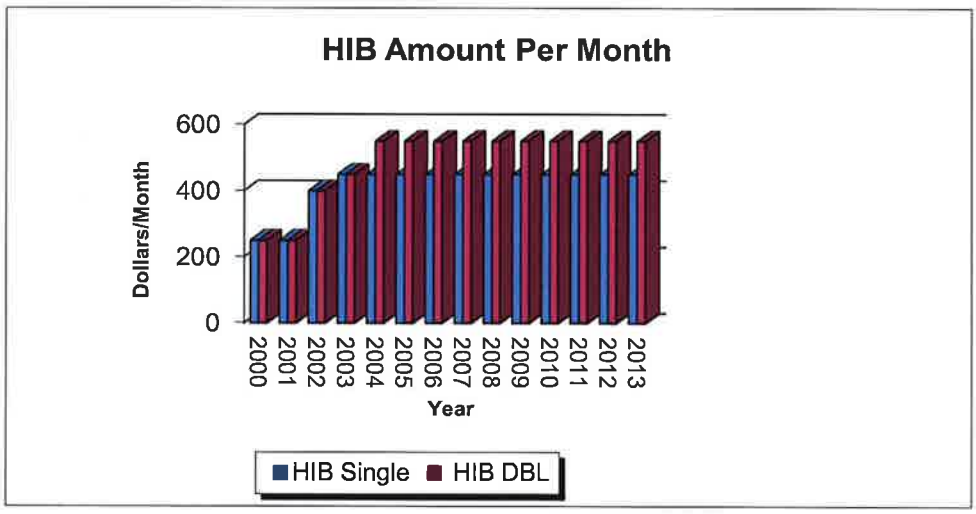
- California County Public Retirement Law (CERL) limits COLAs, for independent county systems to a maximum COLA of 2% annually and also has provisions for COLA banking, much like the District. The City & County of San Francisco has a supplemental COLA provision allowing the COLA to increase to 3.5% in years where there are sufficient "excess" investment earnings.

The University of California Retirement System matches the CPI up to 2%, and increases the COLA by 75% of the CPI when the CPI increases more than 4% in a year. The maximum COLA is capped at 6%.



HEALTH INSURANCE BENEFITS

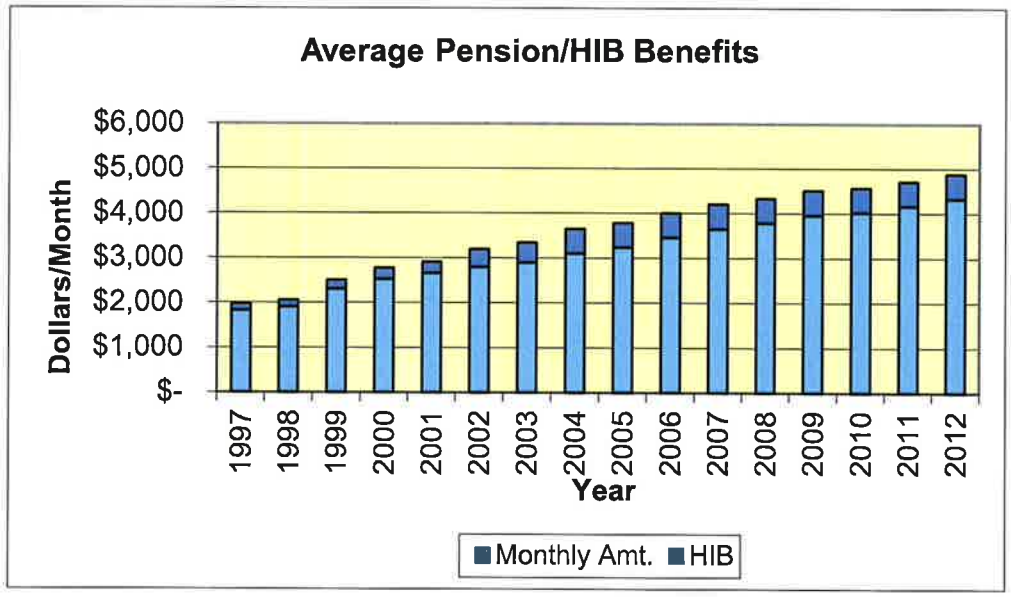
The District's Health Insurance Benefit (HIB) was implemented as a reimbursement for health plan premium expenses on January 1, 1989 at up to $50 per month for each retiree. It has been increased seven times since that date, with five of the increases occurring in the past ten years. The HIB was last changed in 2004 to $550 for a retiree and spouse and $450 for single retiree.



Information about post retirement health insurance benefits for other agencies was provided at the January meeting and is again attached.

COMBINED COLA AND HIB BENEFITS

The graph below shows the growth of the average District retiree's total monthly benefit, including pension and HIB, while the accompanying table provides related details on changes to retiree compensation components since 1997.



PENSION/HIB DETAILS

Year	Average Monthly Pension Amount	% Change in Pension	Annual COLA %	Annual COLA Draw	Monthly HIB Amount	Total Average Benefit
1998	$1,899	4	3.4	0	$150	$2,049
1999	$2,302	17	3.2	0	$200	$2,502
2000	$2,519	9	4.2	0	$250	$2,769
2001	$2,658	5	4.5	0	$250	$2,908
2002	$2,791	5	5.0	0	$400	$3,191
2003	$2,891	3	1.6	1.4	$450	$3,341
2004	$3,096	7	1.8	1.2	$550	$3,646
2005	$3,233	4	1.2	1.8	$550	$3,783
2006	$3,455	6	2.0	1.0	$550	$4,005
2007	$3,650	5	3.0	0	$550	$4,200
2008	$3,779	3	3.0	0	$550	$4,329
2009	$3,956	4	3.0	0	$550	$4,406
2010	$4,019	2	.07	2.3	$550	$4,569
2011	$4,159	3	1.4	1.6	$550	$4,709
2012	$4,326	4	2.6	0.4	$550	$4,876

Election Schedule for Employee Member to the EBMUD Retirement Board

The Retirement Board term of employee representative Douglas Higashi will expire on June 23, 2013. In anticipation of this vacancy the following dates have been set for the upcoming election schedule.

Tuesday	April 2	Notice of election is announced
Monday	April 8	Candidate nomination period opens
Monday	April 22	Candidate nomination period closes
Friday	April 26	Notice of candidates running for the position is posted
Friday	May 3	Ballots mailed to all Retirement System members
Friday	May 31	Deadline for receipt of marked ballots
Thursday	June 6	Tally of ballots and election results announced
Monday	June 24	Elected member takes office for a two-year term
Tuesday	June 25	Election results certified to Board of Directors