Oregon Investment Council

June 26, 2013 - 9:00 AM

PERS Headquarters
11410 S.W. 68th Parkway
Tigard, OR 97223

Keith Larson
Chair

John Skjervem
Chief Investment Officer

Ted Wheeler
State Treasurer

OREGON INVESTMENT COUNCIL

2013 Schedule

Meetings Begin at 9:00 am

PERS Headquarters Building
11410 S.W. 68th Parkway
Tigard, OR 97223

January 23, 2013

February 20, 2013

May 1, 2013

May 29, 2013

June 26, 2013

July 31, 2013

September 25, 2013

October 30, 2013

December 10, 2013

OREGON INVESTMENT COUNCIL

Agenda

June 26, 2013
9:00 AM

PERS Headquarters
11410 S.W. 68th Parkway
Tigard, Oregon

Time	A. Action Items	Presenter	Tab
9:00-9:05	**1. Review & Approval of Minutes** May 29, 2013 Regular Meeting	**Keith Larson** *OIC Chair*	**1**
	Committee Reports	**John Skjervem** *Chief Investment Officer*	
9:05-9:35	**2. Portfolio Review** *OPERF Fixed Income*	**Perrin Lim** *Senior Investment Officer*	**2**
9:35-10:35	**3. OPERF Asset/Liability Study**	**John Skjervem** **John Meier** *Strategic Investment Solutions* **Allan Emkin** *Pension Consulting Alliance*	**3**
	A. Beliefs-based Policy Framework **B. Strategic Asset Allocation Recommendation**		
10:35-10:45	**---------- BREAK ----------**		
10:45-11:15	**4. Closed End Fund Strategies** *OPERF Non-U.S. Public Equity*	**Michael Viteri** *Senior Investment Officer* **Ben Mahon** *Investment Officer* **John Meier**	**4**
	A. Wells Capital Management	**G. D. Rothenberg** *Portfolio Manager* **Chris Alders** *Business Development*	

Keith Larson	Dick Solomon	Rukaiyah Adams	Katy Durant	Ted Wheeler	Paul Cleary
Chair	Vice-Chair	Member	Member	State Treasurer	PERS Director

		B. Lazard Asset Management	**Kun Deng** *Portfolio Manager* **Edward Keating** *Client Portfolio Manager*	
11:15-11:30	**5.**	**Russell 2000 Synthetic Portfolio Recommendation** *OPERF Internal Public Equity*	**Mike Viteri** **John Meier**	**5**
11:30-11:50	**6.**	**Overlay Program Review** *OPERF*	**Greg Nordquist** *Director, Overlay Strategies, Russell Investments*	**6**

B. Information Items

11:50-12:00	**7.**	**Review and Transition** *OPERF Real Estate*	**Nori Gerado Lietz** *Arete Capital Partners*	**7**
12:00-12:05	**8.**	**Asset Allocations & NAV Updates** a. Oregon Public Employees Retirement Fund b. SAIF Corporation c. Common School Fund d. HIED Pooled Endowment Fund	**John Skjervem**	**8**
	9.	**Calendar — Future Agenda Items**		**9**
	10.	**Other Items**	**Council** **Staff** **Consultants**	

C. Public Comment Invited
15 Minutes

TAB 1 – REVIEW & APPROVAL OF MINUTES

May 29, 2013 Regular Meeting

OST Committee Reports – Verbal

JOHN D. SKJERVEM
CHIEF INVESTMENT OFFICER
INVESTMENT DIVISION

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OREGON INVESTMENT COUNCIL
MAY 29, 2013
MEETING MINUTES

Members Present:	Rukaiyah Adams, Paul Cleary, Katy Durant, Keith Larson, Dick Solomon, Ted Wheeler
Staff Present:	Darren Bond, Tony Breault, Karl Cheng, Garrett Cudahey, Sam Green, Andy Hayes, John Hershey, Julie Jackson, Mary Krehbiel, Perrin Lim, Tom Lofton, Ben Mahon, Mike Mueller, Tom Rinehart, James Sinks, John Skjervem, Michael Viteri, Byron Williams
Consultants Present:	David Fann, Jeff Goldberger, and Tom Martin (TorreyCove); John Meier and Deb Gallegos (SIS); Christy Fields, John Linder, Dillon Lorda, Mike Moy and Neil Rue (PCA), Nori Gerardo Lietz (Arete)
Legal Counsel Present:	Dee Carlson and Deena Bothello, Oregon Department of Justice

The May 29, 2013 OIC meeting was called to order at 9:02 am by Keith Larson, Chair.

I. 9:02 am Review and Approval of Minutes

MOTION: Ms. Durant moved approval of the May 1, 2013 meeting minutes. Mr. Solomon seconded the motion, which then passed by a 4/0 vote (Treasurer Wheeler was absent for the vote).

John Skjervem, Chief Investment Officer, informed members of the following actions taken by the real estate committee since the last OIC meeting:

- May 23, 2013 KTR Industrial Fund III $100 million commitment approved

II. 9:04 am KKR North America Fund XI – OPERF Private Equity

Staff recommended that the OIC authorize an additional $250 million commitment (original commitment in January 2011 was $500 million) to KKR North America Fund XI, L.P., on behalf of OPERF, subject to satisfactory negotiation of terms and conditions and completion of requisite documentation by DOJ legal counsel working in concert with OST staff.

MOTION: Mr. Solomon moved approval, Ms. Durant seconded the motion. Staff's recommendation passed on a 4/1 vote (Treasurer Wheeler dissented).

III. 9:45 am Solera Capital – OPERF Private Equity

Staff recommended a $50 million commitment to Solera Partners II, L.P., a $350 million target ($500 million hard cap) fund, which will continue Solera's private equity strategy focused on emerging growth companies in industries with attractive, long-term prospects. The Fund will target small buyouts and growth equity investments of $10-$50 million in companies with enterprise values of less than $100 million. Solera expects to invest a significant majority of the Fund in the United States. OPERF and the OIC committed $50 million to Solera's debut fund.

The board raised several issues and asked staff to perform additional analysis. No vote taken on this proposal

10:55 am

Mr. Larson reintroduced newest OIC member Rukaiyah Adams.

He also gave an update on SB 120, announcing that no vote will be taken in the current legislative session, but that the bill will likely be heard and voted on in the 2014 session. Mr. Larson thanked Treasurer Wheeler and Darren Bond, Deputy State Treasurer, for all of their work in support of this bill.

Linda Burgin then came up and read a letter to Ted Wheeler from Arthur Towers (SEIU Political Director) opposing SB 120.

IV. 11:07 am Amstar – OPERF Real Estate

Tony Breault, interim Senior Real Estate officer, introduced Amstar representatives and described staff's commitment recommendation to a value-add separate account joint venture managed by Amstar Advisers, LLC. The Separate Account will consist of a $200 million capital commitment from OPERF to be invested alongside the European family office that founded Amstar in 1987. Investments in the Separate Account are anticipated to be structured at an equity ratio of approximately 60:40, respectively, between OPERF and the family office with an additional $2 million co-investment from Amstar principals.

The Separate Account will seek to continue Amstar's successful 26-year track record of acquiring equity real estate investments in both primary and select secondary markets throughout the U.S. with a net return objective of 11-14%. The main investment strategies for the Separate Account will include: (1) "Restore to Core" office properties in supply-constrained markets with long-term growth potential; and (2) "Develop to Core" multifamily properties in markets with strong demographic and job growth profiles. At this juncture in the real estate market cycle, select opportunities for development of core multifamily properties are providing greater yields than equity acquisitions of existing product. It is anticipated that this strategy could shift to value-add acquisitions once supply of existing multifamily stock and new deliveries is in balance with demand fundamentals. A secondary focus of the Separate Account will include opportunistic investments in Class A and B industrial and retail properties and select one-off investments in value-add hotel projects.

The Separate Account will include an investment period of up to 36 months, with an evergreen term and recyclable distributions (i.e., 'return on' and 'return of' OPERF capital to be recallable as future unfunded commitments). This structure is consistent with other OPERF real estate separate accounts and will include standard OPERF termination provisions. Additionally, portfolio-level debt within this Separate Account will not exceed 55% loan-to-value (LTV) and 60% LTV at the property-level.

MOTION: Staff recommended a $200 million commitment to Amstar, subject to the negotiation of requisite documentation by DOJ legal counsel working in concert with OST staff. Ms. Durant moved approval, and Mr. Solomon seconded the motion which then passed by a 5/0 vote.

11:48 am **Public Comments (taken out of order)**

Bill Parrish made comments about private equity and related tax issues.

Representatives from Unite Here in Las Vegas testified about working conditions at Caesars Entertainment subsequent to its 2008 buy-out by private equity firms Apollo Management Group and Texas Pacific Group.

The SEIU's Linda Burgin shared concerns her organization has with Oaktree Capital Management's potential sale of various media properties.

V. **12:10 pm OIC Real Estate Consultant Recommendation**

The contract of the incumbent, Areté Capital, expires June 30, 2013. Based on interviews and follow up with each of three finalist firms, including additional term and contract negotiations, the selection committee responsible for the real estate consultant search recommended that the OIC engage Pension Consulting Alliance, Inc. ("PCA") for a real estate consulting mandate commencing July 1, 2013.

In accordance with OIC Policy 4.01.13, staff then recommended, subject to review by Department of Justice personnel, the following:

1. An initial contract term of three years, ending June 30, 2016; and

2. A "no cause" termination clause with a maximum 90-day notice period; and

3. Upon approval of the OIC, and prior to the initial contract term expiration, the contract may also be extended "no more than twice and limited to a final expiration date that is no more than four years beyond the original expiration."

MOTION: Mr. Solomon moved approval of the staff recommendation. Treasurer Wheeler seconded the motion which then passed by a 5/0 vote.

VI. **12:13 pm OPERF Alternatives Portfolio Annual Review**

John Hershey gave an update and overview of the OPERF Alternatives portfolio. The objectives of the Alternatives Portfolio continue to be:

- Pursue "real assets" and "real return" strategies;
- Provide source of diversification through less correlated return patterns and alternative risk premiums;
- Seek hedge against inflation; and
- Underwrite to a CPI + 4% benchmark.

New commitments in 2012 included Reservoir Strategic Partners, Red Kite Finance Fund II and Stonepeak Infrastructure Fund. Areas of focus in 2013 include potential new investments in Natural Resources (in both public and private market vehicles), Hedge Funds, Energy and Infrastructure.

John then reviewed existing holdings and results and discussed Alternatives portfolio pacing for the near to intermediate term.

VII. **12:32 pm OPERF 1st Quarter Performance Update**

John Meier with SIS gave an update on OPERF's 1st Quarter investment performance.

VIII. **12:43 pm Asset Allocations and NAV Updates**

John Skjervem, Chief Investment Officer, reviewed asset allocations and NAV's across OST-managed accounts for the period ended April 30, 2013.

IX. 12:45 pm Calendar – Future Agenda Items

Mr. Skjervem presented a revised schedule of future agenda topics.

X. 12:45 pm Other Business

None

Mr. Larson adjourned the meeting at 12:45 pm.

Respectfully submitted,

Julie Jackson

Julie Jackson
Executive Support Specialist

TAB 2 – OPERF FIXED INCOME PORTFOLIO REVIEW

Oregon Investment Council
June 26, 2013
OPERF Fixed Income Asset Class Review

Purpose: Fixed Income asset class review.

Recommendations: None at this time.

OPERF Fixed Income Background

From 2000 to mid-2008, the OPERF fixed income portfolio had been managed consistent with a 100% Core Plus strategy. In July 2008 and April 2009, and driven primarily by dislocations in the senior secured leveraged bank loan market, Staff modified this approach by introducing a *strategic* Credit Opportunities allocation, comprised predominantly of senior secured floating rate bank loans and high yield securities and managed by external sector specialists. To offset some of the additional credit risk associated with this Credit Opportunities allocation, the existing Core Plus managers' maximum allowance to below investment grade securities was reduced to 15% from 30%.

For the four year period ended April 2013 since the strategic Credit Opportunities allocation was approved by the OIC, this structure has outperformed by 451 basis points (State Street Bank Flash Report: 11.78% vs. 7.27%). Moreover, this structure has also helped generate a TUCS Universe top fixed income ranking across all time horizons as of December 2012:

	Market Value $(M)	Current Quarter	1 Year	3 Years	5 Years	7 Years	10 Years	Inception to Date	Inception Date
OPERF Fixed Income Total Return	$14,183,485	1.47	10.33	9.06	8.01	7.24	7.00	8.48	01/01/1988
Custom Benchmark		1.28	8.60	6.87	6.29	6.08	5.59		
U.S. Fixed Income Pools*		1	1	1	1	1	1		

* Ranking Source: TUCS Universe, based on gross returns.

Summary of Strategies

Core Plus

Each of the individual fixed income market sectors has distinct performance trends. These trends are fundamentally driven by economic and business cycle conditions. A successful Core Plus strategy focuses on 1) anticipating these sector performance trends and 2) identifying relative value opportunities within the individual sectors.

In theory, managers add value by a) rotating across and among sectors and securities based on relative value considerations and b) managing portfolio duration relative to expected changes in the yield curve while avoiding outright speculation on interest rates.

Managers will overweight undervalued sectors where they expect a sustained period of out-performance versus other sectors. This process involves both "top down" macro-economic inputs as well as "bottom up" sector and security analysis. Overweights have tended to be within specific industries of the corporate market, and, while tied to equity markets to a degree, Core Plus volatility is usually far lower than its equity market analog.

Looking back to the height of the Global Financial Crisis (GFC), AllianceBernstein, BlackRock, Wellington Management Company and Western Asset Management Company maintained their investment philosophies and processes, and thus benefitted from the subsequent and extraordinary ease in monetary policy which was followed by an equally dramatic tightening in credit spreads (i.e., these managers did not bail out of credit during the GFC to buy Treasuries). In addition, between the very illiquid period of October 2008 and March 2009, these managers also provided $2.75 billion of cash to help meet OPERF liabilities. Furthermore, these firms increased staffing, and, coincident with robust fixed income flows, experienced significant growth in assets under management.

Note: all four managers are benchmarked against the same custom OPERF Core Plus fixed income index.

Credit Opportunities

As mentioned above, the Credit Opportunities mandates, managed by KKR Asset Management (KKR) and Oak Hill Advisors (OHA), generally consist of senior secured floating rate bank loans and unsecured high yield bonds. The initial funding for these two mandates in July 2008 represented OPERF's first allocation to "specialist" fixed income managers and marked the first step away from pure Core Plus or "generalist" managers.

Historically, high yield managers typically rotated into bank loans as a defensive allocation when high yield spreads were deemed too tight/rich. When the risk/reward analysis of high yield bonds widened to more attractive spreads, managers would then reverse this trade. In the current fixed income environment, however, bank loans are increasingly viewed as a hedge against moderate increases in rates and inflation.

KKR uses a custom benchmark comprised of 65% of the S&P/LSTA Leveraged Loan Index and 35% of the Merrill Lynch High Yield Master II Index. OHA uses the same indices but with an 85/15 mix.

Current Manager Structure & Benchmarks as of April 2013

Mandate	Weight, FI	Benchmark	# Managers
Core Plus	74.1%	• Barclays Capital U.S. Universal Index (90%) • JP Morgan Emerging Markets Bond Index Global (10%)	4
Credit Opportunities	25.6%	• S&P/LSTA Leveraged Loan Index • ML High Yield Master II Index	2
Fixed Income	100.0%	• Barclays Capital US Universal (60%) • JP Morgan Emerging Markets Bond Index Global (10%) • S&P/LSTA Leveraged Loan Index (20%) • ML High Yield Master II Index (10%)	

Manager	Mandate	Market Value $ (m)	Weight, FI	Weight, OPERF	Inception Date
AllianceBernstein	Core Plus	2,638,978	18.2%	4.2%	May 2001
BlackRock	Core Plus	2,639,295	18.2%	4.2%	May 2001
Wellington Mgmt	Core Plus	2,714,694	18.7%	4.3%	April 2000
Western Asset Mgmt	Core Plus	2,740,255	18.9%	4.4%	April 2000
KKR Asset Mgmt	Credit Opportunities	2,326,902	16.1%	3.7%	August 2008
Oak Hill Advisors	Credit Opportunities	1,379,693	9.5%	2.2%	July 2009
Transition Account		44,282	0.3%	0.1%	
Total		14,484,099	100.0%	23.9%	

Traditional Core Fixed Income Benchmarks

Due to unprecedented U.S. fiscal deficits and highly stimulative monetary policies, burgeoning levels of U.S. government debt have dominated the growth rate of all other bond market sectors, resulting in both large increases to government and government-related components of traditional fixed income indices as well as increases to those indices' duration. In addition, low nominal U.S. interest rates make these traditional indices less attractive due to the heightened possibility of negative total returns should rates rise. Historically, yield premiums or spreads have provided a price risk cushion against rising rates, but the current combination of tight spreads and near record low rates will likely reduce the protective benefit of that cushion, especially in investment grade product.

Developed vs. Emerging Countries Fundamentals

The GFC and accompanying recession resulted in a stronger divergence between developed and emerging country debt fundamentals than had previously been seen. In fact, developed government debt fundamentals continue to deteriorate while corporate and emerging market sovereign debt profiles exhibit steady improvement. Historically, investors in emerging market debt (EMD) demanded a credit risk premium while risks associated with developed country sovereign debt were considered material only with respect to duration, not credit. Investors no longer hold this view (see Cyprus, Greece, etc.), and now demand higher yield premiums for certain developed country government bonds. At current and projected debt/GDP levels, questions remain about the financial sustainability of many developed countries absent strong economic growth or dramatic fiscal reforms.

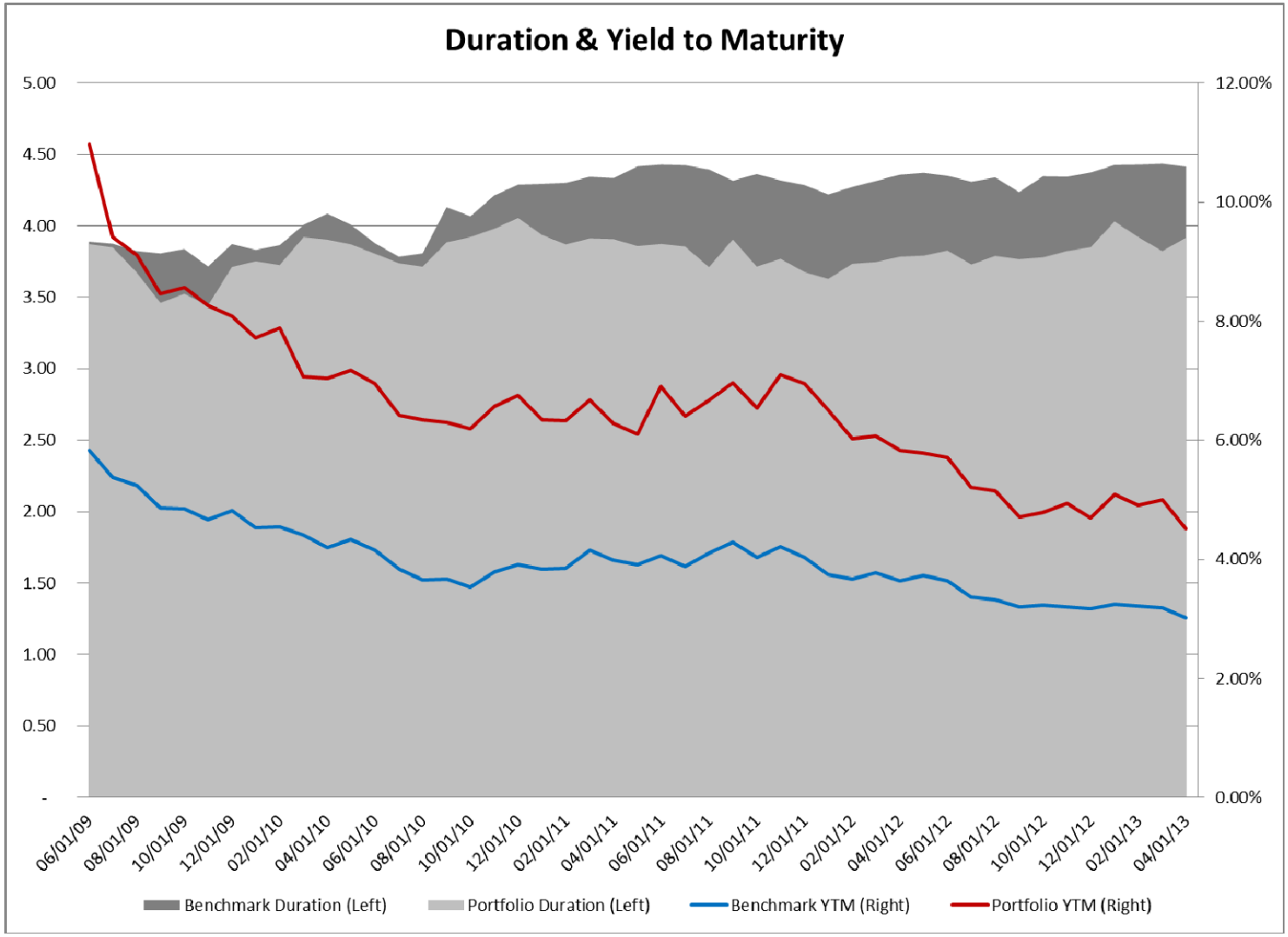
Current Objective

The OPERF fixed income portfolio has been managed with the objective of earning 75 basis points in annualized net excess returns above its benchmark while also providing liquidity. Independent of the Investment Beliefs Project (IBP), Staff believes some modifications to the OPERF fixed income portfolio may be warranted as a result of the benchmark issues and more challenging interest rate environment described above. Moreover, to the extent the OIC ratifies a redefined role for fixed income as part of the IBP, additional modifications (e.g., a greater emphasis on capital preservation and/or liquidity) may also make sense.

Recommendations

None at this time pending the outcome of OIC discussions/decisions in connection with the Investment Beliefs Project in general or a modified definition for the role of fixed income in particular.

Oregon Investment Council
June 26, 2013
OPERF Fixed Income Asset Class Review



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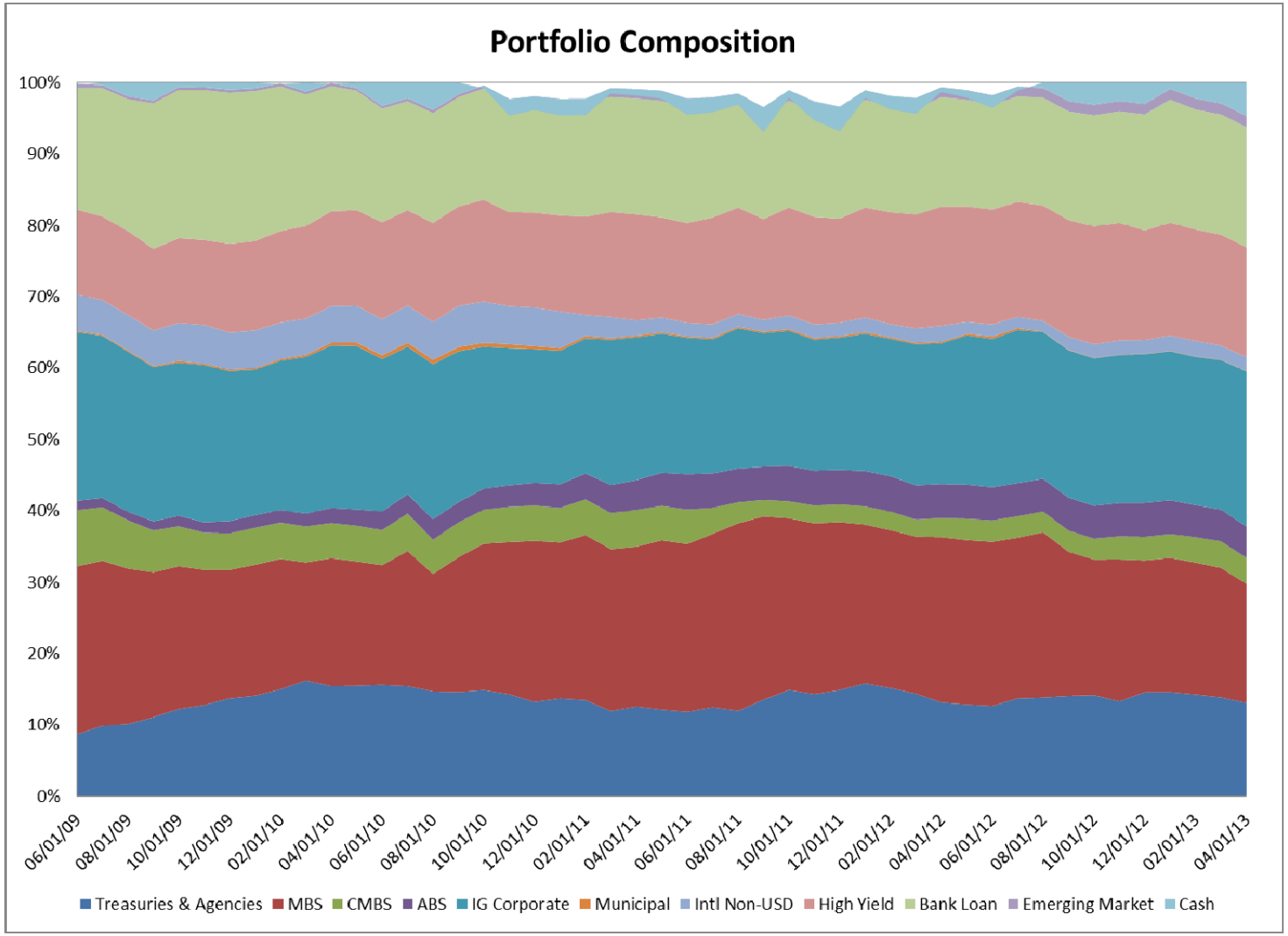

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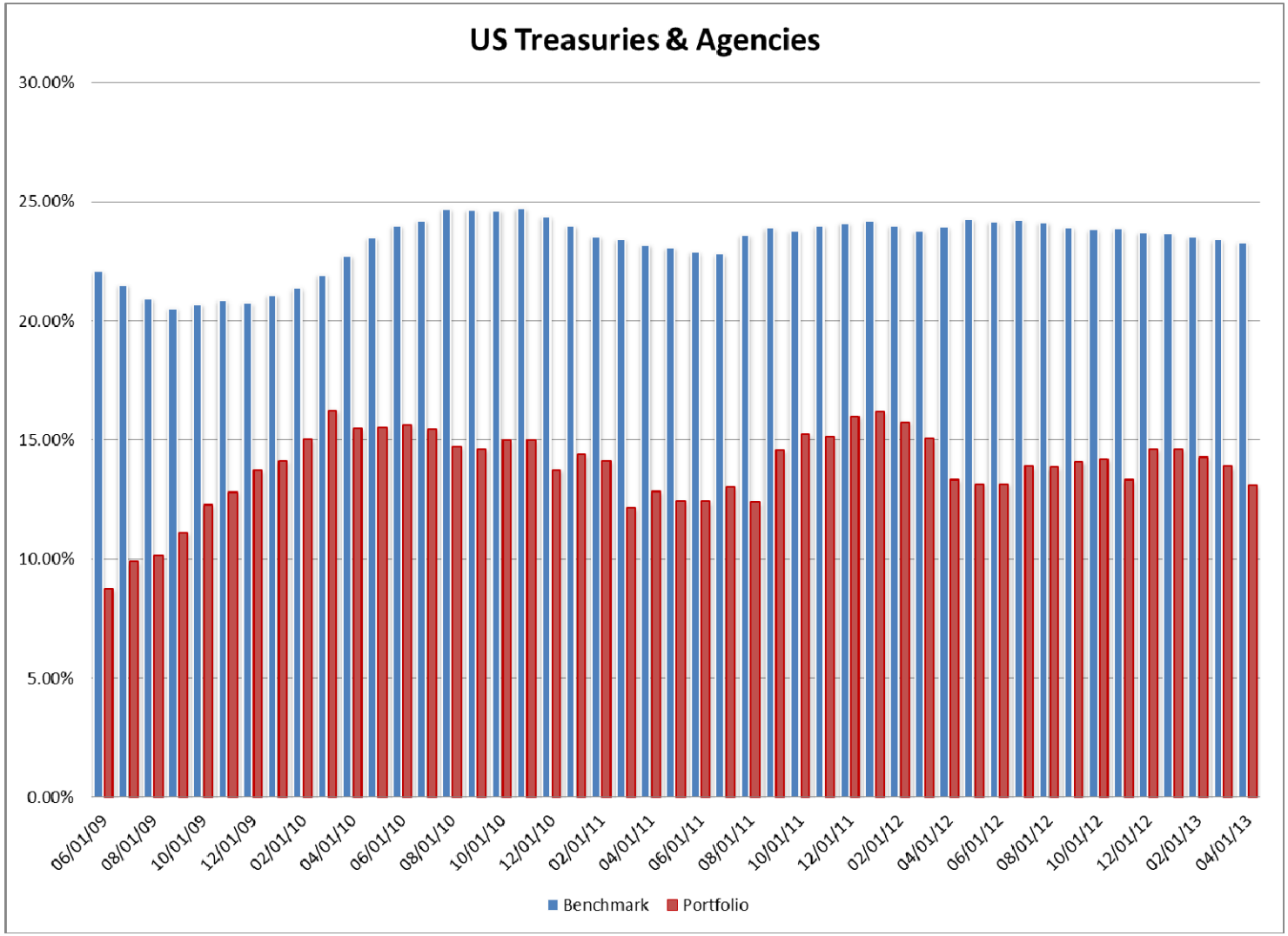

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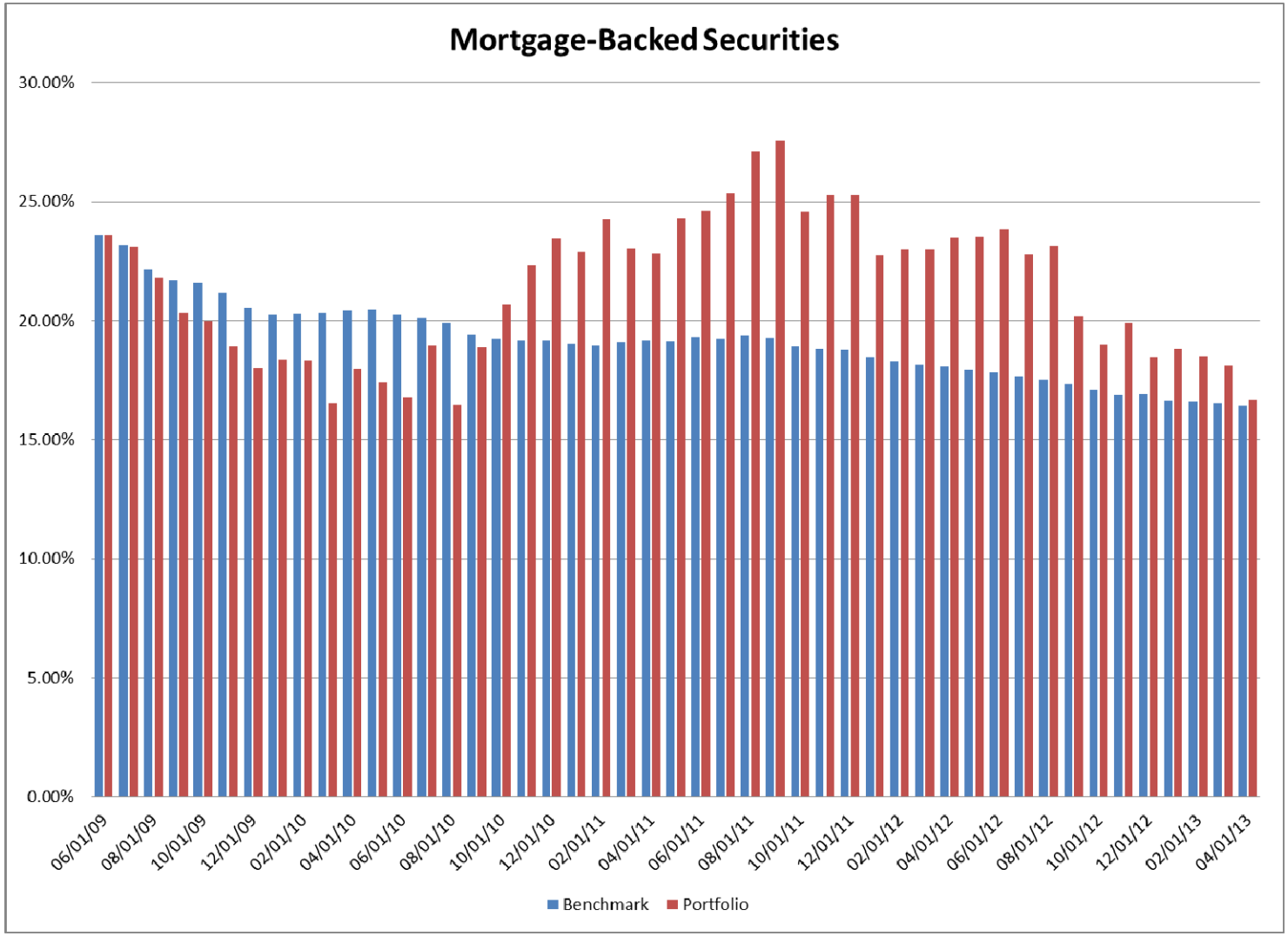
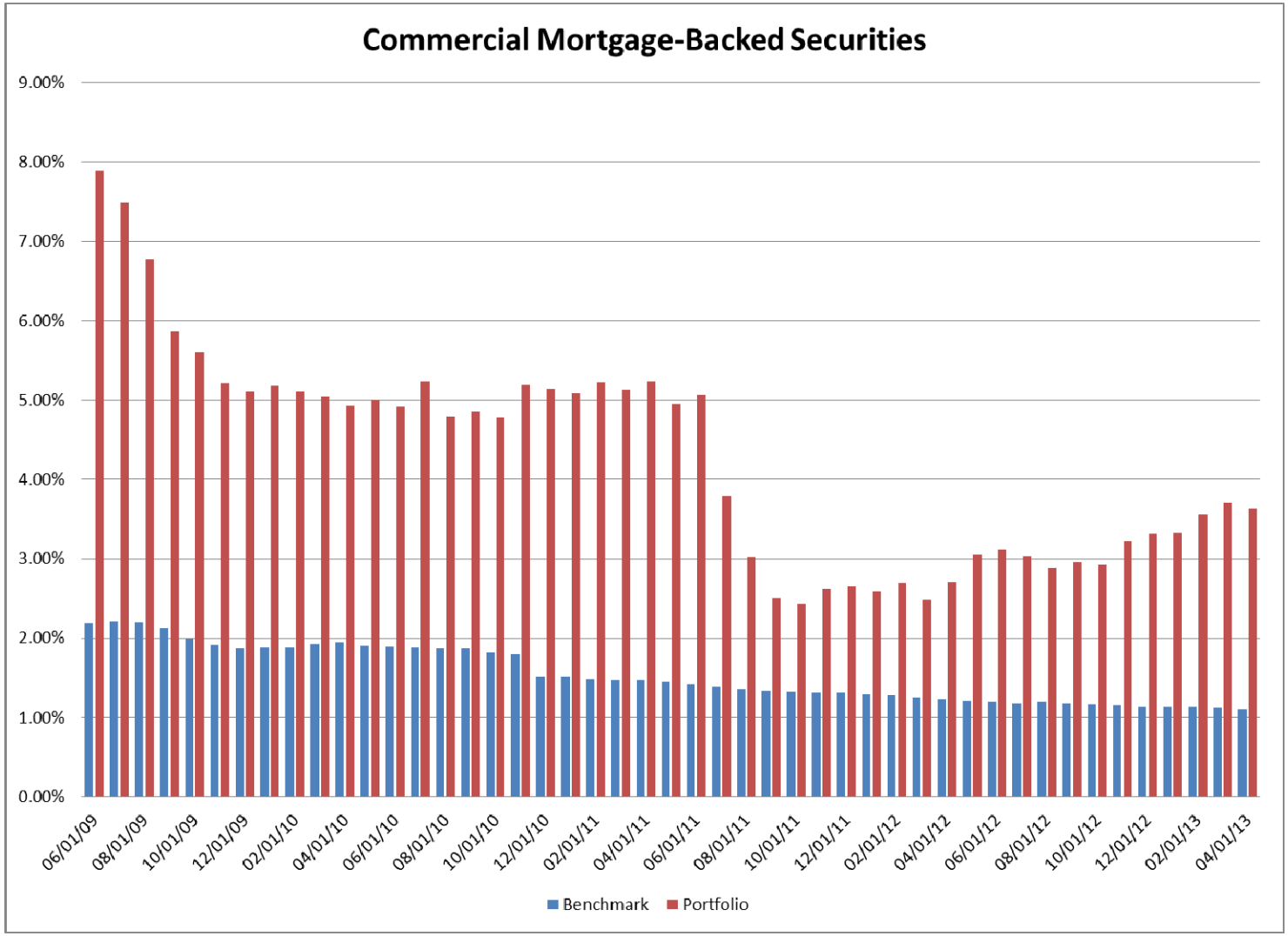
OPERF Fixed Income Asset Class Review




Commercial Mortgage-Backed Securities
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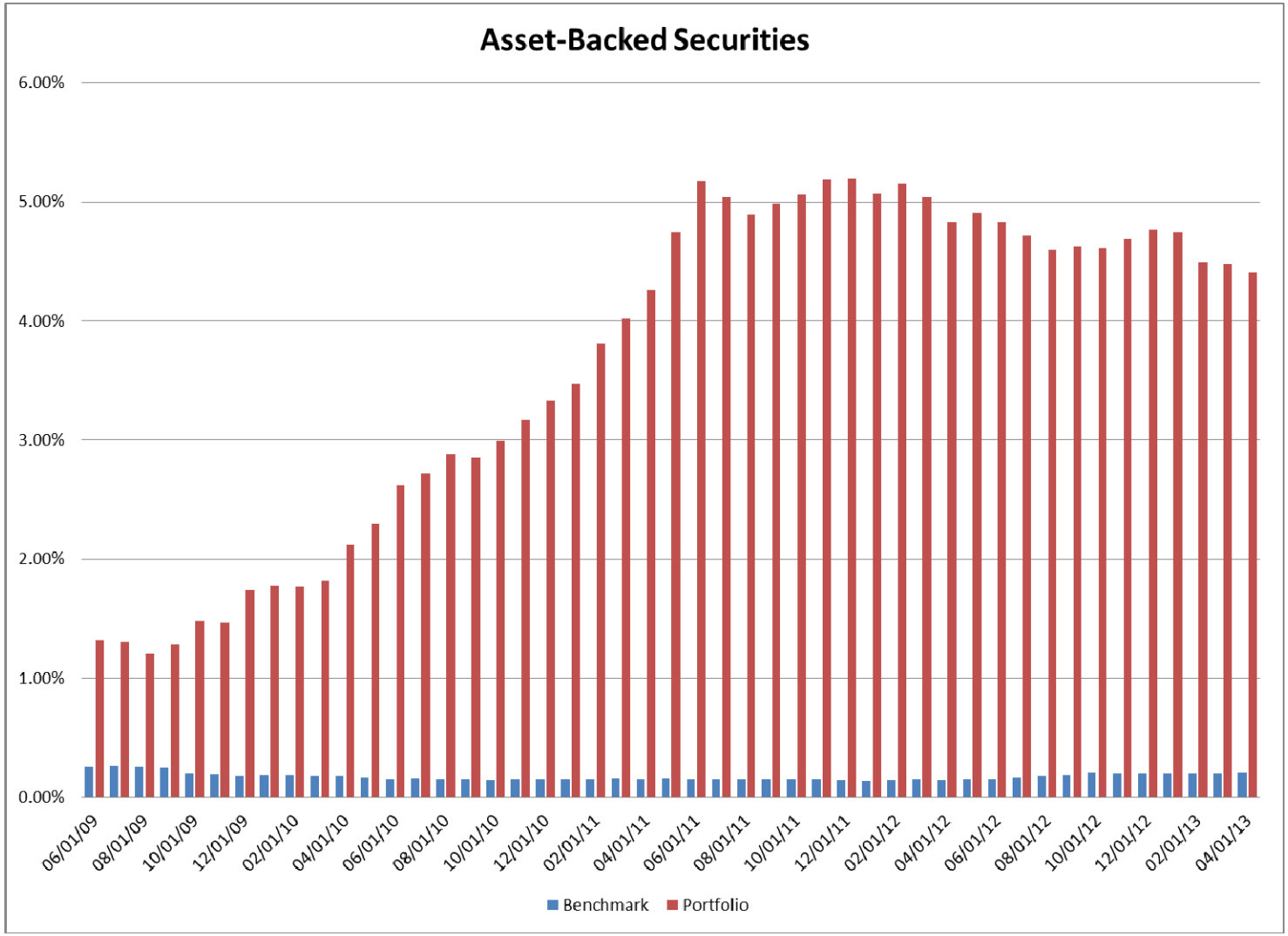
Benchmark
Portfolio

Oregon Investment Council
June 26, 2013
OPERF Fixed Income Asset Class Review



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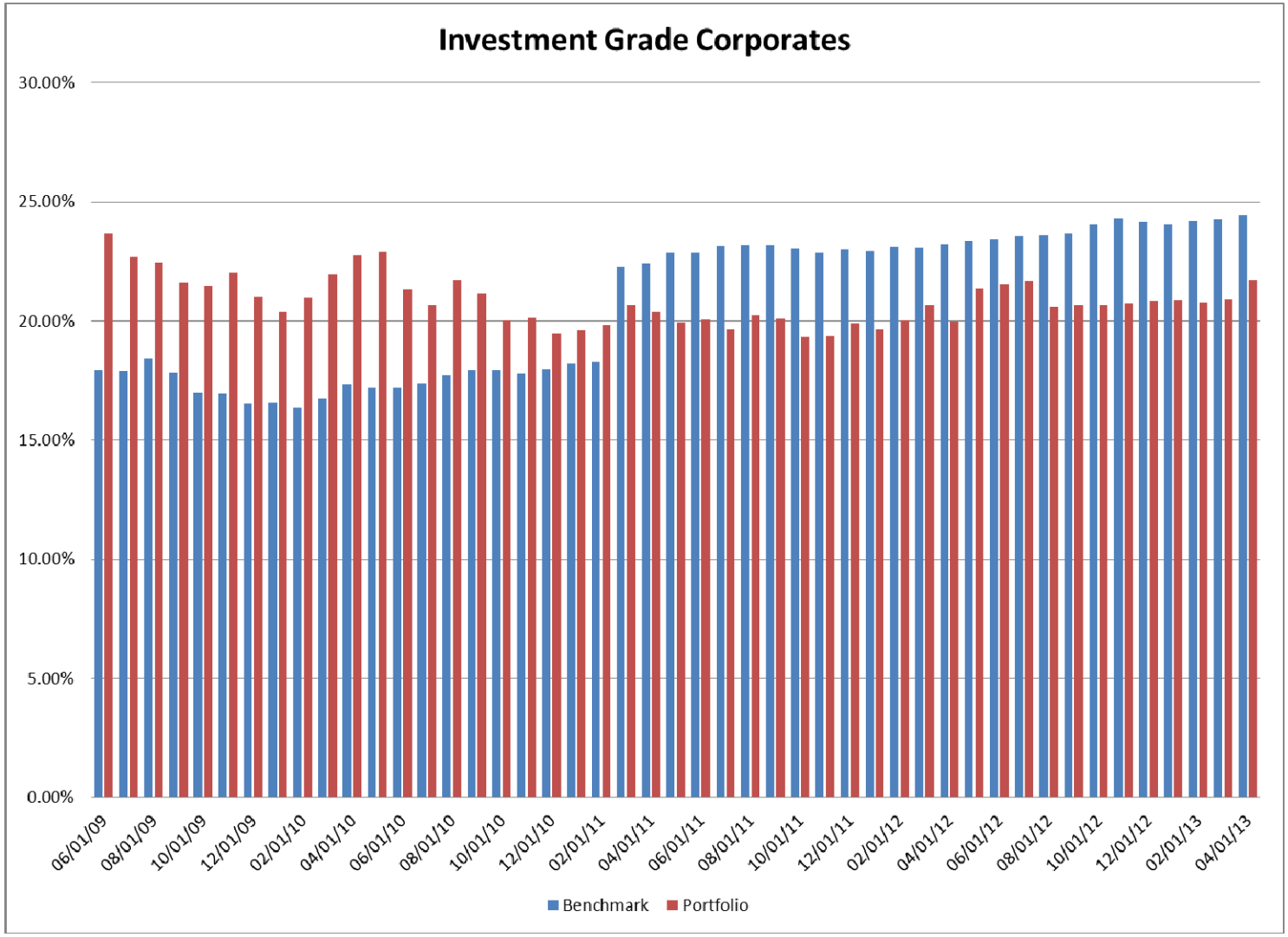

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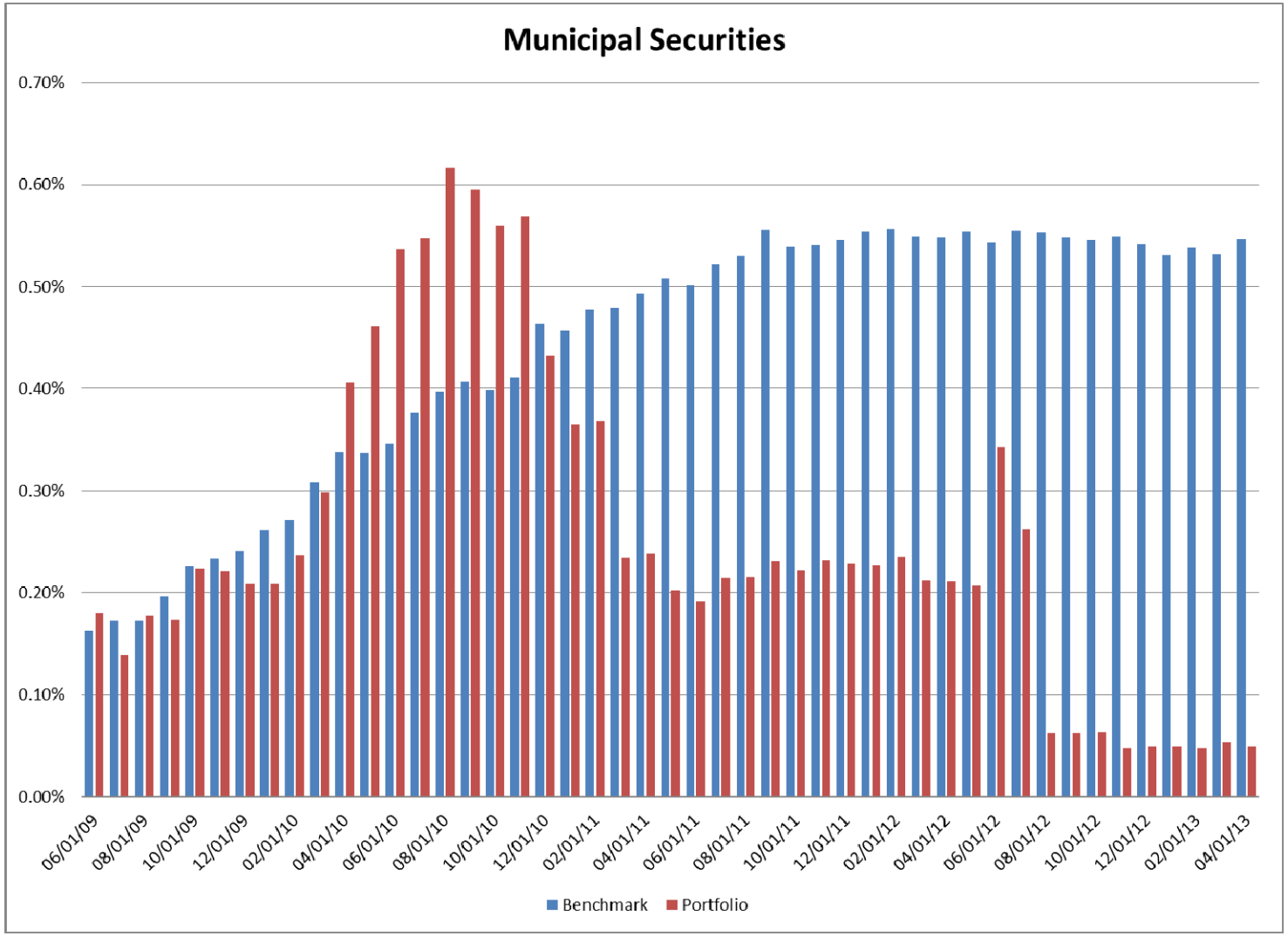

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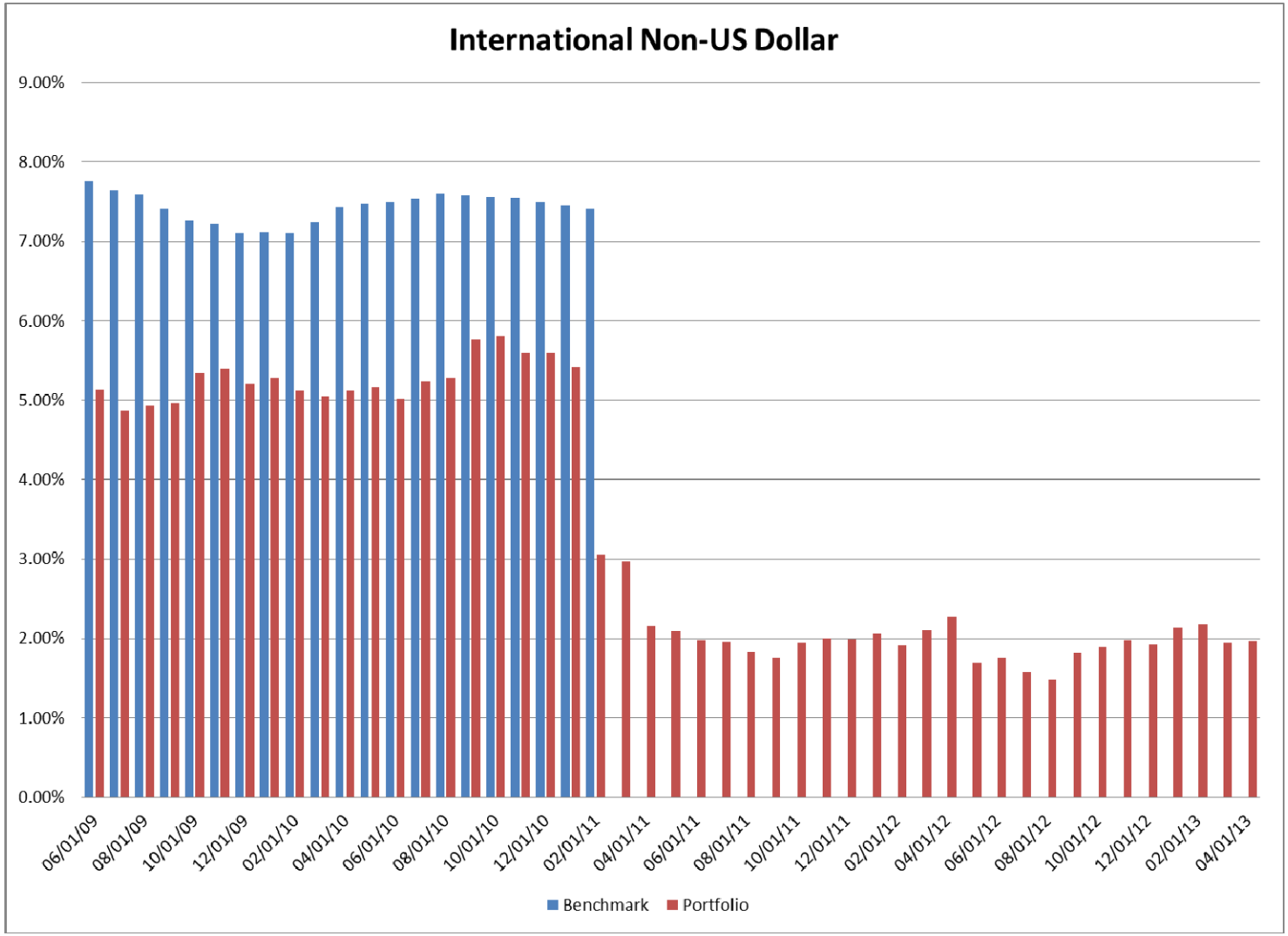

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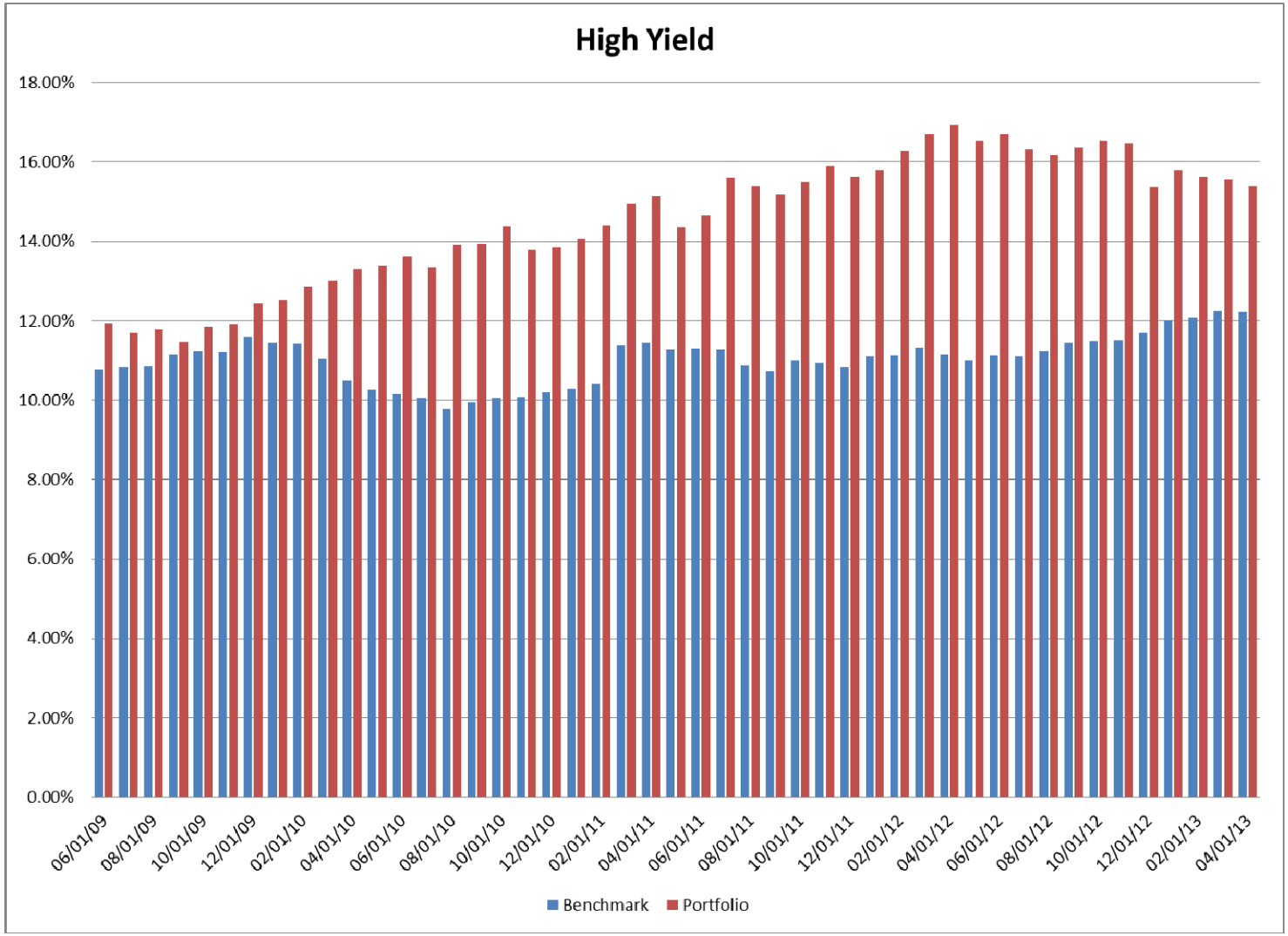

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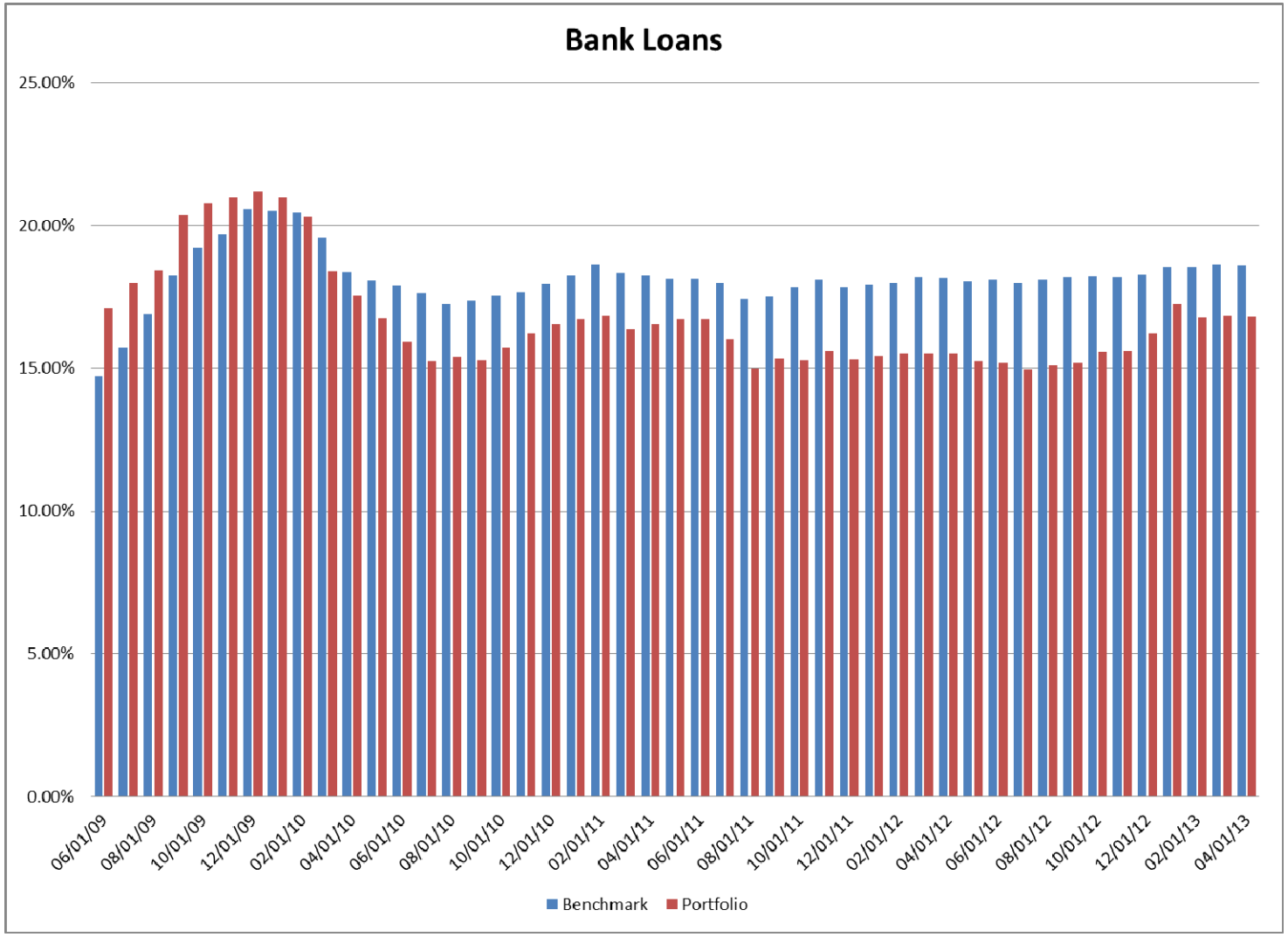

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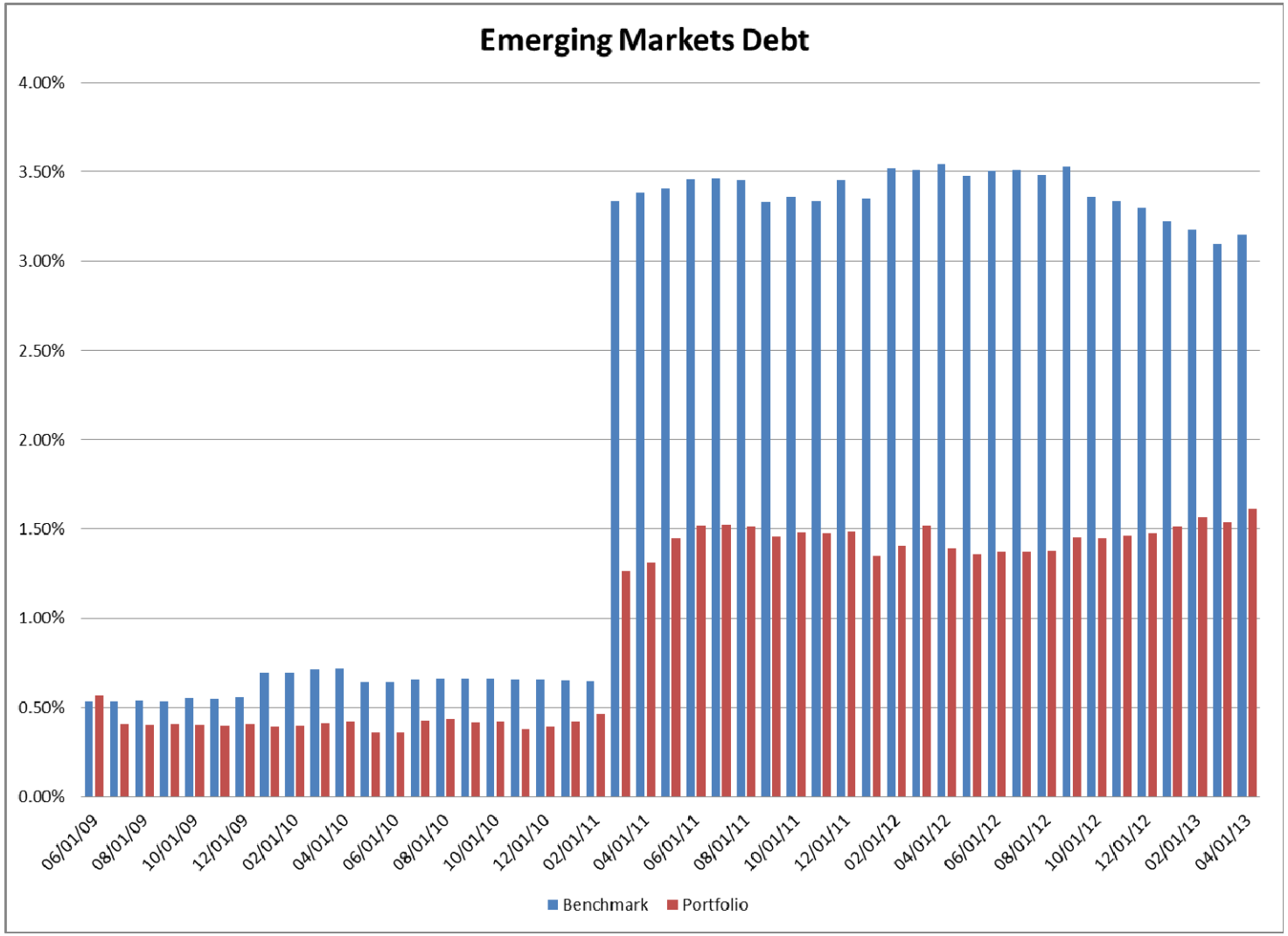
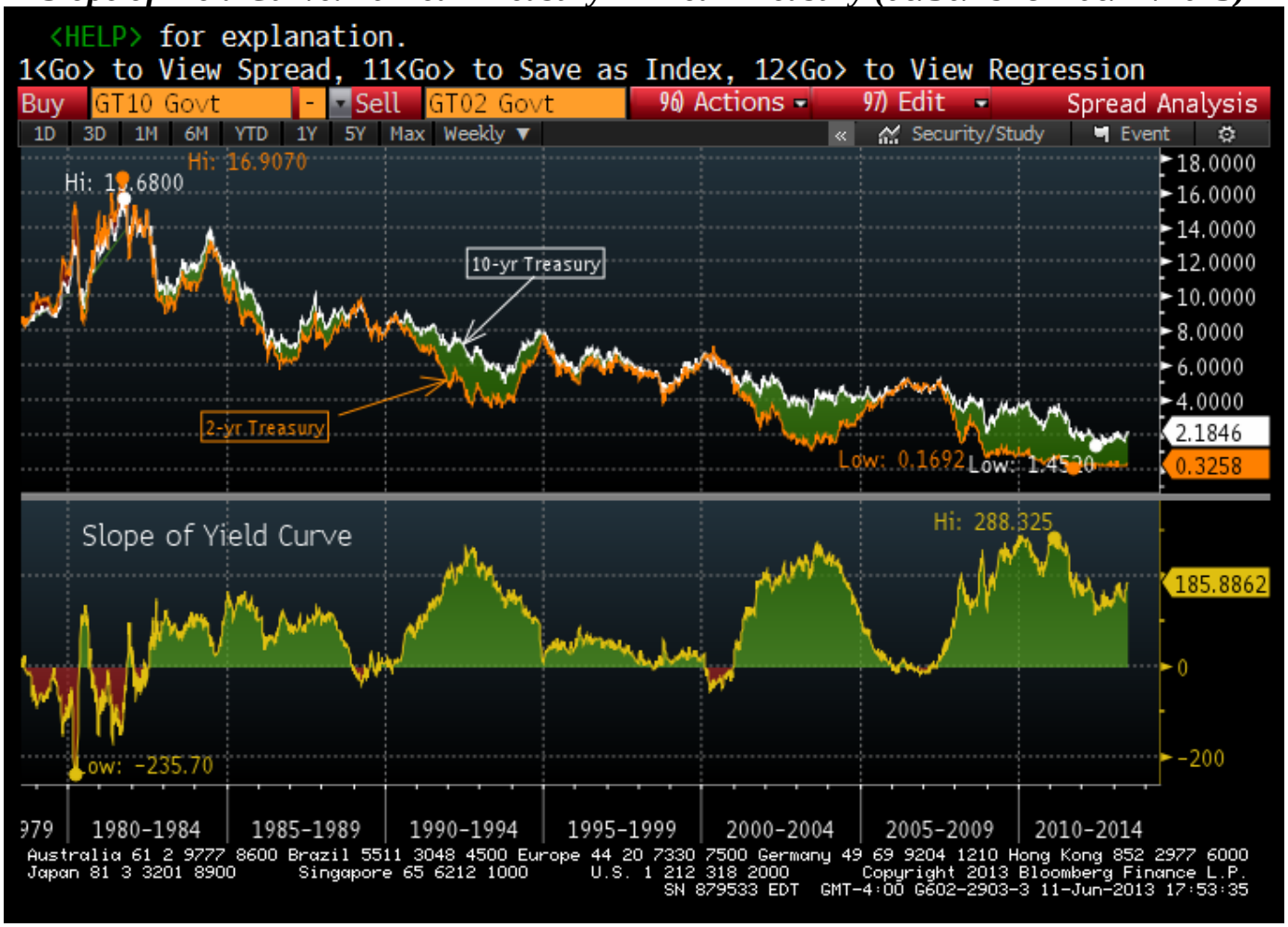


Market Snapshot

Fed Funds vs. 2-Year Treasury vs. 10-Year Treasury (06/30/1978 – 06/11/2013)

Source: Bloomberg

Slope of Yield Curve: 10-Year Treasury - 2-Year Treasury (06/30/1978 – 06/11/2013)

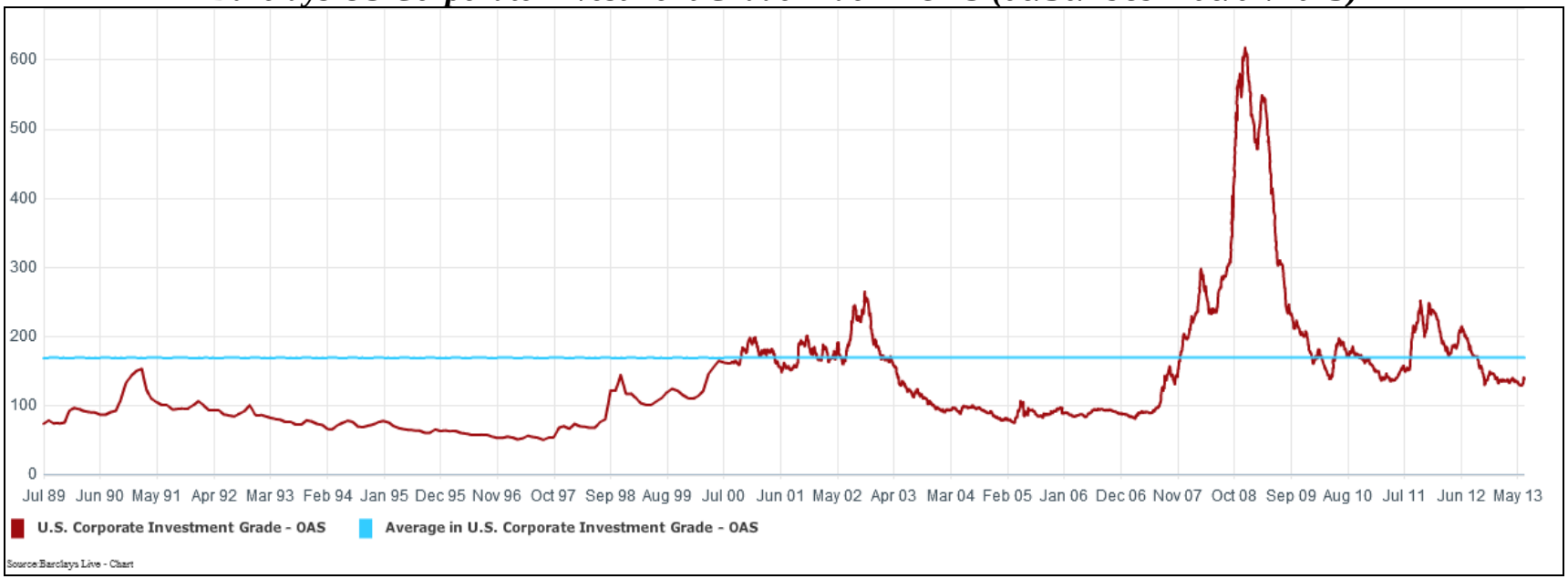


Source: Bloomberg

QE and markets impact

Source: Bloomberg

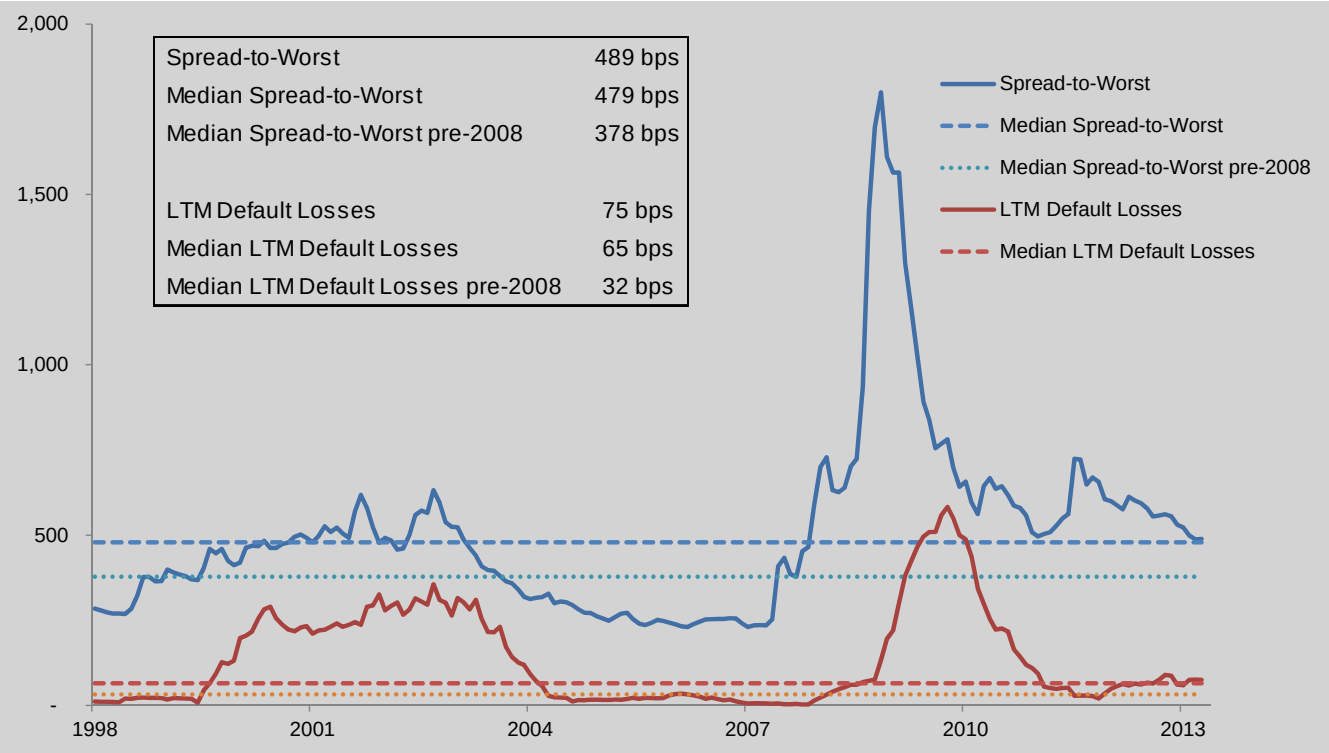
Barclays US Corporate Investment Grade Index – OAS (06/30/1989 – 06/04/2013)



Barclays US Corporate High Yield Index – OAS (01/31/1994 – 06/04/2013)

Leveraged Loans

Credit Spreads and Default Losses[1]



Credit spreads remain at attractive levels

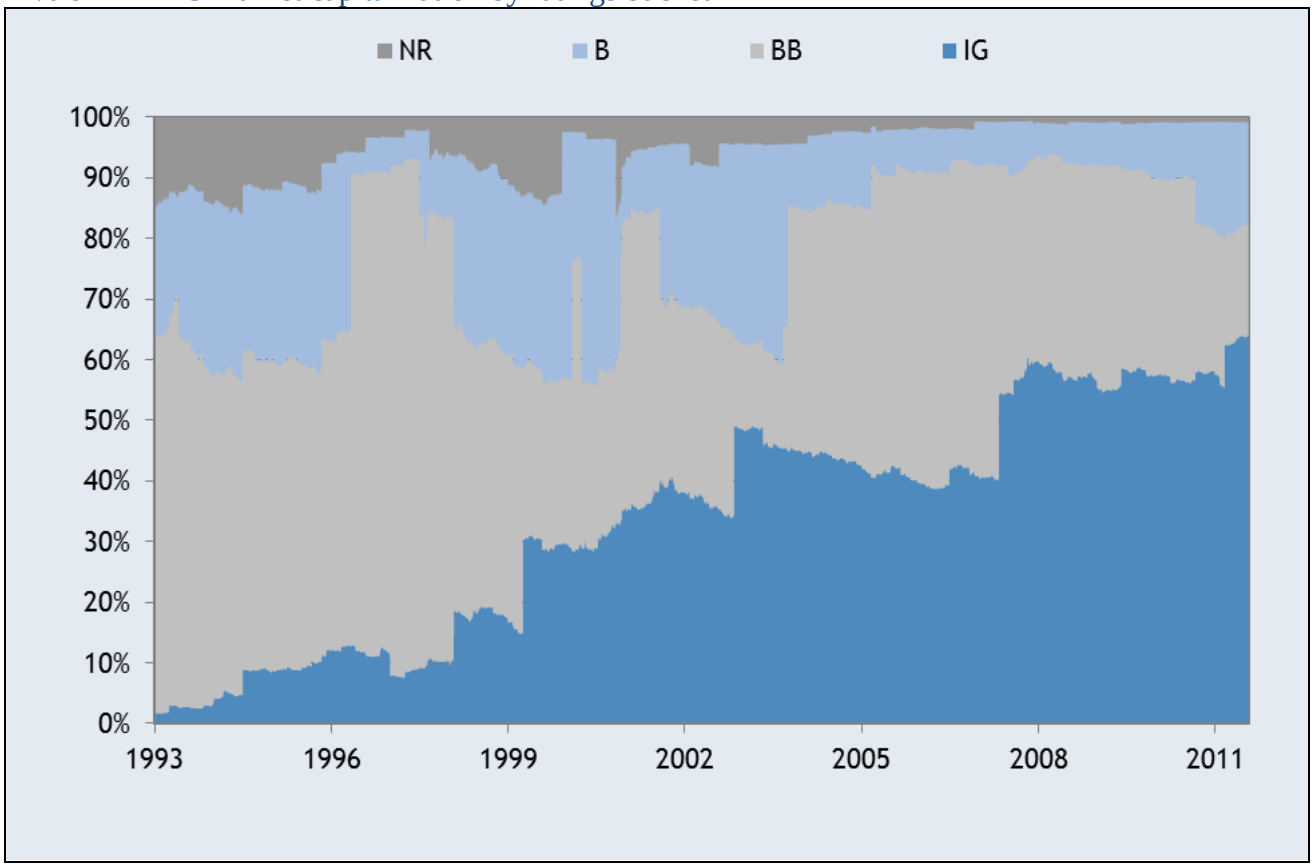
(1) As of May 31, 2013. Source: Credit Suisse.

J.P. Morgan EMBI Global Spread (01/31/2000 – 06/11/2013)

Source: Bloomberg

EM sovereign debt has shown steady improvement in credit quality

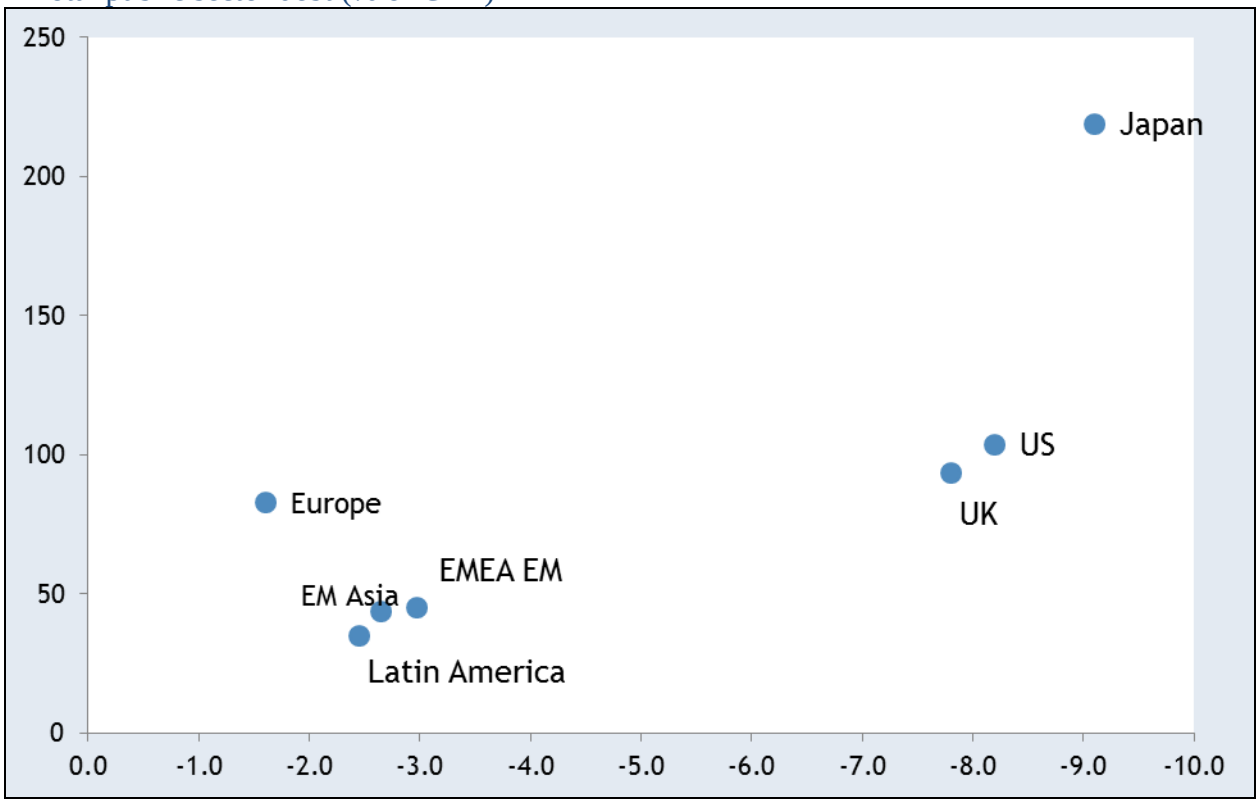
% of EMBIG market capitalization by ratings bucket



Source: J.P. Morgan, September 2012

EM debt/GDP now one-third the size of DM debt/GDP

Total public sector debt (% of GDP)



Source: J.P. Morgan, September 2012

Alliance: US Strategic Core Plus Fixed Income(OIC)

March 28, 2013

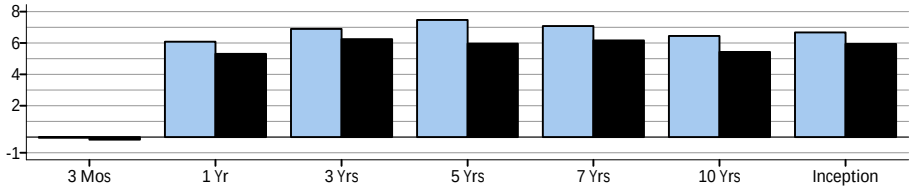
Performance Evaluation

● Alliance: US Strategic Core Plus Fixed Income(OIC) ▲ Custom Benchmark Fixed Income

Benchmark: Custom Benchmark Fixed Income

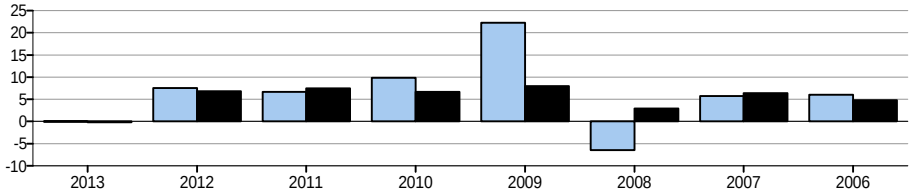
Universe: eA Core Plus Fixed Income

Total Return: Trailing Periods



[Rank]	3 Mos	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	S.I.
Strategy	0.0 [95]	6.1 [64]	6.9 [63]	7.5 [38]	7.1 [43]	6.4 [43]	6.7 [57]
Index	-0.2 [99]	5.3 [80]	6.2 [88]	6.0 [87]	6.2 [84]	5.4 [88]	5.9 [89]
Excess	0.1	0.8	0.7	1.5	0.9	1.0	0.7
Univ Size	*141*	*141*	*140*	*135*	*127*	*112*	*102*

Total Return: Calendar Years



[Rank]	2013	2012	2011	2010	2009	2008	2007	2006
Strategy	0.0 [95]	7.6 [63]	6.7 [63]	9.8 [36]	22.2 [19]	-6.5 [69]	5.8 [65]	6.0 [22]
Index	-0.2 [99]	6.8 [71]	7.5 [43]	6.7 [96]	8.0 [96]	2.9 [24]	6.4 [44]	4.8 [64]
Excess	0.1	0.8	-0.8	3.1	14.3	-9.4	-0.6	1.2
Univ Size	*141*	*142*	*152*	*165*	*168*	*170*	*179*	*181*

Commentary

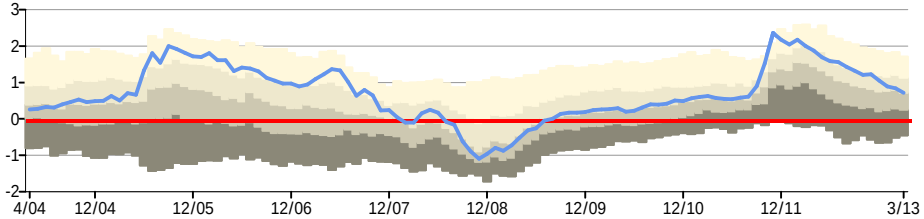
Organizational Changes

- As an organization, AllianceBernstein began to lose its footing in 2008. CEO, Lew Sanders, was replaced by Peter Krauss, who was installed by the firm's French parent. Since that time there have been a series of high profile departures and terminations. Firm assets remain over $400 billion largely because market appreciation has offset outflows, which have averaged over $40 billion for the past three years. Unlike the departures experienced by the equity teams, the fixed income teams have remained relatively stable.

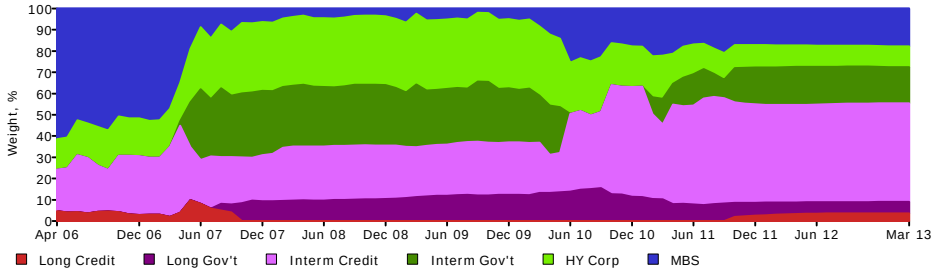
Performance & Portfolio Positioning

- Performance for the strategy has remained relatively strong over the last year. This account is currently underweight EMD by 2-3% as the manager prefers high yield bonds to EMD. Current below-investment-grade allocation is around 10% (including EMD), whereas the guideline allows up to 15% below investment grade. Recent performance benefited from longer duration and spread compression, while underweight EMD was a detractor for performance. Current positioning favors corporate debt to bank loans and higher beta financials and insurance names within investment grade credits. Within the CMBS sector, the portfolio is focused on 5-10 year super dupers. ABS holdings have a relatively short duration; whereas, overall duration is close to neutral at this point after having reduced duration from a few months ago.

Information Ratio: Rolling 36-Month Periods (Apr 04 - Mar 13)



Style Weights (Apr 06 - Mar 13)



Performance Statistics (May 01 - Mar 13)

	3 Yrs	5 Yrs	7 Yrs	10 Yrs	S.I.
Up Market Capture					
Strategy	109.1	128.2	116.9	115.1	109.6
Universe Median	111.4	115.8	107.7	106.6	105.0
Down Market Capture					
Strategy	100.9	132.2	121.7	106.7	102.1
Universe Median	80.0	99.6	97.4	97.9	98.6

BlackRock: Core Plus (OIC)

March 28, 2013

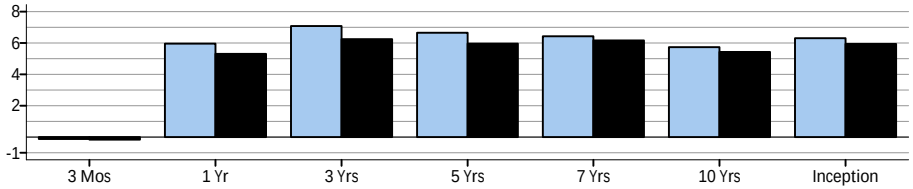
Performance Evaluation

● BlackRock: Core Plus (OIC) ▲ Custom Benchmark Fixed Income

Benchmark: Custom Benchmark Fixed Income

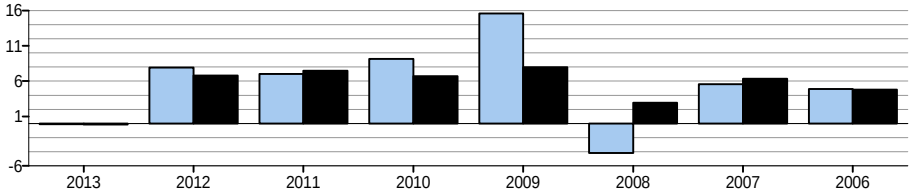
Universe: eA Core Plus Fixed Income

Total Return: Trailing Periods



[Rank]	3 Mos	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	S.I.
Strategy	-0.1 [98]	6.0 [66]	7.1 [56]	6.7 [69]	6.4 [72]	5.7 [73]	6.3 [75]
Index	-0.2 [99]	5.3 [80]	6.2 [88]	6.0 [87]	6.2 [84]	5.4 [88]	5.9 [89]
Excess	0.0	0.7	0.8	0.7	0.3	0.3	0.4
Univ Size	*141*	*141*	*140*	*135*	*127*	*112*	*102*

Total Return: Calendar Years



[Rank]	2013	2012	2011	2010	2009	2008	2007	2006
Strategy	-0.1 [98]	7.9 [57]	7.0 [57]	9.1 [46]	15.6 [49]	-4.2 [60]	5.6 [70]	4.9 [59]
Index	-0.2 [99]	6.8 [71]	7.5 [43]	6.7 [96]	8.0 [96]	2.9 [24]	6.4 [44]	4.8 [64]
Excess	0.0	1.1	-0.5	2.5	7.6	-7.1	-0.8	0.1
Univ Size	*141*	*142*	*152*	*165*	*168*	*170*	*179*	*181*

Commentary

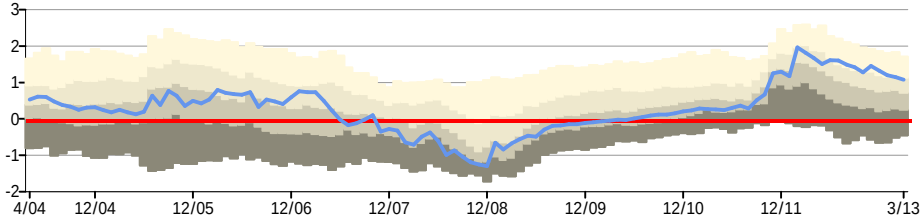
Organizational Changes

- BlackRock, founded in 1988, has risen to become the largest asset manager in the world through the growth of its legacy products as well as a series of strategic acquisitions. The two most significant deals were the mergers with Merrill Lynch Investment Managers (MLIM) in 2006 and Barclays Global Investors (BGI) in 2009. Blackrock's fixed income and passive businesses remain solid and relatively unaffected by the growth of the firm, the active equity teams have suffered. Active equity makes up 7% of the firms AUM and has become a focus for growth over the last few years as senior management has replaced under-performing portfolio managers with the hope that better performance will spur growth.

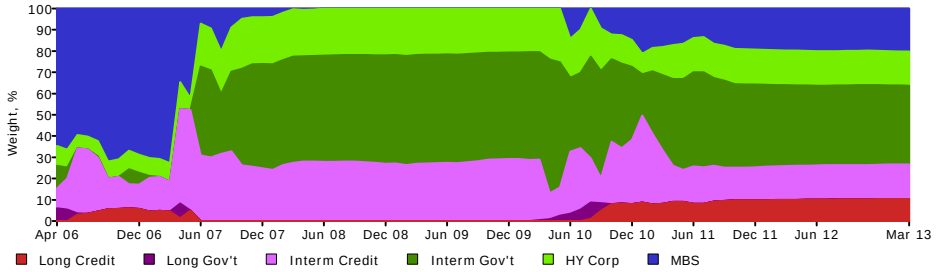
Performance & Portfolio Positioning

- Blackrock continues to moderately outperform the benchmark, with Oregon's portfolio beating the index over the past 3 months, 1 year, 3 years, 5 years and since inception. Over the past 12 months, outperformance has been driven by favorable security selection in investment grade corporates as well as an overweight to high yield. BlackRock has taken advantage of the recent strong market and sold all non-agency RMBS positions in this account. While security selection in the investment grade sector contributed to positive attribution, the account is significantly underweight the sector which hurt relative performance.

Information Ratio: Rolling 36-Month Periods (Apr 04 - Mar 13)



Style Weights (Apr 06 - Mar 13)



Performance Statistics (May 01 - Mar 13)

	3 Yrs	5 Yrs	7 Yrs	10 Yrs	S.I.
Up Market Capture					
Strategy	110.0	111.8	106.3	104.1	104.3
Universe Median	111.4	115.8	107.7	106.6	105.0
Down Market Capture					
Strategy	91.0	111.1	111.8	100.4	99.3
Universe Median	80.0	99.6	97.4	97.9	98.6

Wellington: Core Bond Plus (OIC)

March 28, 2013

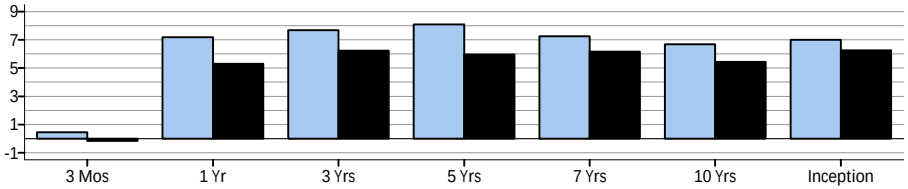
Performance Evaluation

● Wellington: Core Bond Plus (OIC) ▲ Custom Benchmark Fixed Income

Benchmark: Custom Benchmark Fixed Income

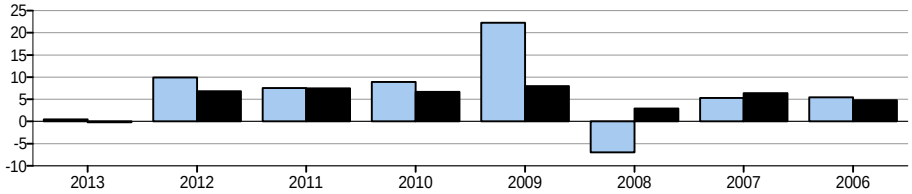
Universe: eA Core Plus Fixed Income

Total Return: Trailing Periods



[Rank]	3 Mos	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	S.I.
Strategy	0.5 [53]	7.2 [36]	7.7 [40]	8.1 [25]	7.3 [36]	6.7 [32]	7.0 [54]
Index	-0.2 [99]	5.3 [80]	6.2 [88]	6.0 [87]	6.2 [84]	5.4 [88]	6.3 [88]
Excess	0.6	1.9	1.4	2.1	1.1	1.3	0.7
Univ Size	*141*	*141*	*140*	*135*	*127*	*112*	*88*

Total Return: Calendar Years



[Rank]	2013	2012	2011	2010	2009	2008	2007	2006
Strategy	0.5 [53]	9.9 [24]	7.5 [42]	8.9 [52]	22.3 [19]	-7.0 [70]	5.3 [74]	5.4 [34]
Index	-0.2 [99]	6.8 [71]	7.5 [43]	6.7 [96]	8.0 [96]	2.9 [24]	6.4 [44]	4.8 [64]
Excess	0.6	3.2	0.0	2.2	14.3	-9.9	-1.0	0.6
Univ Size	*141*	*142*	*152*	*165*	*168*	*170*	*179*	*181*

Commentary

Organizational Changes

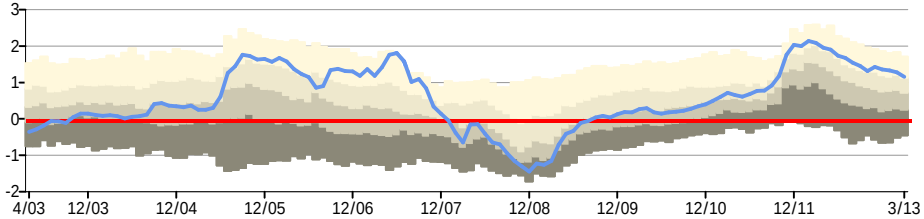
- Wellington Management is a private, independent investment management company with $748 Billion assets under management, serving as investment advisor for more than 2,100 institutional clients in over 50 countries. The firm's products are invested using a broad range of asset classes and investment approaches. In total, approximately 38% of assets are invested in equities, 48% in fixed income, and 14% in multi-strategy investments.

- There has been only one change to the investment team to report. Wellington announced the departure of Ricardo Adrogue, lead Portfolio Manager of Emerging Local Debt strategy. Jim Valone, the leader of Wellington's Emerging Markets Debt investment team and back-up to Ricardo on ELD strategy, will assume lead portfolio management responsibilities for the strategy. Jim and Ricardo served as Co-Portfolio Managers for the ELD investment strategy at the time of its inception in 2007. Wellington is beginning a search for an experienced portfolio manager to replace Ricardo. In the meantime, the existing EMD team of 15 investment professionals will help absorb Ricardo's coverage.

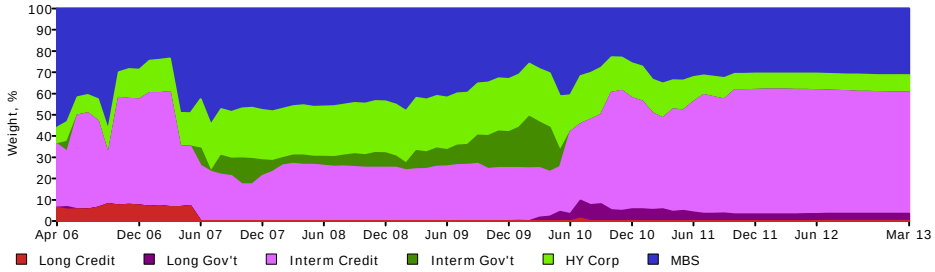
Performance & Portfolio Positioning

- Wellington has positioned Oregon's portfolio to be opportunistic in an investment environment they view as being highly volatile during the next 9 months. The portfolio is overweight duration, particularly in the 10-30 year points on the curve, while spread duration has been dialed back in favor of opportunistic trades that are implemented with futures and derivatives. Longer term, the portfolio will count on non-agency RMBS and BB-rated corporate bonds to deliver performance.
- Looking ahead, the portfolio is being managed based on interest rates remaining contained (i.e. 125-200bps on 10 year yields), investment grade credit to flatten, and volatility to be elevated into 2013 due to uncertainly surrounding Europe and domestic fiscal policy. The opportunistic investment bucket is expected to drive returns near term.
- EMD positioning is pro-risk, as the manager continues to add corporate exposure (19% corporate v.s. 0% in benchmark). The portfolio is likely to underperform if corporate sector performance significantly lags in the future.

Information Ratio: Rolling 36-Month Periods (Apr 03 - Mar 13)



Style Weights (Apr 06 - Mar 13)



Performance Statistics (Apr 00 - Mar 13)

	3 Yrs	5 Yrs	7 Yrs	10 Yrs	S.I.
Up Market Capture					
Strategy	116.1	126.4	113.5	111.6	103.8
Universe Median	111.4	115.8	107.7	106.6	105.3
Down Market Capture					
Strategy	77.8	101.1	99.2	86.5	82.6
Universe Median	80.0	99.6	97.4	97.9	98.9

Western Asset: US Core Full (OIC)

March 28, 2013

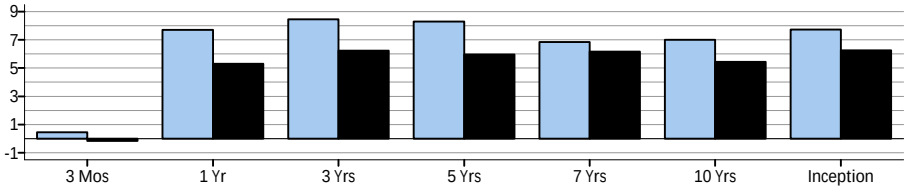
Performance Evaluation

● Western Asset: US Core Full (OIC) ▲ Custom Benchmark Fixed Income

Benchmark: Custom Benchmark Fixed Income

Universe: eA Core Plus Fixed Income

Total Return: Trailing Periods



[Rank]	3 Mos	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	S.I.
Strategy	0.5 [53]	7.7 [27]	8.5 [19]	8.3 [20]	6.8 [57]	7.0 [25]	7.7 [15]
Index	-0.2 [99]	5.3 [80]	6.2 [88]	6.0 [87]	6.2 [84]	5.4 [88]	6.3 [88]
Excess	0.6	2.4	2.2	2.3	0.7	1.6	1.5
Univ Size	*141*	*141*	*140*	*135*	*127*	*112*	*88*

Total Return: Calendar Years

[Rank]	2013	2012	2011	2010	2009	2008	2007	2006
Strategy	0.5 [53]	11.0 [14]	6.2 [73]	12.2 [11]	28.5 [12]	-15.2 [93]	2.4 [97]	7.2 [9]
Index	-0.2 [99]	6.8 [71]	7.5 [43]	6.7 [96]	8.0 [96]	2.9 [24]	6.4 [44]	4.8 [64]
Excess	0.6	4.2	-1.2	5.5	20.6	-18.1	-4.0	2.5
Univ Size	*141*	*142*	*152*	*165*	*168*	*170*	*179*	*181*

Commentary

Organizational Changes

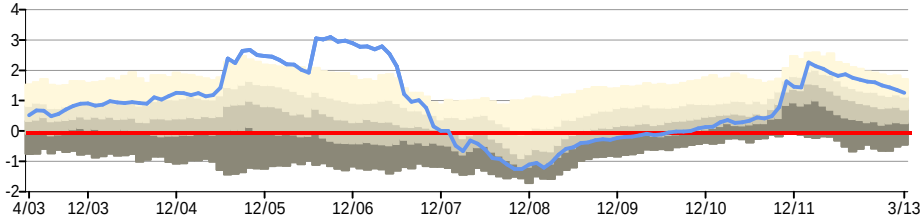
- Western Asset Management was founded in October 1971 by United California Bank (which later became First Interstate) and remains focused on managing fixed income strategies. With approximately $450 billion in AUM and over 900 employees, Western Asset is one of the largest bond managers in the world.

- Western Asset was acquired by Legg Mason in 1986 and currently operates as an independent, autonomous affiliate. In February 1996, Legg Mason acquired Lehman Brothers Global Asset Management Limited, which now serves as Western Asset's London office. The firm established an office in Singapore in 2000, which was later expanded when Legg Mason acquired Rothschild Asset Management (Singapore) Ltd in 2003. Finally, Legg Mason acquired a substantial part of Citigroup's asset management business in 2005 in exchange for its brokerage and capital markets business. Western Asset is headquartered in Pasadena, CA with additional offices in London, Singapore, Tokyo, New York, Sao Paulo and Melbourne.

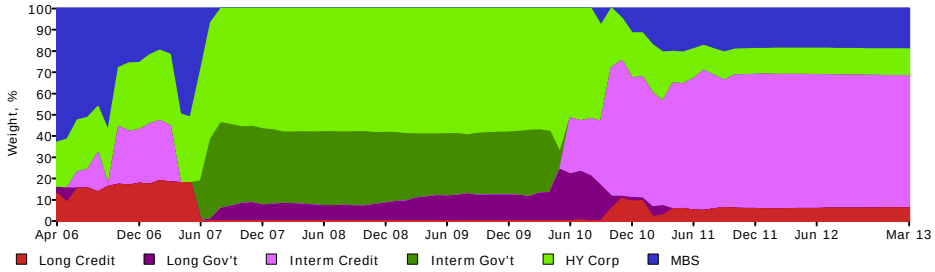
Performance & Portfolio Positioning

- Western has outperformed substantially versus Oregon's custom benchmark. Currently, the top three sectors overweight are MBS, investment grade credit and high yield. In addition, the portfolio contains 2.6% bank loans, 5.3% non-US bonds, and 3.6% EM Debt. EMD remains underweight the 11.4% allocation to the custom index.

Information Ratio: Rolling 36-Month Periods (Apr 03 - Mar 13)



Style Weights (Apr 06 - Mar 13)



Performance Statistics (Apr 00 - Mar 13)

	3 Yrs	5 Yrs	7 Yrs	10 Yrs	S.I.
Up Market Capture					
Strategy	127.2	148.5	123.2	129.3	126.0
Universe Median	111.4	115.8	107.7	106.6	105.3
Down Market Capture					
Strategy	81.2	165.3	158.4	127.5	129.4
Universe Median	80.0	99.6	97.4	97.9	98.9

KKR - Bank Loans(OIC)

March 28, 2013

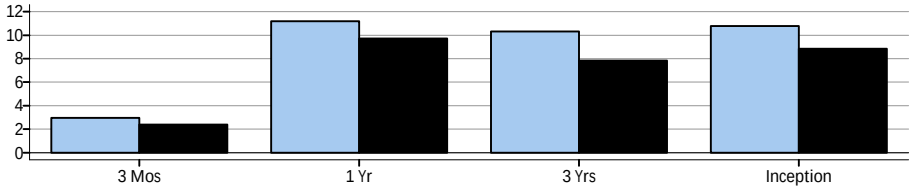
Performance Evaluation

● KKR - Bank Loans(OIC) ▲ KKR Benchmark

Benchmark: KKR Benchmark

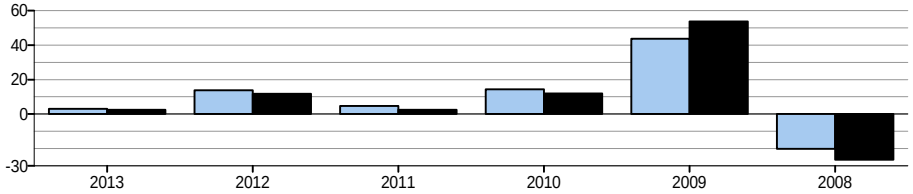
Universe: eA Bank Loan Fixed Income

Total Return: Trailing Periods



[Rank]	3 Mos		1 Yr		3 Yrs		S.I.	
Strategy	3.0	[6]	11.2	[7]	10.3	[1]	10.8	[1]
Index	2.4	[48]	9.7	[11]	7.8	[22]	8.8	[5]
Excess	0.6		1.5		2.5		1.9	
Univ Size		*38*		*38*		*38*		*36*

Total Return: Calendar Years



[Rank]	2013		2012		2011		2010		2009		2008	
Strategy	3.0	[6]	13.8	[1]	4.8	[10]	14.4	[8]	43.6	[51]	-20.1	[5]
Index	2.4	[48]	11.7	[10]	2.6	[68]	11.9	[20]	53.7	[7]	-26.4	[63]
Excess	0.6		2.1		2.2		2.5		-10.1		6.3	
Univ Size		*38*		*40*		*48*		*48*		*48*		*49*

Commentary

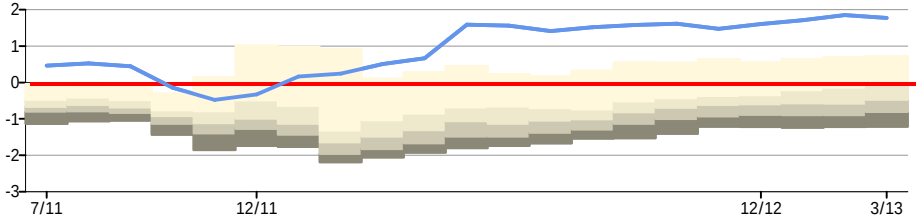
Organizational Changes

- KKR began operations on May 1, 1976 as a private equity firm specializing in leveraged buyouts. The firm was founded by Henry R. Kravis and George R. Roberts, who had been buyout specialists at Bear, Stearns & Co. During the first two decades of operation, KKR was focused on building out their private equity business. In 2004, they began to actively pursue debt investments as a separate asset class with the formation of KKR Financial Holdings LLC ('KFN'), a publicly traded specialty finance company. KAM is primarily focused on managing corporate debt specifically in the areas of corporate credit and structured finance. They manage a fundamentally-based, research-intensive series of below investment grade credit strategy. The KKR credit team has 18-20 analysts with 9 senior analysts.

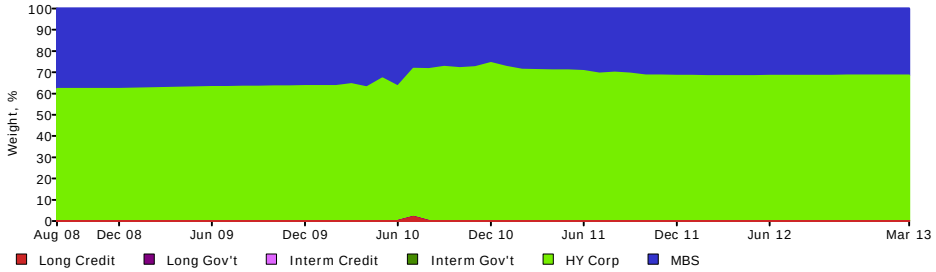
Performance & Portfolio Positioning

- Overall, performance versus Oregon's custom benchmark has been very good. Over the past year, the account's loan positions outperformed its index, however, the account's high yield positions underperformed due to a low allocation to CCC credits. KKR runs a relatively concentrated portfolio for Oregon. While the total number of positions can range between 120 to 200 names, 70% of the portfolio is concentrated in 65 names. There is 5% position limit for high conviction names. Portfolio turnover was around 45-50% in 2012. There has been one recent departure at from the credit team. Fred Goltz decided to leave the firm. Fred's recent focus at KKR was in building KKR's mezzanine business.

Information Ratio: Rolling 36-Month Periods (Jul 11 - Mar 13)



Style Weights (Aug 08 - Mar 13)



Performance Statistics (Aug 08 - Mar 13)

	3 Yrs	S.I.
Up Market Capture		
Strategy	117.3	96.0
Universe Median	79.4	76.0
Down Market Capture		
Strategy	87.1	74.6
Universe Median	61.8	73.5

Oak Hill Bank Loans(OIC)

March 28, 2013

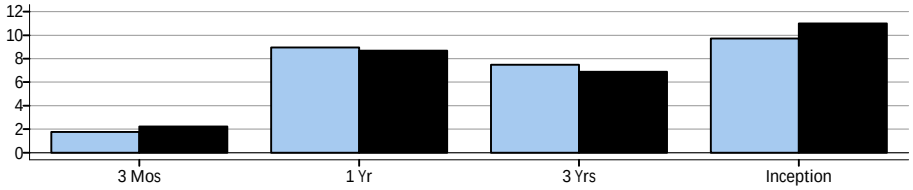
Performance Evaluation

● Oak Hill Bank Loans(OIC) ▲ Oak Hill Benchmark

Benchmark: Oak Hill Benchmark

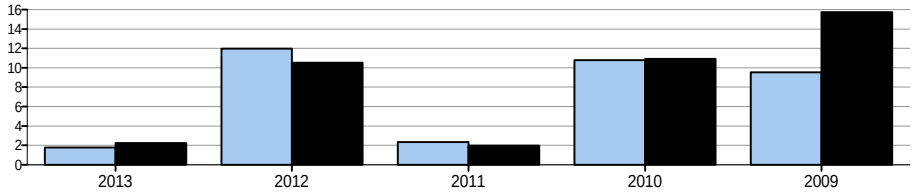
Universe: eA Bank Loan Fixed Income

Total Return: Trailing Periods



[Rank]	3 Mos		1 Yr		3 Yrs		S.I.	
Strategy	1.8	[93]	9.0	[28]	7.5	[31]	9.7	[55]
Index	2.2	[54]	8.7	[36]	6.9	[58]	11.0	[22]
Excess	-0.5		0.3		0.6		-1.3	
Univ Size		*38*		*38*		*38*		*38*

Total Return: Calendar Years



[Rank]	2013		2012		2011		2010		2009	
Strategy	1.8	[93]	12.0	[9]	2.4	[80]	10.8	[39]	9.5	[76]
Index	2.2	[54]	10.5	[25]	2.0	[91]	10.9	[36]	15.7	[7]
Excess	-0.5		1.4		0.4		-0.2		-6.2	
Univ Size		*38*		*40*		*48*		*48*		*50*

Commentary

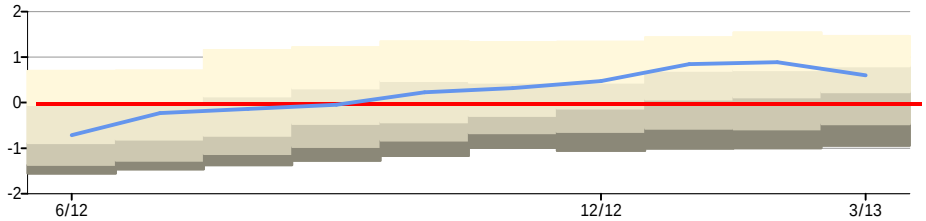
Organizational Changes

- Oak Hill Advisors, L.P., including its affiliated investment advisors and predecessor firms, is an independent investment firm specializing in leveraged loans, high yield bonds, structured products, distressed securities and turnaround investments. The firm's investment activities are focused on the North American and European markets. With approximately $17.0 billion of capital, Oak Hill Advisors manages distressed funds, credit hedge funds, customized accounts and other specialty credit funds. Today, Oak Hill Advisors has over 130 employees located in four offices: New York City, London, Sydney, Australia and Fort Worth, Texas.

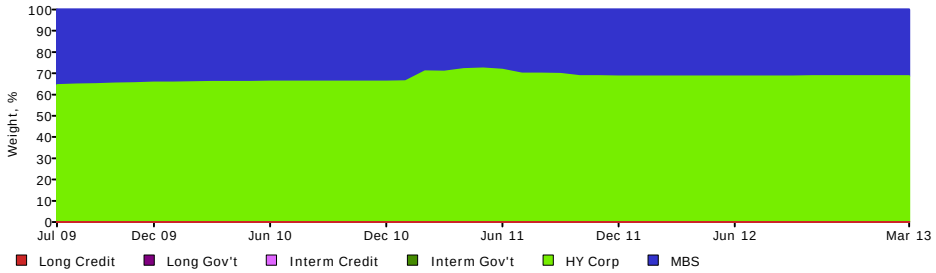
Performance & Portfolio Positioning

- The Leveraged Loans account for Oregon is managed by Alan Schrager, who is the sole portfolio manager responsible for managing the account. Alan is a very knowledgeable PM who knows the account from inside out, including each of the 100+ names in the portfolio. The account's benchmark is 85% loans and 15% bonds, which is in line with actual high yield allocation but does not reflect the account's CLO debt holdings (most of which are subordinated A/BBB tranches from secondary market, totaled to be about 10% of the portfolio). Both of OHA's leveraged loan strategy and high yield bond strategy enjoyed strong performances in up markets and down markets. Performance has been strong relative to Oregon's custom benchmark.

Information Ratio: Rolling 36-Month Periods (Jun 12 - Mar 13)



Style Weights (Jul 09 - Mar 13)



Performance Statistics (Jul 09 - Mar 13)

	3 Yrs	S.I.
Up Market Capture		
Strategy	110.2	92.9
Universe Median	94.5	87.4
Down Market Capture		
Strategy	112.2	112.2
Universe Median	79.3	79.3

TAB 3 – OPERF ASSET / LIABILITY STUDY

MEMORANDUM

To: Oregon Investment Council
From: John Skjervem
Date: June 18, 2013
Subject: Strategic Asset Allocation Recommendation

Purpose

This memo summarizes recent discussions and outcomes among senior staff, consultants and OIC members regarding the updated strategic asset allocation recommendation developed by SIS as part of that firm's OPERF Asset Liability Modeling (ALM) study.

Recommendation

I recommend OIC approve the framework and updated strategic asset allocation targets SIS will present at the June 26 OIC meeting. This framework explicitly incorporates primary themes that have emerged as part of the Investment Beliefs Project (IBP), and makes incremental changes to the current policy schema that should result in improved portfolio resilience under various, and particularly adverse, future economic and financial market environments. Finally, the changes contemplated in this framework, while modest in percentage terms, will have important impacts on investment division resources and operating dynamics over the contemplated 3 to 5 year implementation period; however, these impacts represent logical milestones in the investment division's evolution and appropriately match the large and increasingly sophisticated OPERF portfolio for which the division is responsible.

Summary

SIS was retained to evaluate OPERF's strategic asset allocation relative to a concurrent update of PERS liabilities. In this evaluation, SIS projected both the magnitude and timing of OPERF's cash flow obligations (i.e., the liability side) and OPERF portfolio performance (i.e., the asset side) to determine both current and future funding levels. In its performance projection, SIS incorporated a revised set of capital market expectations by asset class, namely estimates of future returns, volatility and pair-wise correlations. These expectations reflect in part both recent declines in interest rates and the strong performance of risk-based investments in the post Global Financial Crisis period. Accordingly, return expectations for both fixed income and risk-based investments are lower than those used in previous ALM studies.

SIS's work also intentionally considered the following two issues arising from recent IBP-related discussions: 1) how and to what degree should OIC and staff hedge the risk of future inflation to the OPERF portfolio; and 2) on an ex ante basis, what is the appropriate role of fixed income in the OPERF portfolio? The focus of this latter question was simply whether fixed income assets should continue to be deployed and managed for return-seeking purposes or instead for liquidity, capital preservation and risk mitigation purposes.

To determine OIC's perspective on these two IBP-related issues, SIS then worked in conjunction with senior staff to develop and refine multiple investment "scenarios" in which select portfolio attributes (e.g., the role of fixed income, the proportion of illiquid assets, etc.) varied. Importantly, an asset allocation proxy (or mix) was

developed for each of these various scenarios. These mixes were further "normalized" to produce a similar return (~8%) and volatility (~14%) outcome. In other words, even though portfolio composition varied (in some cases dramatically) across the alternative scenarios, each scenario mix produced a similar result in terms of expected risk and return. This technique enabled SIS, senior staff and PCA representatives participating in the OIC member discussions to isolate as best possible the impacts and trade-offs associated with incorporating IBP-related considerations in strategic asset allocation development.

In discussions with each OIC member, SIS, senior staff and PCA representatives compared a list of 3 "finalist" scenarios with both current policy targets and OPERF's actual asset allocation as of April 30, 2013. These discussions provided SIS, senior staff and PCA representatives with useful, well considered feedback which in turn helped inform our collective recommendation to explicitly incorporate IBP-related themes in SIS's updated strategic asset allocation recommendation.

Once this thematic, scenario-based exercised was completed, SIS then evaluated various asset allocation mixes within that particular scenario. Whereas risk and return had been normalized across the scenarios to isolate the effects of theme-based portfolio construction, now multiple mixes were created within a single, IBP-based scenario to produce alternative risk v. return choices. As described in the material supporting SIS's June 26 presentation, these mixes range in expected annual return from 7.0% to 8.3% with corresponding expected annual volatility of 11.9% and 15.3%, respectively. The specific mix we are submitting for approval ("Mix 4") has an expected annual return of 7.9% with expected annual volatility of 14.4%. And while this risk/return profile is not significantly different from either OPERF's current policy targets or that reflected in its actual allocation as of April 30, 2013, the composition of Mix 4 does represent important, albeit incremental steps toward a) enhanced inflation sensitivity and b) improved liquidity, risk-mitigation and capital preservation in the OPERF fixed income portfolio.

Specifically, Mix 4 reflects more of a "barbell" approach to portfolio construction where the added return and volatility attributed to a higher Private Equity allocation (note: higher relative to current policy targets but lower relative to OPERF's actual Private Equity allocation at April 30, 2013) is offset by the improved liquidity, capital preservation and risk-mitigation characteristics of Mix 4's modified fixed income portfolio. In other words, Mix 4's more conservative bond portfolio supports a higher overall equity allocation. In addition, Mix 4 increases the OPERF allocation to Real Assets to enhance its sensitivity to a potential future environment that includes higher (and unexpected) levels of goods and services inflation. The Real Assets category includes Commodities, Infrastructure and Natural Resources, investments which can provide equity-like returns indexed in full or part to inflation.

Again, Mix 4 does not depart dramatically from the risk/return profile of either OPERF's current policy targets or its actual asset allocation at April 30, 2013; however, the composition changes contemplated in it should make Mix 4 more resilient in "tail events" such as higher inflation and sharp, equity market declines. Specifically, the increased Mix 4 Real Assets allocation should enable the OPERF portfolio to better match PERS liabilities in an inflationary environment, while the Mix 4 emphasis on a more defensive bond portfolio should provide a reliable source of liquidity, capital preservation and equity risk diversification in an environment where adverse market conditions exert sharp downward pressure on equity and/or risk-based asset classes.

Thank you for your participation in and many contributions to the ALM study and related asset allocation deliberations, and I look forward to discussing these and related matters with you at next week's OIC meeting.

OPERF ASSET/LIABILITY ANALYSIS

June 26, 2013

STRATEGIC INVESTMENT SOLUTIONS, INC.

333 Bush Street, Suite 2000
San Francisco, CA 94104
(415) 362-3484

John P. Meier, CFA
Managing Director

Presentation Outline

- Analysis of Investment Beliefs underlying Mix Development
- Beliefs-based Recommendation
- Asset Mixes used in Analysis
- ALM Risk/Reward Analysis
- Strategic Asset Allocation Target Recommendation
- Other Considerations
- Appendix
  - Asset Class Capital Market Expectations
  - ALM Analyses
  - Economic Scenario Analysis

Summary of Beliefs Analysis

- Developed Multiple Beliefs Scenarios
  - Unconstrained, Existing FI Strategy (i.e., return-seeking emphasis), Alternative FI Strategy (i.e., risk mitigating emphasis), Endowment Model, Greater Inflation Hedging and numerous other combinations.
- Compared One Mix from Each Scenario
  - "Normalized" these scenario mixes at ~8% Return and ~14% Risk
  - Evaluated these scenario mixes on the following dimensions: a) sources of risk; b) historical stress test results; and c) prospective performance in potential future economic environments.

Summary of Beliefs Analysis (continued)

- Narrowed Scenario Comparison to 3 “Finalists” for OIC Member Discussions
  - Status Quo
  - Enhanced Inflation Hedging
  - Enhanced Inflation Hedging *and* a shift in the composition of the Fixed Income portfolio from a return-seeking emphasis to a risk-mitigating emphasis where the latter includes incremental improvements in liquidity, capital preservation and diversification attributes.

Beliefs-based Asset Allocation Recommendation

- Enhance the OPERF portfolio's inflation sensitivity by increasing its allocation to Real Assets (other than Real Estate) to 7.5% from the current 4% policy target.
- Increase the Real Estate allocation to 12.5% from the current 11% policy target.
- Increase non-correlated hedging strategies ("Absolute Return") to 2.5% from the current 1% policy target.
- Shift 40% of the current Fixed Income portfolio to Short Duration/High Quality bonds to provide a "money good" source of liquidity and capital preservation during adverse market conditions.

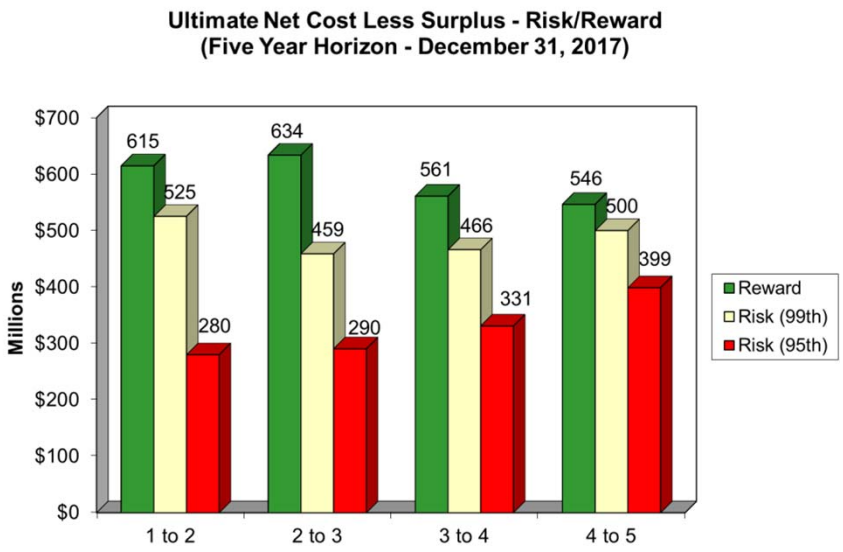
Asset Mix Alternatives

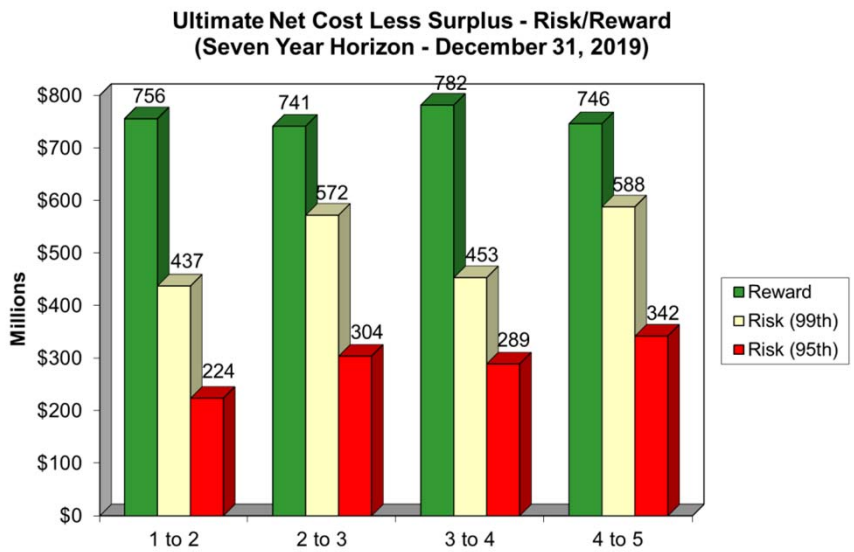
Asset Class	Current Targets	Current Mix	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
Public Equity	**43.0%**	**38.0%**	**26.5%**	**30.3%**	**34.4%**	**37.9%**	**42.5%**
Private Equity	**16.0%**	**22.0%**	**19.7%**	**20.0%**	**19.9%**	**20.0%**	**20.0%**
US Fixed	15.0%	15.0%	14.6%	12.4%	10.0%	7.5%	5.0%
High Yield	2.5%	2.5%	1.8%	1.5%	1.2%	0.9%	0.6%
EM Debt	2.5%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Bank Loan	5.0%	5.0%	5.5%	4.6%	3.7%	2.8%	1.9%
Short Dur. High Quality	0.0%	0.0%	14.6%	12.4%	10.0%	7.5%	5.0%
Fixed Income	**25.0%**	**25.0%**	**36.5%**	**30.9%**	**24.9%**	**18.8%**	**12.5%**
Absolute Return	**1.0%**	**0.8%**	**2.5%**	**2.5%**	**2.5%**	**2.5%**	**2.5%**
Real Estate	11.0%	12.0%	7.3%	8.8%	10.8%	13.3%	15.0%
Commodities	0.7%	0.8%	2.5%	2.5%	2.5%	2.5%	2.5%
Infrastructure	1.5%	0.8%	2.5%	2.5%	2.5%	2.5%	2.5%
Hard Assets	1.8%	0.8%	2.5%	2.5%	2.5%	2.5%	2.5%
Real Assets	**15.0%**	**14.2%**	**14.8%**	**16.3%**	**18.3%**	**20.8%**	**22.5%**
Expected Return	7.8%	7.9%	7.0%	7.3%	7.6%	7.9%	8.3%
Exp. Std. Deviation	14.0%	14.2%	11.9%	12.7%	13.5%	14.4%	15.3%

Asset Mix Risk Analysis

	Current Targets	Current Mix	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
Liquidity	61.5%	56.8%	60.1%	59.7%	59.5%	58.8%	58.7%
Sources of Risk							
Growth	82.9%	85.5%	81.6%	81.7%	81.2%	80.3%	80.3%
Inflation	14.3%	12.1%	15.7%	16.1%	16.9%	18.1%	18.4%
Diversifying	2.8%	2.4%	2.7%	2.2%	1.9%	1.6%	1.3%
Historical Scenarios							
87 Crash							
Oct/87	-15.2%	-16.5%	-12.5%	-13.7%	-14.9%	-16.2%	-17.4%
Oct- 87 - Nov 87	-17.8%	-19.4%	-15.0%	-16.4%	-17.7%	-19.1%	-20.5%
LTCM/Russian Default							
Aug/98	-2.6%	-2.6%	-1.9%	-2.1%	-2.3%	-2.5%	-2.7%
9-11							
Sep/01	-5.4%	-4.8%	-3.4%	-3.9%	-4.5%	-5.0%	-5.6%
Tech Bubble Correction							
Apr-00 - Feb-03	-13.4%	-12.5%	-2.8%	-5.5%	-8.2%	-10.5%	-13.4%
08 Meltdown							
Nov 07 - Feb 09	-39.7%	-37.9%	-29.7%	-32.8%	-36.2%	-39.5%	-42.7%
April 08 - Feb 09	-35.0%	-33.7%	-27.1%	-29.7%	-32.6%	-35.4%	-38.2%
Mexican Peso Crisis							
Oct-94 - Feb-95	0.7%	1.4%	2.3%	2.0%	1.7%	1.4%	1.0%
Economic Scenarios (Expected Median)							
Inflation	8.9%	9.0%	8.7%	8.9%	9.1%	9.4%	9.6%
Recession	-1.1%	-1.1%	-0.5%	-0.8%	-1.1%	-1.3%	-1.6%
Deflation	5.3%	5.3%	5.1%	5.1%	5.1%	5.1%	5.0%
Great Recession	-14.0%	-13.0%	-8.7%	-10.1%	-11.8%	-13.4%	-15.1%

ALM Risk/Reward Analysis





REWARD = Decrease in Ultimate Net Cost less Surplus at the 50th percentile as portfolio composition moves from one mix to the next riskiest mix (e.g., 1 to 2 is moving from Mix 1 to Mix 2).

RISK = Increase in Ultimate Net Cost less Surplus at the 95th (1 in 20) or 99th (1 in 100) percentile as portfolio composition moves from one mix to the next riskiest mix.

If REWARD > RISK (expected cost reduction is greater than potential cost increase), then moving from the lower risk mix to the higher risk mix has a positive risk/reward trade-off. This analysis suggests such a move is warranted.

Specific Mix Recommendation

- Recommend resetting strategic target allocations to Mix 4
- Consistent with Investment Beliefs
- Supported by Risk/Reward Simulation Analysis
- Supported by Economic Scenario Analysis – improved results relative to current policy targets under the most severe (i.e., tail risk) scenarios, inflation and great recession
- Improves "sources of risk" diversification

Asset Class	Current Targets	Current Mix	REC. Targets
Public Equity	**43.0%**	**38.0%**	**37.5%**
Private Equity	**16.0%**	**22.0%**	**20.0%**
US Fixed	15.0%	15.0%	8.0%
High Yield	2.5%	2.5%	1.0%
EM Debt	2.5%	2.5%	0.0%
Bank Loan	5.0%	5.0%	3.0%
Short Dur. High Quality	0.0%	0.0%	8.0%
Fixed Income	**25.0%**	**25.0%**	**20.0%**
Absolute Return	**1.0%**	**0.8%**	**2.5%**
Real Estate	11.0%	12.0%	12.5%
Commodities	0.7%	0.8%	2.5%
Infrastructure	1.5%	0.8%	2.5%
Hard Assets	1.8%	0.8%	2.5%
Real Assets	**15.0%**	**14.2%**	**20.0%**
Expected Return	7.8%	7.9%	7.9%
Exp. Std. Deviation	14.0%	14.2%	14.2%

Other Considerations

- Beliefs-based Mix 4 recommendation contemplates a 3 to 5 year implementation horizon.
- Assumes continued high underwriting standards in private market investments.
- Requires reconciliation with existing Alternatives and Opportunity portfolio allocation schema.
- Increases to Real Assets will require additional staff resources over the implementation horizon.
- Move to “risk-budgeting” approach will necessitate changes to staff compensation structures.

Appendix

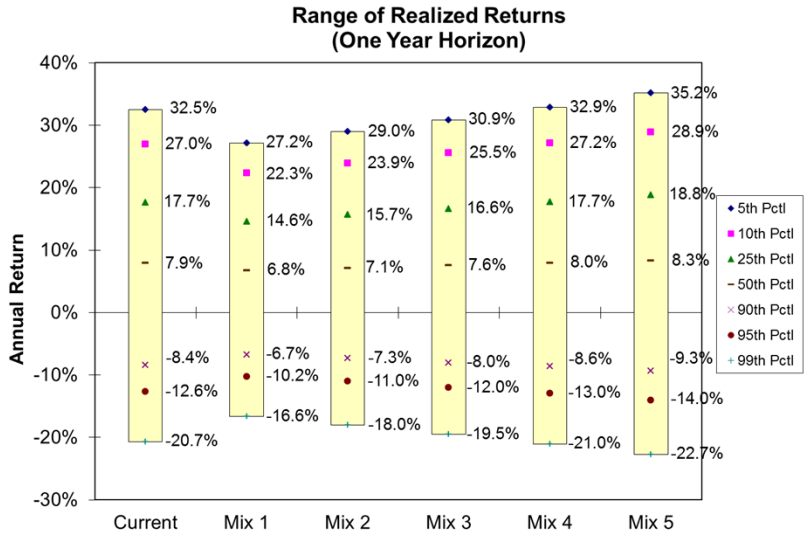
Asset Class Return/Risk Expectations

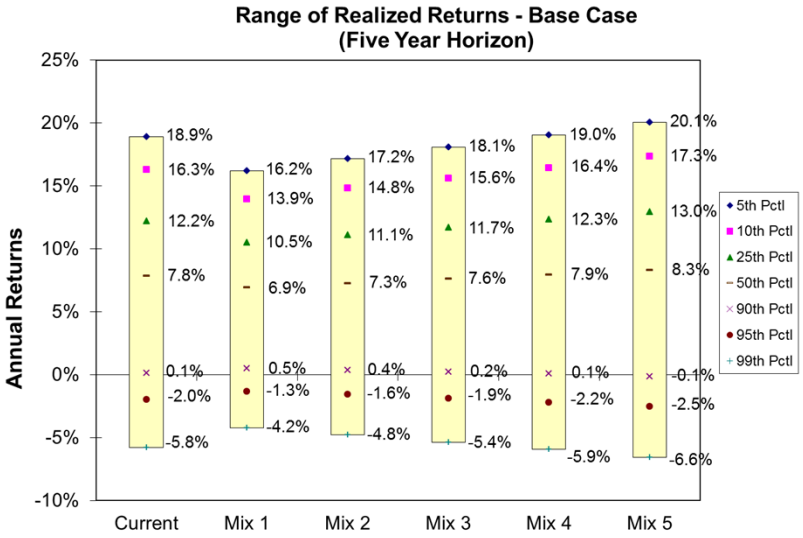
Asset Class	Expected Return	Expected Std Dev
US Lrg Cap	7.7%	17.5%
US Sml Cap	8.0%	20.0%
Intl Stock	8.0%	20.0%
EM Stock	8.5%	29.0%
Private Equity	10.2%	25.0%
US Investment Grade FI	2.4%	5.0%
High Yield	4.5%	11.0%
Bank Loan	4.1%	7.5%
Short Dur. High Quality	1.1%	1.3%
Absolute Return	4.9%	10.0%
Real Estate	7.1%	21.5%
Commodities	4.0%	30.0%
Infrastructure	6.5%	24.0%
Hard Assets	7.3%	28.0%

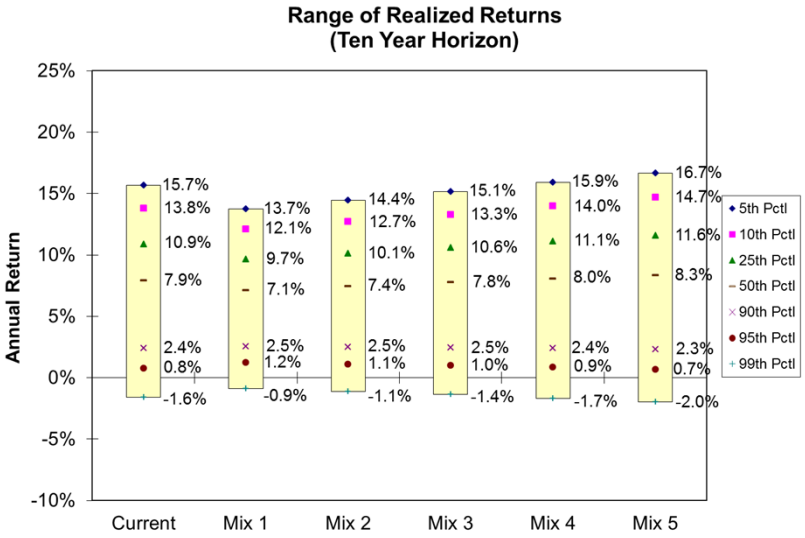
Asset Class Roles and Constraints

ASSET	CONSTRAINT
US EQUITY	No Constraint
INTERNATIONAL EQUITY	No Constraint
FIXED INCOME	Source of liquidity, capital preservation and equity risk diversification: 40% Short Duration / High Quality; 40% Core; 5% High Yield; and 15% Bank Loans.
PRIVATE EQUITY	Maximum 20% of Total Fund due to liquidity and implementation considerations.
ALTERNATIVES/REAL ASSETS	Maximum 10% of Total Fund, equally weighted.

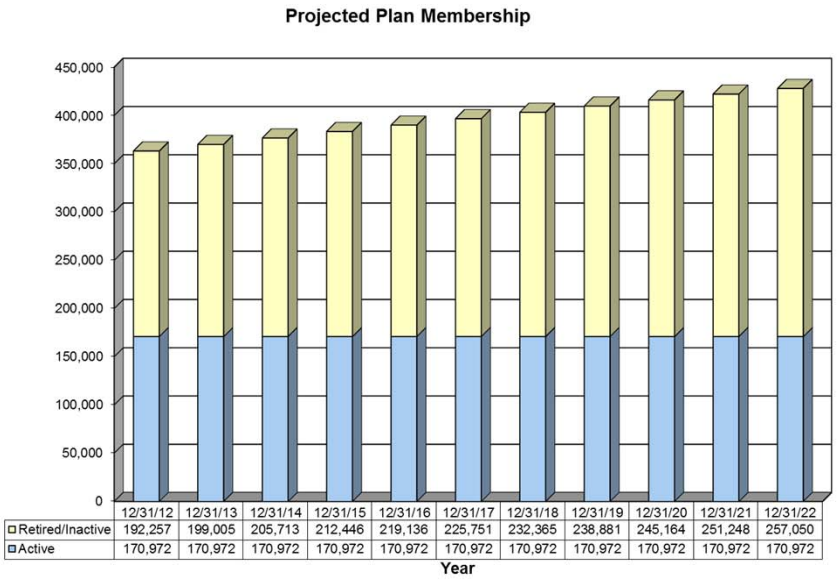
Range of Asset Mix Returns



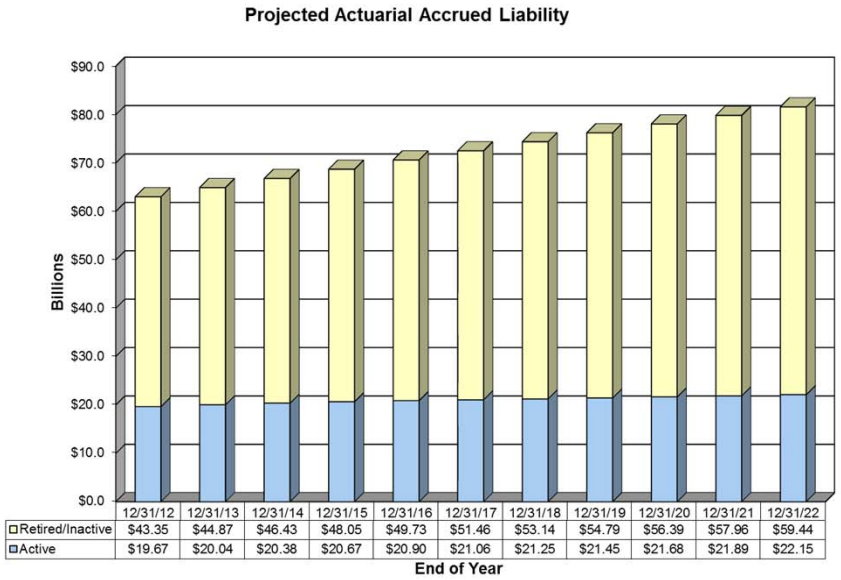




Liability Projections

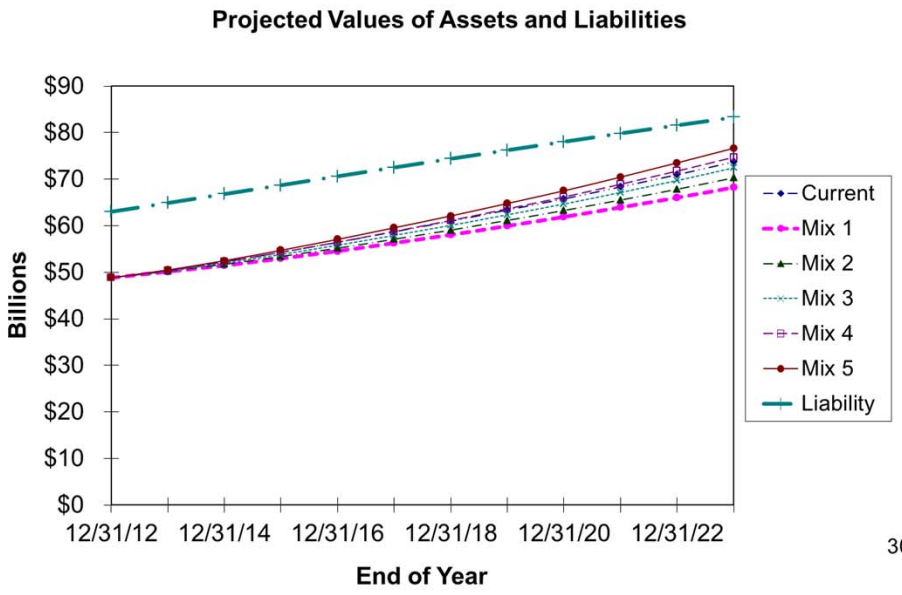


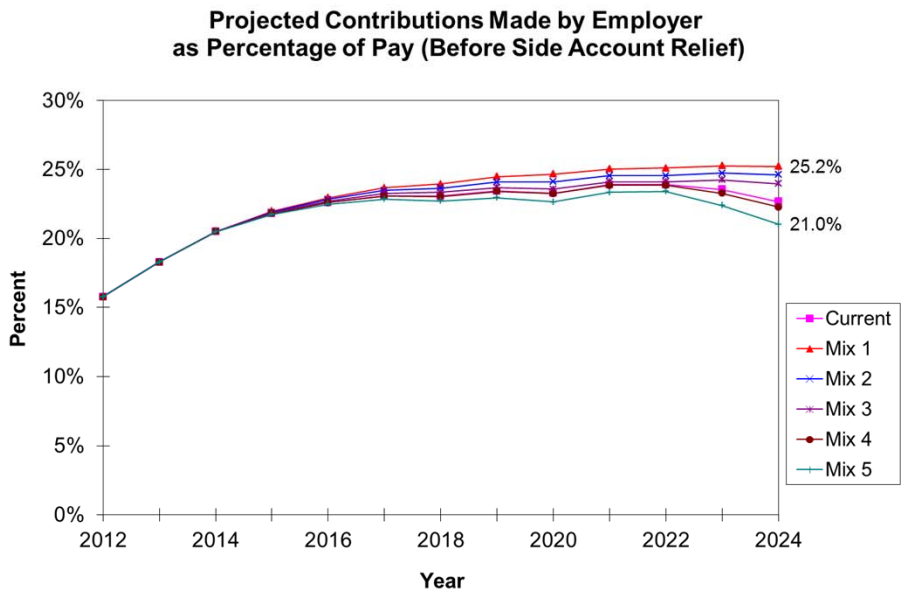
	12/31/12	12/31/13	12/31/14	12/31/15	12/31/16	12/31/17	12/31/18	12/31/19	12/31/20	12/31/21	12/31/22
Retired/Inactive	192,257	199,005	205,713	212,446	219,136	225,751	232,365	238,881	245,164	251,248	257,050
Active	170,972	170,972	170,972	170,972	170,972	170,972	170,972	170,972	170,972	170,972	170,972



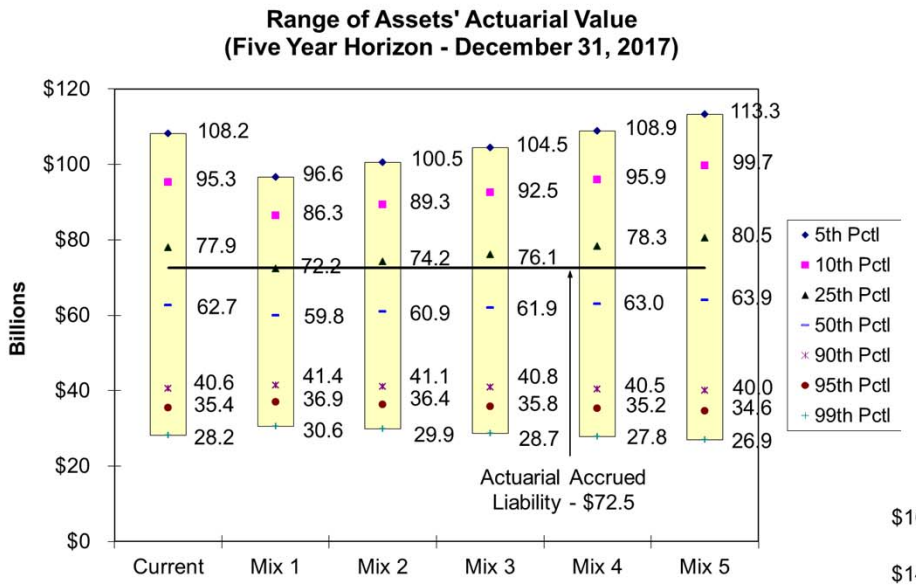
	12/31/12	12/31/13	12/31/14	12/31/15	12/31/16	12/31/17	12/31/18	12/31/19	12/31/20	12/31/21	12/31/22
Retired/Inactive	$43.35	$44.87	$46.43	$48.05	$49.73	$51.46	$53.14	$54.79	$56.39	$57.96	$59.44
Active	$19.67	$20.04	$20.38	$20.67	$20.90	$21.06	$21.25	$21.45	$21.68	$21.89	$22.15

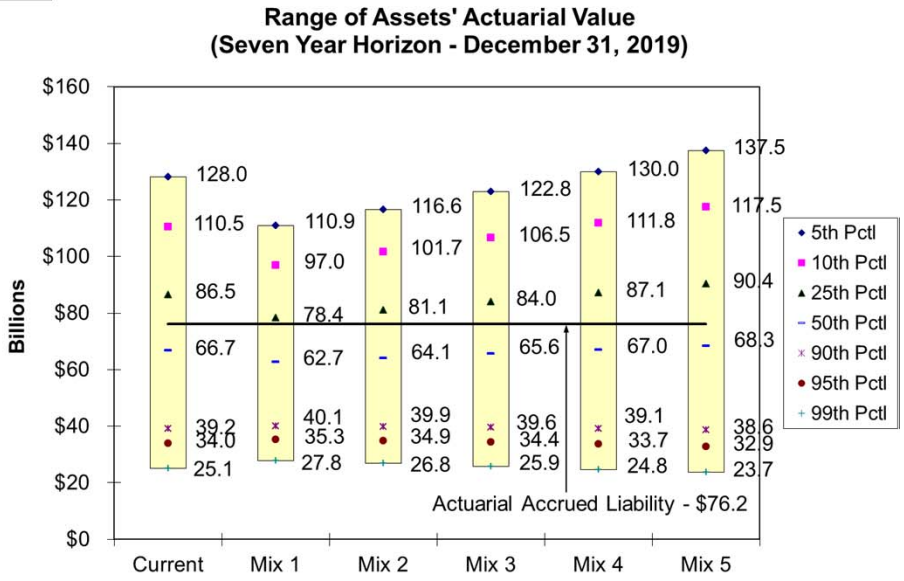
Asset-Liability Projections



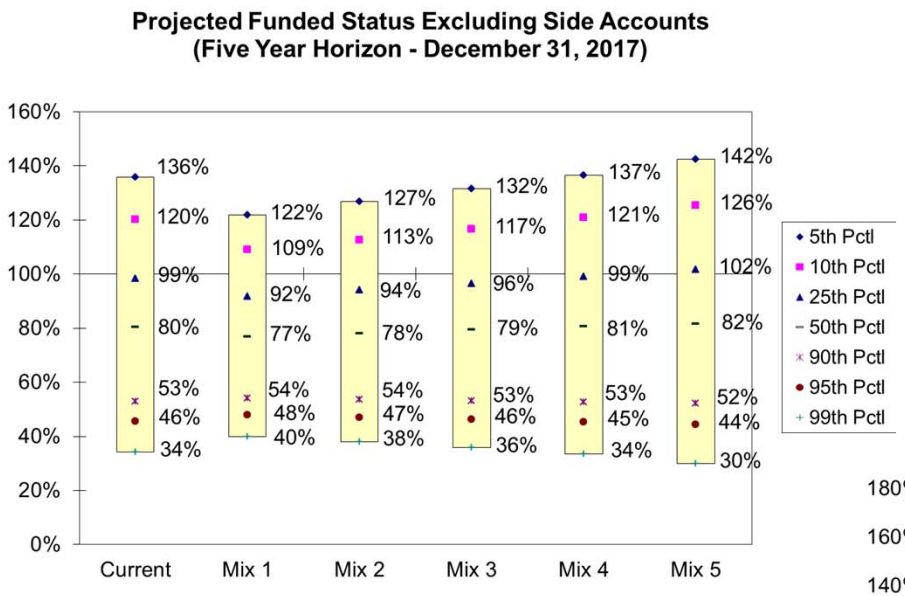


Range of Actuarial Values – 5 and 7 Year Horizons

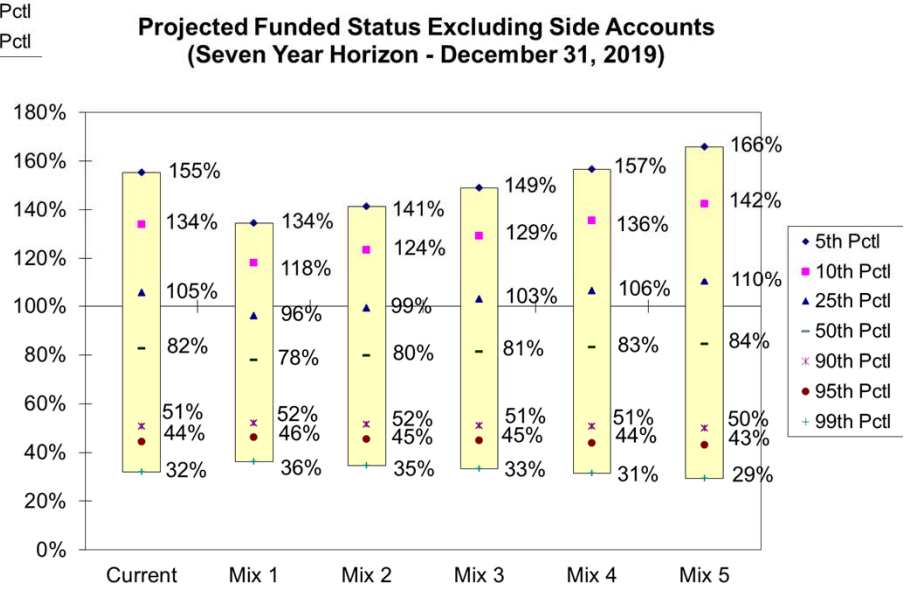




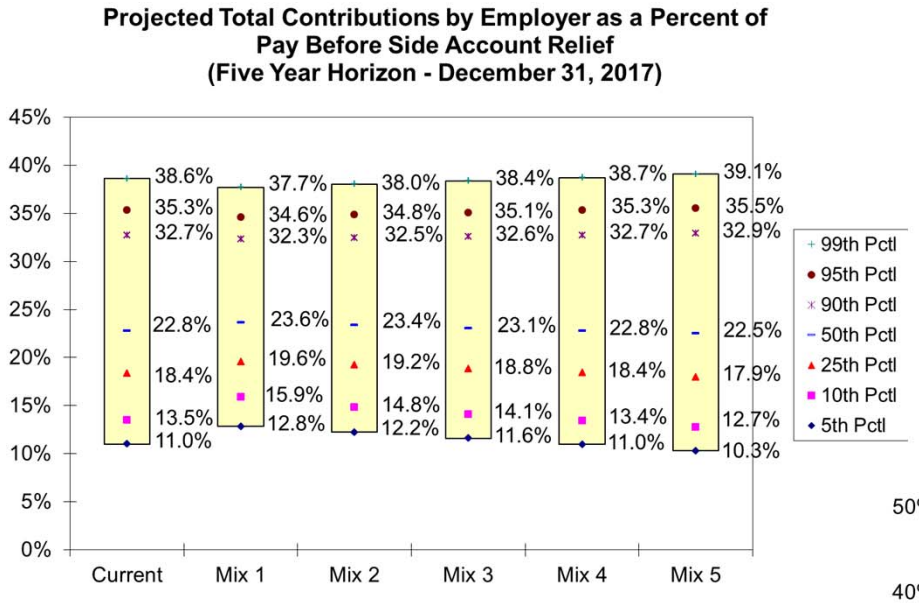
Range of Funded Status excluding Side Accounts – 5 and 7 Year Horizons

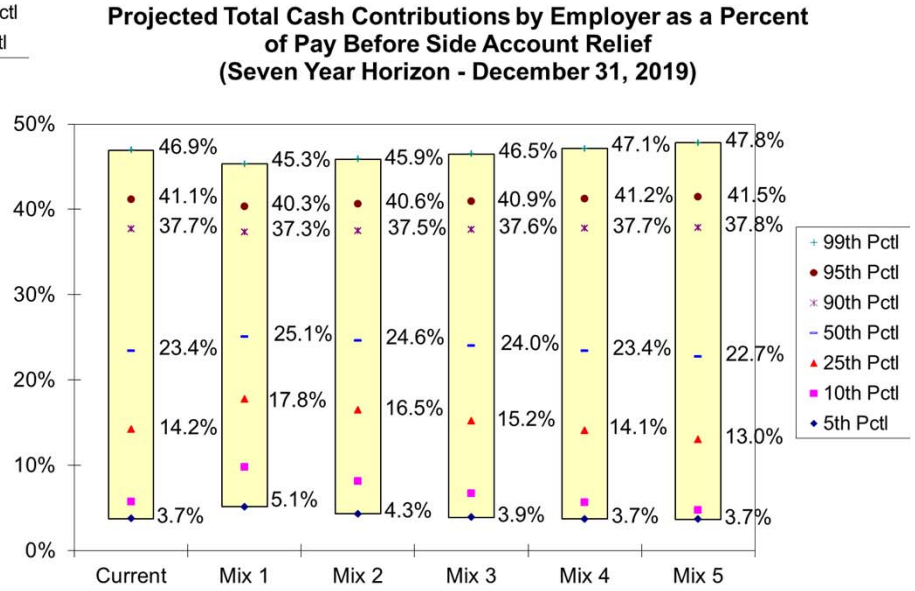


Funded Status as of 12/31/2012:
77% excluding side accounts
85.5% including side accounts

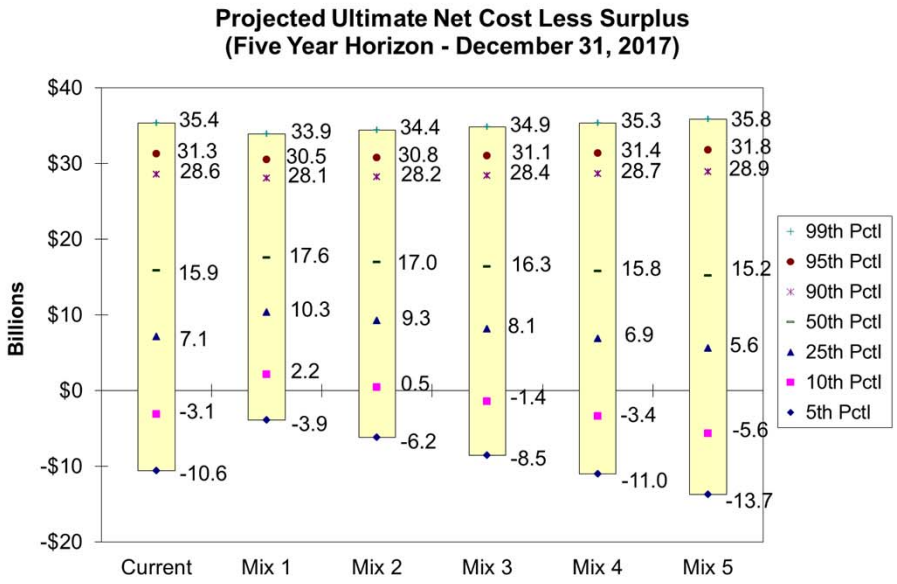


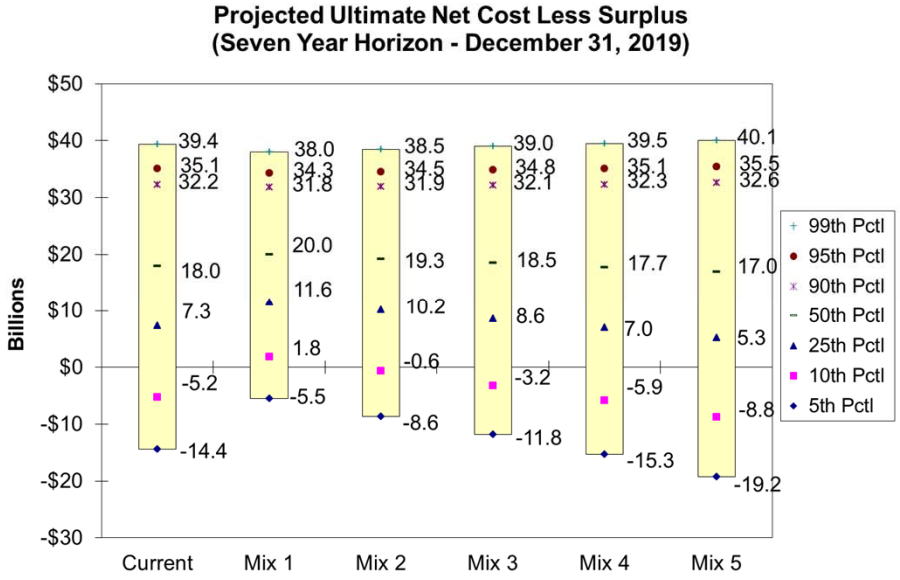
Range of Contributions as % of Pay – 5 and 7 Year Horizons





Range of Ultimate Net Cost less Surplus – 5 and 7 Year Horizons





- **Ultimate Net Cost Less Surplus** is essentially the present value of all future contributions (i.e., the future cost of the plan). Higher risk mixes reduce the cost of the median outcome, but increase the cost of a very bad (e.g., 95th percentile) outcome.

Range of Net External Cash Flow (% of Assets) – 5 and 7 Year Horizons

Five Year Horizon: December 31, 2017						
	Current	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
5th Pctl	-3.9%	-4.1%	-4.0%	-4.0%	-3.9%	-3.8%
10th Pctl	-4.1%	-4.2%	-4.2%	-4.2%	-4.1%	-4.0%
25th Pctl	-4.3%	-4.4%	-4.4%	-4.3%	-4.3%	-4.2%
50th Pctl	-4.5%	-4.6%	-4.6%	-4.5%	-4.5%	-4.5%
90th Pctl	-4.2%	-4.2%	-4.2%	-4.2%	-4.2%	-4.2%
95th Pctl	-4.0%	-4.1%	-4.1%	-4.0%	-4.0%	-4.0%
99th Pctl	-3.7%	-3.8%	-3.7%	-3.8%	-3.7%	-3.7%

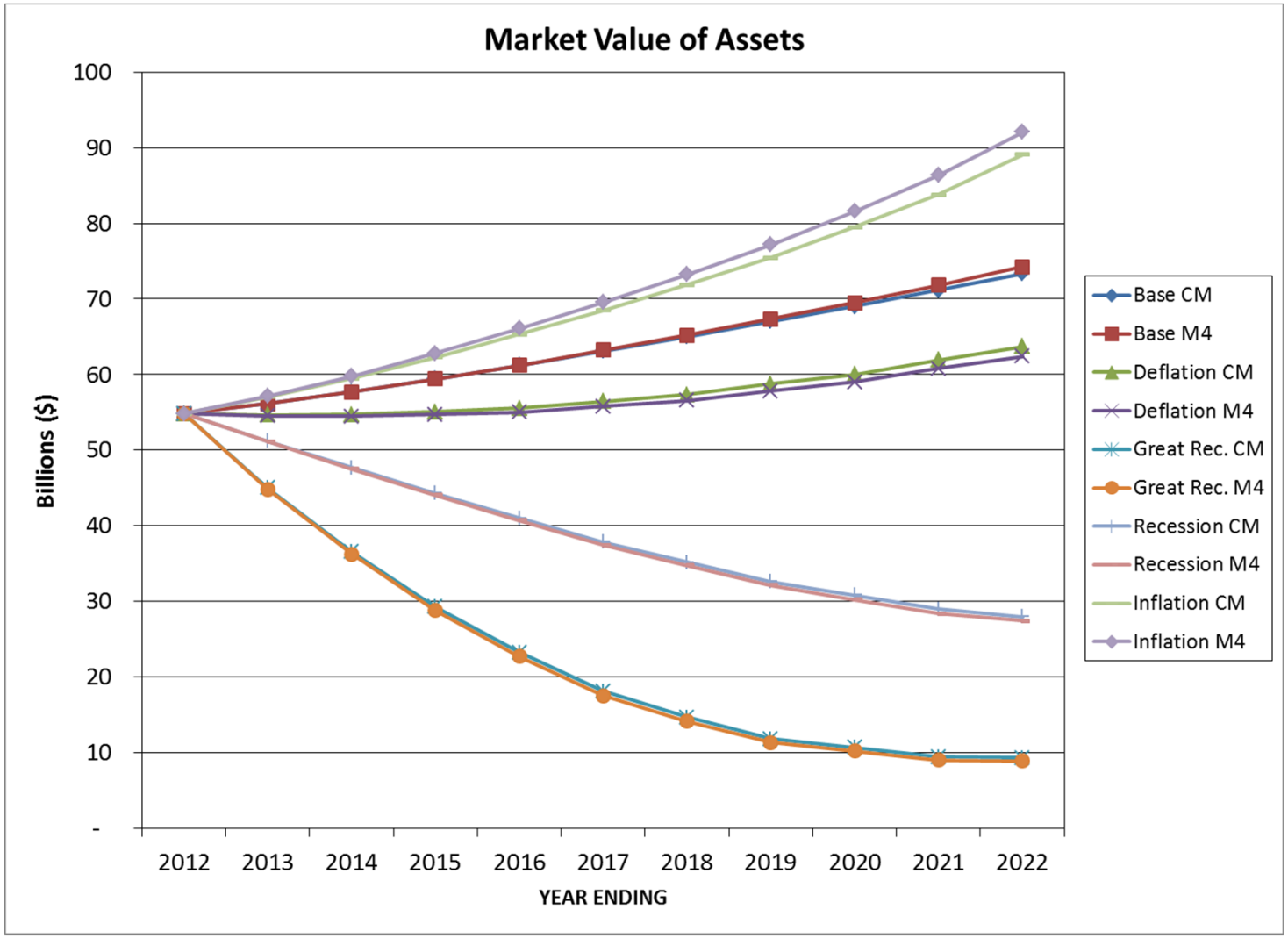
Seven Year Horizon: December 31, 2019						
	Current	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
5th Pctl	-4.1%	-4.6%	-4.4%	-4.2%	-4.0%	-3.8%
10th Pctl	-4.6%	-4.8%	-4.8%	-4.7%	-4.5%	-4.4%
25th Pctl	-4.8%	-4.7%	-4.7%	-4.8%	-4.8%	-4.7%
50th Pctl	-4.5%	-4.5%	-4.5%	-4.5%	-4.5%	-4.5%
90th Pctl	-3.3%	-3.3%	-3.3%	-3.3%	-3.2%	-3.2%
95th Pctl	-2.6%	-2.7%	-2.7%	-2.6%	-2.6%	-2.5%
99th Pctl	-0.6%	-1.3%	-1.1%	-0.8%	-0.5%	-0.2%

Asset Mix Scenario Returns

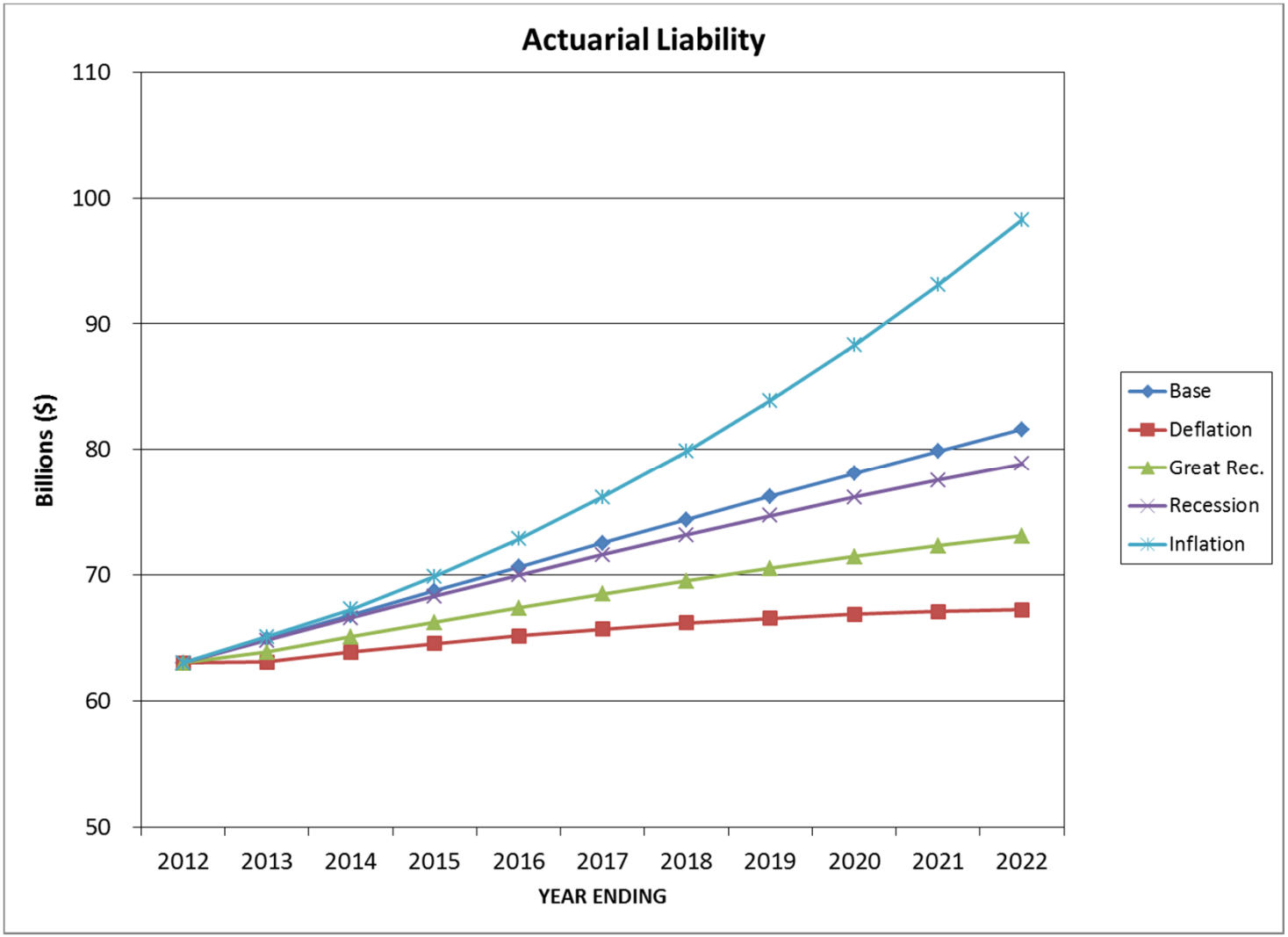
NOMINAL RETURN							
SCENARIO	Current Targets	Current Mix	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
Inflation	8.9%	9.0%	8.7%	8.9%	9.1%	9.4%	9.6%
Recession	-1.1%	-1.1%	-0.5%	-0.8%	-1.1%	-1.3%	-1.6%
Deflation	5.3%	5.3%	5.1%	5.1%	5.1%	5.1%	5.0%
Great Recession	-14.0%	-13.0%	-8.7%	-10.1%	-11.8%	-13.4%	-15.1%

REAL RETURN							
SCENARIO	Current Targets	Current Mix	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
Inflation	-0.1%	0.0%	-0.3%	-0.1%	0.1%	0.4%	0.6%
Recession	-3.0%	-3.0%	-2.4%	-2.7%	-3.0%	-3.2%	-3.5%
Deflation	5.3%	5.3%	5.1%	5.1%	5.1%	5.1%	5.0%
Great Recession	-15.0%	-14.0%	-9.7%	-11.1%	-12.8%	-14.4%	-16.1%

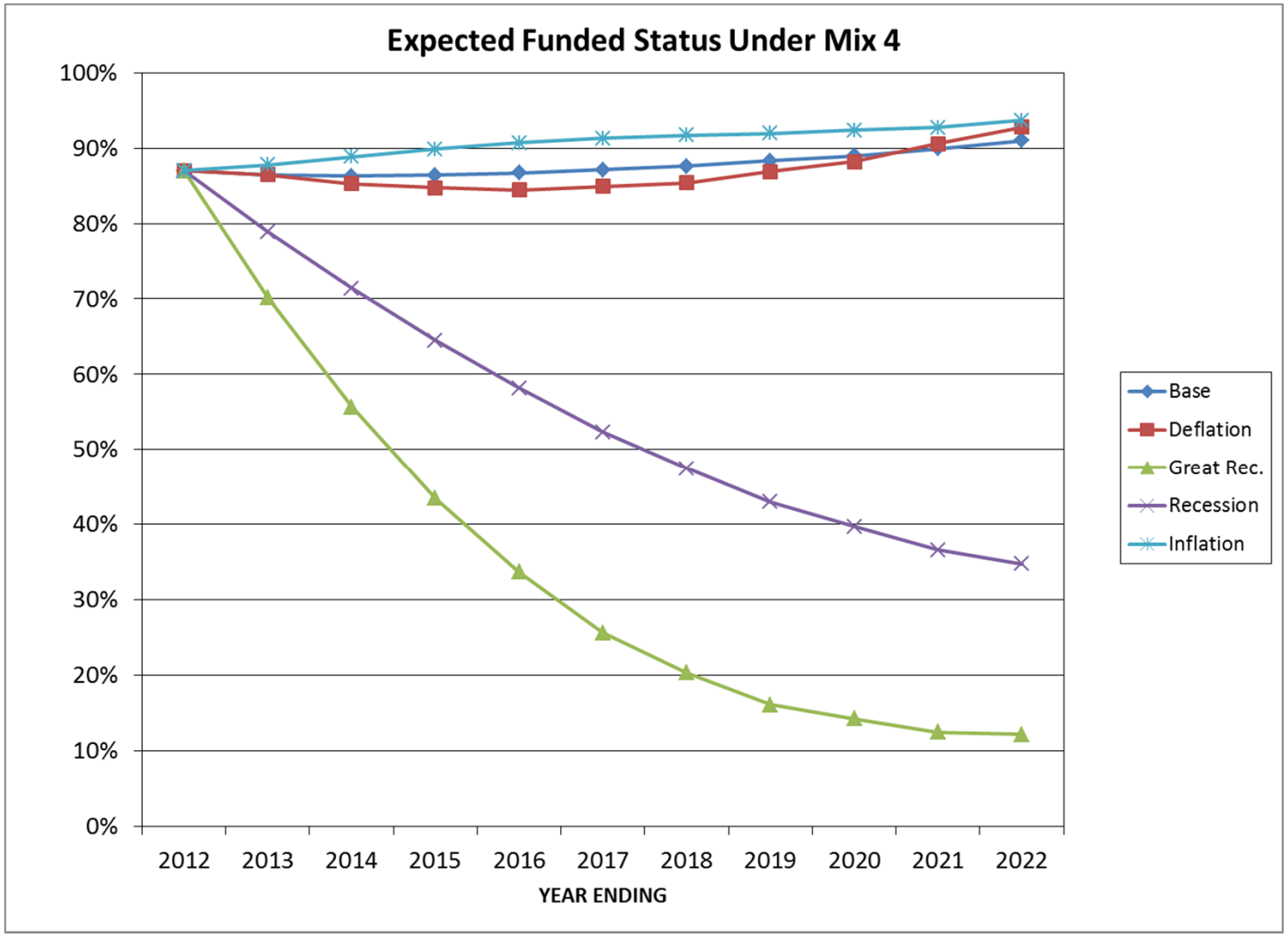
Market Value of Assets Under Various Economic Scenarios



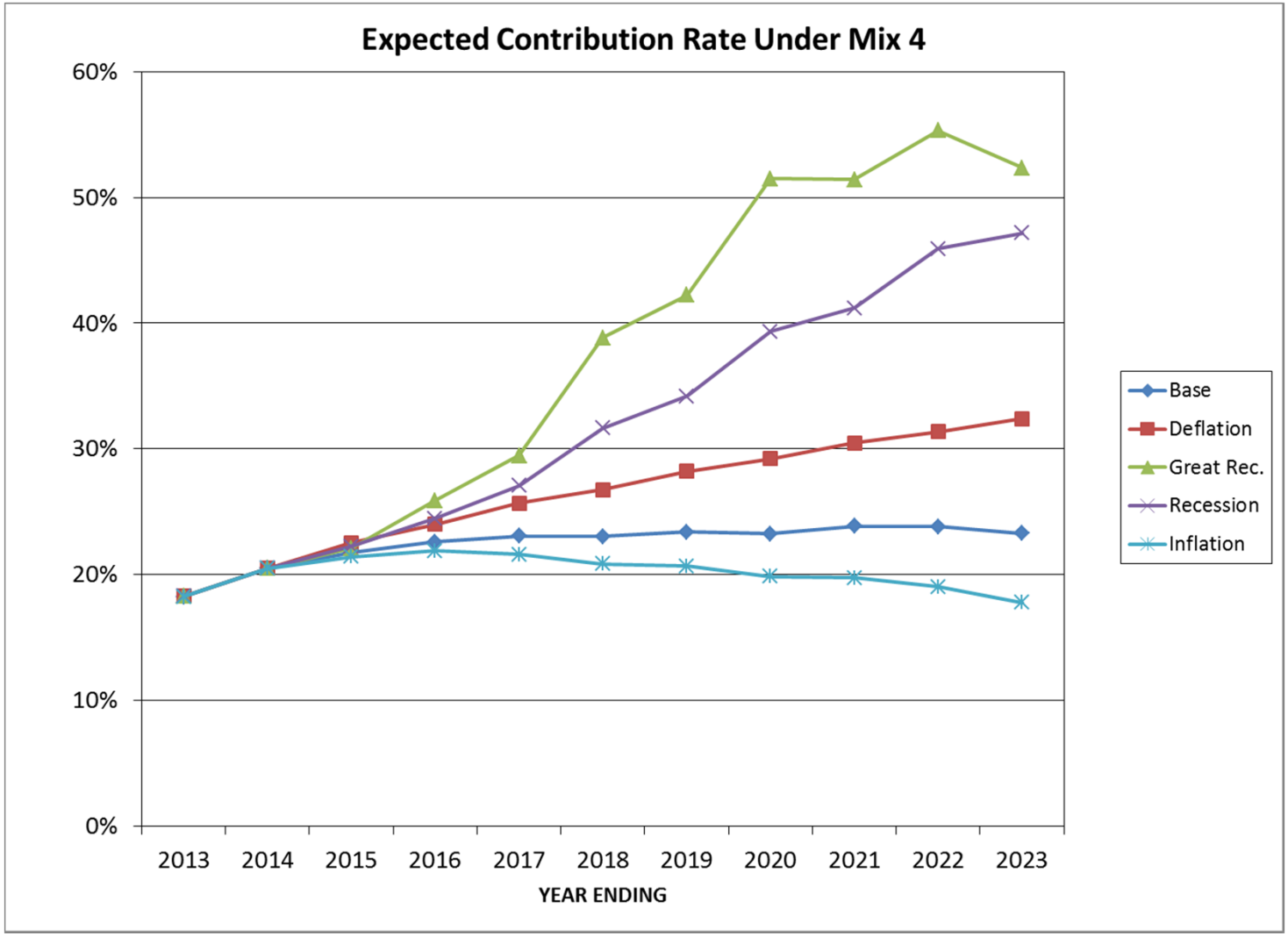
Actuarial Liability Under Various Economic Scenarios



Funded Status Under Various Economic Scenarios



Employer Contribution Rates Under Various Economic Scenarios



TAB 4 – CLOSED END FUND STRATEGIES

OPERF Non-U.S. Public Equity

Public Equities
International Equity – Closed-End Fund Strategies
STAFF RECOMENDATION

Purpose

Staff and SIS are recommending that the OIC hire Lazard Asset Management (Lazard) and Wells Capital Management (Wells Capital) for ACWI X-US IMI closed-end fund mandates in the OPERF portfolio.

Background

Closed-end funds (CEFs) have been in existence since the late 1800s and represent the original mutual fund design. A closed-end fund is a type of mutual fund whose shares trade on an exchange like a stock or ETF. Capital for a closed end fund is raised through an initial public offering (IPO) by targeting a certain capital raise and issuing a fixed number of shares. With capital raised from the IPO process, the CEF portfolio manager buys securities consistent with the fund's investment strategy, after which the fund is listed on an exchange and trades continuously throughout the day.

In contrast, shares or units of open-end mutual funds trade directly with mutual fund companies (i.e., open-end fund shares are not traded on an exchange). Investor demand for open-end fund shares is satisfied by the mutual fund company creating additional shares/units directly for the investor (i.e., an investor's money is given to the fund company which then buys more securities for the fund portfolio and in exchange delivers fund shares/units to the investor). Another distinction is that open-end mutual funds "trade" only once a day (at market close) as opposed to the continuous trading associated with exchange traded CEFs. A final distinction of open-end mutual funds is that the Net Asset Value (NAV) of open-end fund shares lays claim to a pro-rata unit ownership of the fund (i.e., investing $1,000 in shares/units of an open-end fund corresponds to an economic claim on $1,000 worth of the fund's underlying assets).

An important characteristic of CEFs is that since their share price is determined by supply/demand dynamics, it often diverges substantially from the actual value of the CEF's underlying securities. Since CEFs do not accept new capital, no mechanism exists to facilitate investor CEF share purchases (or redemptions) at NAV. As a result, CEF share prices fluctuate relative to NAV and therefore often trade at a **discount** or **premium** to NAV. If a CEF's share price is trading above its NAV, the CEF shares are trading at a premium. Conversely, if the CEF's share price is below its NAV, the shares are trading at a discount. Factors that affect why CEF shares trade at a either a discount or premium include, but are not limited to, investment banking and underwriting fees incurred during the CEF's IPO, the fund's performance relative to its underlying benchmark and investor demand for a CEF's particular investment strategy.

Discussion and Process

Although the closed-end fund puzzle (i.e., why do CEF shares generally trade at a discount to their funds' corresponding NAVs?) has been widely studied by the academic community, this anomaly persists

mainly due to the fact that CEF share ownership is dominated by retail investors who are highly subject to behavioral-based investment mistakes. Further, capacity constraints and the illiquid nature of CEFs dissuade institutional investors from focusing on this market segment to any meaningful degree. Given the large retail ownership of CEFs and the agency issues that exist in the retail investment arena (e.g., financial advisors and other intermediaries are explicitly incented to sell CEFs into retail client portfolios), staff believes that an institutional strategy can take advantage of mean reversion in CEF share prices providing the OPERF public equity portfolio with a compelling investment opportunity.

Once this investment opportunity was identified, staff and SIS commenced a review of qualified CEF investment managers who collectively comprise an exceptionally small (only six firm) universe. While there were no special considerations given to existing OPERF managers, two CEF strategies rose to the top of our analysis: Wells Capital and Lazard.

Wells Capital – International CEF

The OIC's relationship with Wells Capital dates back to May 2005 when they were hired by the OIC for a U.S. large cap growth mandate. Wells Cap is a multi-boutique asset management firm. While Wells Cap provides a set of shared back office resources, each of its teams (or boutiques) invests independently. As of March 31, 2013, the Wells Cap CEF team managed $1.4 billion in closed-end fund strategies, with the international CEF strategy representing $589.7 million of the total.

Led by Eric Harper, a three-person investment team is responsible for the Wells Cap CEF strategy. Mr. Harper took over CEF strategy management for Wells Cap in 2007 after the predecessor team departed to form its own firm. The current team has worked together since 2007 and has average team member experience of 20 years.

Wells Cap's CEF investment strategy seeks to purchase funds at discounts to estimated NAVs while minimizing style bias relative to the index by holding a diversified portfolio of closed-end funds. For the team to make a CEF investment, the fund shares have to trade at a discount relative to their history and the team has to be comfortable with the CEF's portfolio manager and governing board. As the discount narrows during the holding period, the investment team reduces its exposure and invests sales proceeds in other CEF shares trading at more attractive (i.e., larger) discounts.

Lazard – International Discounted Assets

The OIC's relationship with Lazard dates back to July 2000 when Lazard was hired by the OIC for an international equity mandate. Lazard's CEF offering, the International Discounted Assets strategy, is the firm's oldest investment product with an April 1994 inception date. As of March 31, 2013, the Discounted Assets team managed $4.7 billion in closed-end fund strategies, with the international strategy representing $812.8 million of that total, making them one of the largest managers of CEF strategies.

The portfolio is led by Kun Deng, who is supported by a dedicated team of six professionals. Deng and his team members are long-tenured, with 18 years of average experience. The team also works closely with Lazard's broader global research effort, resources which staff rates above average relative to peers.

Lazard's investment strategy seeks long-term capital appreciation by investing in shares trading at a discount to estimated NAV. These shares include ownership interests in closed-end funds, investment

trusts and holding companies which also own attractively-priced underlying assets, investments or businesses. The Lazard strategy utilizes a corporate governance approach that seeks to reduce or eliminate share-price-to-NAV discounts, and is managed using a bottom-up investment process that is benchmark agnostic. Lazard's security selection reflects the following three criteria: 1) shares must trade at a discount to NAV; 2) the CEF's underlying investments are attractively priced; and 3) there exists potential for discount narrowing through corporate governance initiatives.

Corporate actions can play a significant role in narrowing the discount to NAV and are a particular focus of Lazard's strategy. Types of corporate actions include share buyback programs, tender offers and on very rare occasions, "open-ending" proposals (i.e., converting a closed-end fund to an open-end fund). Value creation associated with corporate actions is primarily a function of CEF retail investors not acting on (or not aware of) such proposals and offers. In many cases, limited share buy-backs (i.e., an offer to buy back a fixed percentage of a CEF's outstanding shares) are proposed by CEF management at significantly higher prices that what the shares are trading for in the open market. Given anemic retail investor response, institutional investors can secure a larger than pro-rata allocation of share buy-backs offers.

Issues to Consider

Pros:

- Staff has a high regard for both Lazard and Wells Capital. The firms' other, existing OPERF mandates have met our investment objectives, and service levels from both firms remain high.
- Given the existing investment relationships, staff was successful in negotiating considerable discounts to stated CEF strategy fee schedules.
- Staff believes the drivers behind CEF share price mean reversion, coupled with the corporate action initiatives described above should allow for durable alpha generation.

Cons:

- Both strategies take meaningful bets away from public equity benchmarks and therefore should be expected to result in elevated tracking error at times. However, staff is comfortable with this tracking error risk particularly in the context of the broader OPERF public equity portfolio.
- The closed-end fund universe is relatively illiquid. Although CEFs trade on stock exchanges around the world, there are a limited number of brokers that facilitate flows, therefore making it difficult to rapidly deploy or reduce investments to this segment. {Mitigant: Close-end funds would comprise only a small portion of OPERF's public equity assets so the overall public equity portfolio would remain quite liquid. Additionally, the small number of institutional asset managers, and the illiquid nature of the CEF space should help reduce crowding by other institutional investors.}
- The model portfolios of the two strategies have an overlap of 26% by weight {Mitigant: This is not unlike the overlap found in other paired sub-asset class mandates. Staff is comfortable with this degree of overlap in conjunction with the low pair-wise correlation}.

Staff performed a variety of other due diligence activities in determining the appropriateness of both strategies, including:

- On-site manager visits during which no significant concerns were noted.
- Reviewed manager ADV filings and looked for potential conflicts of interest and other items of concern. No such conflicts or concerns were identified.
- Discussed trading issues including "soft dollar" policies, FX capabilities and commission recapture programs. Managers will adhere to OPERF guidelines in these areas.
- Staff checked peer references all of which were favorable.

Recommendation

1) Staff and SIS recommend funding Lazard's international closed-end fund strategy with an initial commitment of $300 million and the option to increase this mandate to $600 million subject to CIO approval.
2) Staff and SIS recommend funding Wells Capital's international closed-end fund strategy with an initial commitment of $200 million and the option to increase this mandate to $400 million subject to CIO approval.
3) Amend OIC policy 04-05-01 accordingly.

TAB 5 – RUSSELL 2000 SYNTHETIC PORTFOLIO RECOMMENDATION

Public Equity

OPERF Domestic Equity – Internally Managed Russell 2000 Synthetic Portfolio

STAFF RECOMMENDATION

Purpose

Staff requests OIC approval for the following: 1) to expand the permitted holdings of the internally managed Russell 2000 portfolio; 2) to increase (at staff option with CIO approval) the size of the mandate to $500 million; and 3) to delegate approval of future permitted holdings modifications for all internally managed portfolios to the CIO.

Background

Staff has successfully managed select public equity assets internally since 2009. The following performance table shows that since inception all internally managed public equity mandates have outperformed their assigned benchmarks, and in all cases except one, have exceeded their excess return targets. The lone exception, the Tiered Emerging Markets Strategy (TEMS), outperformed its benchmark by 131 basis points (bps), but missed its 200 bps excess return objective.

As of May 31, 2013, total internally managed public equity AUM is approximately $2.7 billion which represents 11 percent of OPERF's $23.8 billion global equity portfolio.

Period Ending 5/31/13	Market Value	Month	3 Months	YTD	1 year	2 years	3 years	Inception
OST 400 Portfolio	$ 293,093,916.17	2.450%	7.97%	16.93%	30.24%	10.74%	17.73%	17.87%
S&P 400 Index		2.259%	7.82%	16.74%	29.99%	10.49%	17.52%	17.54%
Excess		0.19%	0.14%	0.19%	0.25%	0.26%	0.21%	0.34%
Inception Date of Oct. 1, 2009	**Tracking Error = 30 bps**		**Target Excess Return: 10 bps**					

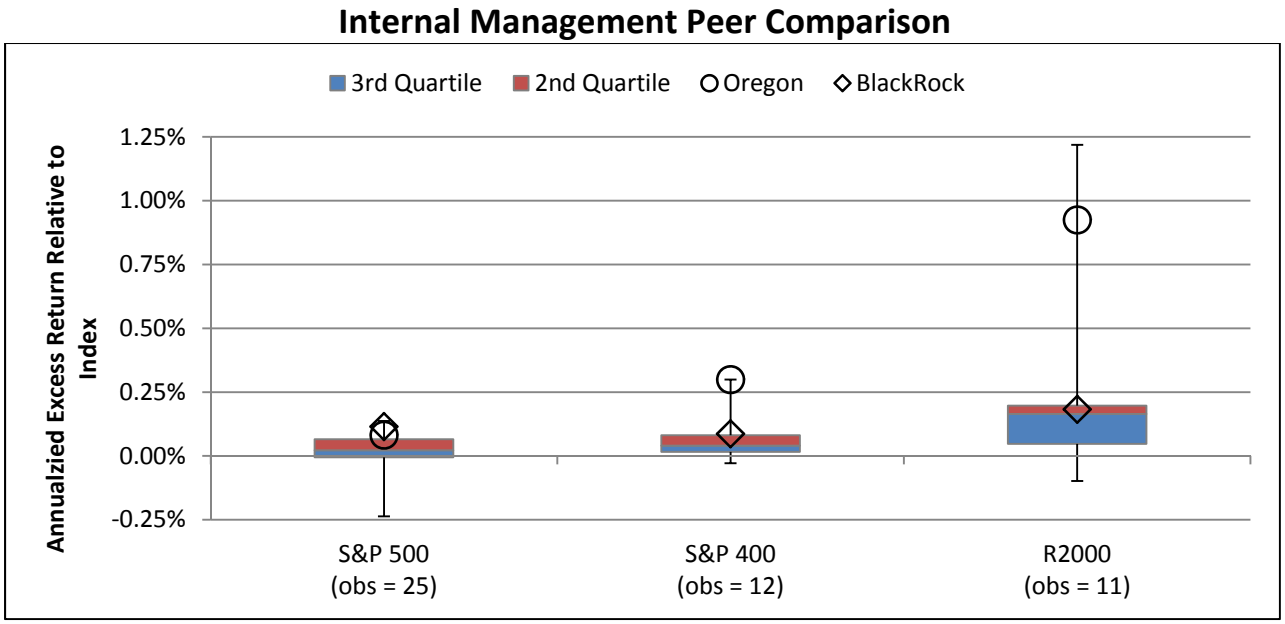
Period Ending 5/31/13	Market Value	Month	3 Months	YTD	1 year	2 years	3 years	Inception
OST 500 Portfolio	$ 1,369,111,366.15	2.342%	8.26%	15.43%	27.33%	12.66%	16.92%	15.03%
S&P 500 Index		2.339%	8.22%	15.37%	27.27%	12.58%	16.87%	14.96%
Excess		0.00%	0.04%	0.05%	0.06%	0.07%	0.05%	0.07%
Inception Date of Oct 1, 2009	**Tracking Error = 10 bps**		**Target Excess Return: 5 bps**					

Period Ending 5/31/13	Market Value	Month	3 Months	YTD	1 year	2 years	3 years	Inception
Russell 2000 Synthetic	$ 182,917,729.79	4.056%	8.68%	16.89%	32.13%	10.28%	16.71%	14.93%
Russell 2000 Index		3.997%	8.40%	16.45%	31.07%	9.29%	15.72%	13.97%
Excess		0.06%	0.28%	0.44%	1.06%	0.99%	0.99%	0.96%
Inception Date of April 1, 2010	**Tracking Error = 50 bps**		**Target Excess Return: 30 bps**					

Period Ending 5/31/13	Market Value	Month	3 Months	YTD	1 year	2 years	3 years	Inception
TEMS	$ 224,923,196.46	-2.634%	-3.14%	-2.78%	15.68%	-3.49%	6.67%	20.14%
MSCI EM Index		-2.570%	-3.53%	-3.43%	14.09%	-4.68%	5.39%	18.83%
Excess		-0.06%	0.39%	0.65%	1.60%	1.18%	1.27%	1.31%
Inception Date of Feb 1, 2009	**Tracking Error = 400 bps**		**Target Excess Return: 200 bps**					

Period Ending 5/31/13	Market Value	Month	3 Months	YTD	1 year	2 years	3 years	Inception
RUSSELL RAFI LC	$ 720,414,435.51	2.624%	8.90%	17.75%	32.57%			23.54%
RAFI LC Index		*2.610%*	*8.90%*	*17.75%*	*32.43%*			*23.47%*
RUSSELL 1000		2.240%	8.11%	15.50%	27.64%			21.00%
Excess		0.38%	0.79%	2.25%	4.93%			2.54%
Inception Date of Nov 1, 2011	**Tracking Error = 300 bps**		**Target Excess Return: 150 bps**					

In addition, and as seen in the following chart created from the ***eVestment*** consulting database, OPERF's internally managed, passive public equity strategies (S&P 500, S&P 400 and Russell 2000) have performed well relative to peer group benchmarks. In fact, all of OPERF's internally managed, passive public equity strategies rank in the top quartile of their respective peer group universes, with the S&P 400 and Russell 2000 strategies achieving top decile rankings.



Source: eVestment, gross of fees and through 2013-03. Inception dates correspond to internally managed mandate launches.

Discussion

Traditionally, staff has sought OIC approval for all proposed changes to existing public equity strategies. On occasion, however, staff identifies potential opportunities to enhance returns in internally managed portfolios, but is reluctant to pursue such opportunities due to concerns of unduly burdening OIC meeting agendas with approval requests for minor modifications to mandates that comprise a relatively small proportion of OPERF public equity assets.

Staff and SIS propose that going forward, a more effective way of implementing such value-added modifications is to delegate proposed change approvals to the CIO. In this approach, the **Policy** and **Policy Objectives & Strategies** codified in **04.05.03 - Internal Equity Portfolio Objectives & Strategies**, would continue to remain under the purview of the OIC; however, the more administrative and procedural component of Policy 04.05.03, as detailed in the **Permitted Holdings** subsection, would become the CIO's day to day responsibility.

Background on the internally managed Russell 2000 portfolio as well as the rationale for expansion of that mandate's permitted holdings, is contained in the **Appendix** immediately following staff's recommendation.

Recommendations

- Staff and SIS recommend that OIC adopt changes for this strategy as specified in the attached red-lined **OIC Policy 4.05.03. – Internal Equity Portfolio Objectives & Strategies.**

- Staff and SIS recommend that OIC provide staff **the option** to increase this mandate to $500 million subject to CIO approval.

- Staff and SIS recommend that OIC delegate future modifications of internally managed public equity mandates as detailed in OIC Policy 04.05.03 (**PERMITTED HOLDINGS section**) to the CIO. All future modifications to internally managed mandates would be communicated to the OIC on a quarterly basis.

APPENDIX

Russell 2000 Synthetic Portfolio Background

As contained in OIC Policy and Procedure 04.05.03 *Internal Equity – Portfolio Objectives & Strategies*, the investment objective of the internally managed Russell 2000 synthetic portfolio mandate is to outperform the Russell 2000 index by 30 bps annualized, with no greater than 50 bps of expected annual tracking error. As shown in the following table, this strategy has performed in line with staff expectations and since inception has outperformed its underlying benchmark by 96 bps on an annualized basis with 20 bps of realized tracking error.

Period Ending 5/31/13	Market Value	Month	3 Months	YTD	1 year	2 years	3 years	Inception
Russell 2000 Synthetic	$ 182,917,729.79	4.056%	8.68%	16.89%	32.13%	10.28%	16.71%	14.93%
Russell 2000 Index		3.997%	8.40%	16.45%	31.07%	9.29%	15.72%	13.97%
Excess		0.06%	0.28%	0.44%	1.06%	0.99%	0.99%	0.96%
Inception Date of April 1, 2010	**Tracking Error = 50 bps**		**Target Excess Return: 30 bps**					

Source: State Street Bank.

This strategy's excess return has come from two sources:

1. Capitalizing on the long-term structural performance differences between Russell 2000 futures contracts and the Russell 2000 index (i.e., arbitrage between the futures and stock index market) and;
2. Investing the mandate's cash in select short term investments (e.g., OSTF) that realize higher returns relative to the financing costs (e.g., LIBOR) embedded in futures contracts.

Over the last several years, market forces have caused Russell 2000 futures contracts to trade at a discount relative to the fair value of the contracts' underlying assets. Due primarily to demand from hedge funds shorting small cap stocks, Russell 2000 futures contracts have been trading at discounts in the range of 40 bps to 120 bps over the last 10 years. For a futures based strategy, taking advantage of this "arbitrage" translates to 40 bps to 120 bps of excess returns relative to the corresponding stock index portfolio. During the 3-year period that staff managed this strategy internally, the "cheapness" of Russell 2000 futures accounts for roughly 86 bps of the mandate's 96 bps of annualized excess return.

The residual 10 bps of excess return can be attributed to the mandate's cash portfolio outperforming futures' LIBOR-based embedded financing costs. Staff currently invests cash held in the synthetic portfolio in three different vehicles: 1) Oregon Short Term Fund (OSTF); 2) State Street Short Term Investment Fund (SSB STIF); and 3) U.S. Treasury Bills.

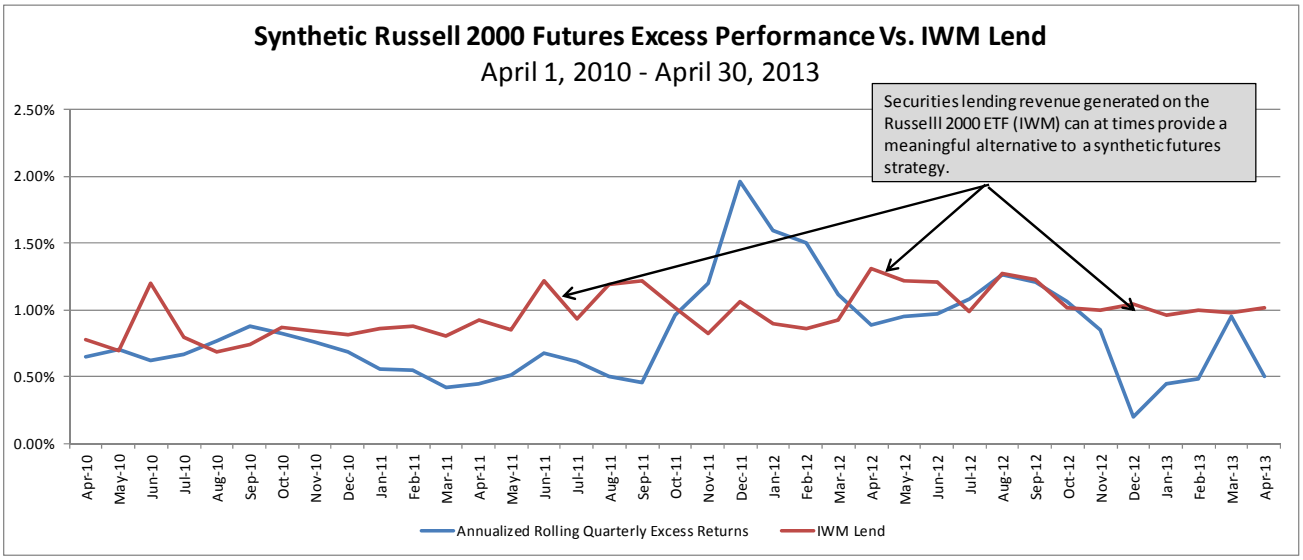
Opportunity (Russell 2000 ETFs)

As previously indicted, this strategy has generated excess returns due to staff successfully capturing the structural arbitrage that persists between Russell 2000 futures contracts and the underlying fair value of Russell 2000 index constituents. Similar structural differences can be found and exploited in the Russell 2000 Exchange Traded Fund (Ticker: IWM).

Driven by hedge fund demand to short small cap stocks, IWM has been trading "special" in the securities lending market which means that hedge funds are paying a premium to short IWM, and beneficial owners lending IWM can realize that premium. Staff notes that lending a security is, in isolation, a low risk activity, the reinvestment of

securities lending collateral can entail risks such as those witnessed during the recent global financial crisis. OST/OIC reinvestment guidelines for securities lending collateral have been greatly constrained and are viewed by staff as very conservative.

The following chart compares excess returns between Russell 2000 futures and IWM lending strategies. As seen, returns from IWM lending activities can, at times, exceed "futures v. stock index market" arbitrage. Staff believes that the ability to opportunistically allocate between the futures arbitrage strategy and the IWM lending strategy would provide additional return enhancement possibilities.



Source: Russell Implementation Services & BlackRock.

Opportunity (Cash Management)

Cash management activities (i.e., investments in OSTF, SSB STIF and/or Treasury Bills) that support the futures strategy have contributed 10 basis points of annualized excess return. The addition of other higher yielding short term investment vehicles can diversify these cash management activities and also provide additional return enhancement opportunities. Staff and SIS have researched suitable short term investment vehicles for this strategy on several occasions in the past. While no special consideration was given to existing OPERF managers, short term investment vehicles offered by PIMCO and Dimensional Fund Advisors (DFA) rose to the top.

PIMCO

PIMCO offers an ETF called the Enhanced Short Maturity fund (Ticker: **MINT)**, which would provide diversification and the potential for higher cash management returns in the Russell 2000 synthetic portfolio. OIC's relationship with PIMCO dates back 10 years to May 2003, when that firm was hired for a Russell 1000 public equity mandate (called "Stocks Plus") which derives its value add from security selection within fixed income instruments. PIMCO manages over $120 billion in money market, short term and low duration strategies, as well as over $150 billion in cash-equivalent securities across the firm. MINT is an actively managed ETF that seeks greater income and total return potential than money market funds. This ETF predominately invests in government securities, investment grade corporate bonds, municipal bonds and mortgage backed securities and maintains a duration range of 0 to 1

year. Although the inception date of MINT is only slightly over 3 years, this ETF has performed well relative to its stated benchmark (Citigroup 3-month Treasury Bill Index) and has outperformed 3-Month LIBOR averages over that same time period.

Performance for Period Ending March 31, 2013	1 Yr	3 Yr
PIMCO: MINT ETF (NET)	1.50%	1.48%
Citigroup 3-Mo Treasury Index	0.08%	0.09%
3 Month LIBOR (Average)	0.37%	0.37%

Source: Pimco & Bloomberg

Dimensional Fund Advisors

Staff has identified two DFA short term investment strategies which offer attractive diversification and return enhancement benefits: the Ultra-Short Duration fund (Ticker: **DFIHX**) and the Global Ultra-Short Duration (Ticker: **DFGFX**) fund. OIC is familiar with DFA as it has approved four prior DFA public equity mandates: World ex-U.S. Small Cap Value (January 2009); Emerging Markets Small Cap (May 2010); U.S. Micro Cap Value (January 2013) for OPERF; and Emerging Markets Core (February 2011) for the Oregon Savings Growth Plan.

DFA's fixed income investment philosophy is based on academic research which shows that term spreads and credit spreads effectively incorporate information about expected term and credit risk premiums. Specifically, DFA research shows that wide term spreads are associated with higher term premiums. In these environments, the DFA strategy increases term risk and targets the steepest segments of the yield curve. DFA research on credit spreads shows that wide credit spreads are also associated with higher term premiums. In wide credit spread environments, the strategy generally increases credit risk. This research initially focused on U.S. fixed income markets (1980s), but later expanded to global fixed income markets (1990s).

DFA manages $34 billion in short term and ultra-short term duration strategies. The inception dates of the Ultra-Short Duration and Global Ultra Short Duration funds date back to 1983 and 1996, respectively. Both ultra-short strategies have the same academic underpinnings (trying to capture term and credit risk premiums). The difference between them is that the Global Ultra-Short strategy may invest in the foreign sovereigns, agency and corporate securities of 20 different countries and use forward contracts to hedge currency risks. Both ultra-short strategies have performed well relative to their stated benchmarks and outperformed 3 month LIBOR averages over the same time frame.

Performance for Period Ending March 31, 2013	1 Yr	3 Yr	5 Yr	10 Yr	Inception 8/83
DFA ULTRA-SHORT DURATION STRATEGY (NET)	0.70%	0.81%	1.58%	2.29%	5.30%
BofA Merril Lynch 1 Yr US Treasury Note Index	0.31%	0.49%	1.01%	2.15%	5.21%
3 Month LIBOR (Average)	0.37%	0.37%	0.64%	2.13%	4.50%

Source: Dimensional Fund Advisors & Bloomberg

Performance for Period Ending March 31, 2013	1 Yr	3 Yr	5 Yr	10 Yr	Inception 3/96
DFA GLOBAL ULTRA-SHORT DURATION STRATEGY (NET	0.83%	1.05%	1.84%	2.34%	3.80%
Citigroup World Govt Bond Index 1-2 Years (hedged)	0.88%	0.96%	1.68%	2.57%	Not Available
3 Month LIBOR (Average)	0.37%	0.37%	0.64%	2.13%	3.18%

Source: Dimensional Fund Advisors & Bloomberg

Issues to Consider

Pros:

- Staff has a high regard and long standing relationships with both PIMCO and Dimensional Fund Advisors. The firms' existing OPERF mandates have met our investment objectives, and service levels from both firms remain high.

- Staff believes that expansion of the permitted holdings (i.e., Russell 2000 ETF and the cash management vehicles) in this strategy will provide additional diversification and return enhancement opportunities.

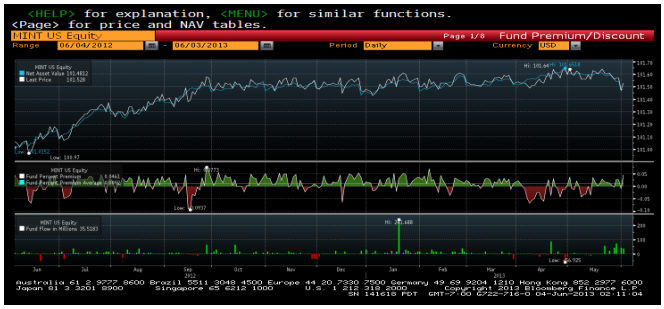
Cons:

- Exposure to higher duration cash strategies may result in underperformance relative to LIBOR if we enter an environment in which the Fed raises interest rates aggressively. {**Mitigant**: Both PIMCO and DFA provided analyses on Fed rate hike scenarios. Both strategies were subject to a scenario that shocked their respective portfolios with 8 consecutive quarters of 25 bps rate increases. Under this scenario, Pimco and DFA strategies still outperformed money market strategies over the two year time frame as the yield benefit embedded in the portfolios outweighed the price depreciation from rising rates.}

- Exchange Traded Funds (ETFs) can be volatile and subject to behavioral investing mistakes by retail investors. {**Mitigant**: An attractive feature of utilizing ETFs (i.e., IWM or MINT) is that these securities can trade at a premium or discount relative to the NAV of their underlying securities. The middle panel of the following two Bloomberg charts shows the **Premium/Discount** profile of both IWM and MINT over the course of a year. The implication is that this mean reverting effect would allow a patient trader the opportunity to add incremental value during the purchase or sale of either ETF.}

IWM NAV Graph

MINT NAV GRAPH



FUNCTION: **Equity Investments**
ACTIVITY: **Internal Equity – Portfolio Objectives & Strategies**

POLICY: **All internal equity investments shall be authorized by a public equity investment officer, authorization shall be documented, and shall be in accordance with portfolio guidelines established by the Oregon Investment Council**.

PURPOSE

The purpose of this policy is to specify the portfolio strategies staff is authorized to manage internally and to define the tolerable risk, performance objectives, and permitted investments.

POLICY OBJECTIVES & STRATEGIES

S&P 500 Index Strategy

1. The objective of the S&P 500 Index portfolio is to closely match the S&P 500 Total Return Index performance through a full replication strategy.
2. The S&P 500 Index Portfolio is expected to outperform the S&P 500 Total Return Index by approximately 5 basis points annualized over a market cycle with an expected tracking error of 10 basis points.

S&P 400 Index Strategy

1. The objective of the S&P 400 Index portfolio is to closely match the S&P 400 Total Return Index performance through a full replication strategy.
2. The S&P 400 Index Portfolio is expected to outperform the S&P 400 Total Return Index by 10 basis points annualized over a market cycle with an expected tracking error below 30 basis points.

Russell 2000 Synthetic Index Strategy

1. The objective of the Russell 2000 Index portfolio is to closely match the Russell 2000 Total Return Index performance through a synthetic replication strategy.
2. The Russell 2000 Index Portfolio is expected to outperform the Russell 2000 Index Total Return Index by 30 basis points annualized over a market cycle with an expected tracking error below 50 basis points.

Tiered Emerging Markets Strategy (TEMS)

1. The objective of the TEMS is to outperform the MSCI Emerging Markets (net) Index through a tiered allocation strategy based upon country weighting. The underlying premise of the model is a framework which allows one to capture the inherent tendency for emerging markets to mean revert. The high volatility of returns and low correlation between emerging market countries, provides the key ingredients to this type of structured strategy. The strategy is currently implemented using index commingled trust

funds and is rebalanced annually by staff, or as needed given additions or deletions to the MSCI EM Index. Given the underlying implementation vehicles are country index funds, the strategy does not utilize any active security selection.

2. The TEMS Portfolio is expected to outperform the MSCI Emerging Markets (net) Index by 200 basis points annualized over a market cycle with an expected tracking error of 400 basis points.

Russell/RAFI Fundamental Large Cap Index Strategy

The objective of the RAFI/Russell 1000 portfolio is to outperform the Russell 1000 Total Return Index by 200 basis points annualized over a market cycle with an expected tracking error below 450 basis points. This portfolio is managed using fundamental factors and will have security weights that are derived from non-price metrics such as sales, earnings, book value, and dividends. A key tenet behind the fundamental strategy is that underlying accounting valuation metrics are objective and less volatile measures of a company's importance in the economy, as opposed to the company's listed market value..

PERMITTED HOLDINGS

S&P 500 Index Strategy

1. Securities contained in the S&P 500 Index.
2. Securities reasonably expected to be part of the S&P 500 Index at some future date.
3. Securities that have recently been a member of the S&P 500 Index.
4. Exchange Traded Funds (ETFs) which replicate the S&P 500 Index such as: iShares S&P 500 Index Fund (Ticker: IVV) or SPDR S&P 500 (Ticker: SPY).
5. S&P 500 Index Futures (Large Contracts and Mini's).
6. U.S. Treasury Bills or other acceptable cash equivalents utilized for equity futures collateral.

S&P 400 Index Strategy

1. Securities contained in the S&P 400 Index.
2. Securities reasonably expected to be part of the S&P 400 Index at some future date.
3. Securities that have recently been a member of the S&P 400 Index.
4. Exchange Traded Funds (ETFs) which replicate the S&P 400 Index such as: iShares S&P 400 Index Fund (Ticker: IJH).
5. S&P 400 Index Futures (Large Contracts and Mini's).
6. U.S. Treasury Bills or other acceptable cash equivalents utilized for equity futures collateral.

Russell 2000 Synthetic Index Strategy

1. Russell 2000 Index and S&P 600 futures contracts.
2. U.S. Treasury Bills or other acceptable cash equivalents used for equity futures collateral.
3. Oregon Short Term Fund.
4. Pimco MINT ETF
5. Dimensional Fund Advisors – Ultra Short Duration Strategy (Ticker: DFIHX)

~~3.~~6. Dimensional Fund Advisors – Global Ultra Short Duration Strategy (Ticker: DFGFX)

Tiered Emerging Markets Strategy (TEMS)

MSCI Emerging Market & Frontier Market commingled trust funds, exchange traded funds, or equity futures.

Russell/RAFI Fundamental Large Cap Index Strategy

1. Securities contained in the Russell 1000 Index.
2. Securities reasonably expected to be part of the Russell 1000 Index at some future date.
3. Securities that have recently been a member of the Russell 1000 Index.
4. Exchange Traded Funds (ETFs) which replicate the RAFI/Russell 1000.
5. Russell 1000, Russell 2000, S&P 500, S&P 400, S&P 600 S&P 400 Futures contracts.
6. U.S. Treasury Bills or other acceptable cash equivalents utilized for equity futures collateral.

ABSOLUTE RESTRICTIONS

The Internal Public Equity Portfolios may not purchase the following investments or types of investments without the specific advanced approval of the Chief Investment Officer and the Oregon Investment Council:

1. Short sales of securities.
2. Margin purchases or other use of lending or borrowing money or leverage to create positions greater than 100% of the market value of assets under management.
3. Commodities.
4. Non-U.S. dollar denominated fixed income securities issued by entities incorporated or chartered outside of the United States.

PROCEDURES:

All trades are entered into an Order Management System (OMS) such as Bloomberg POMS and are authorized by the signature (electronic or handwritten) of a Public Equity Investment Officer. The Public Equity Investment Officer shall act in accordance with established procedures and internal controls for the operation of the investment program consistent with this policy. The Senior Public Equity Investment Officer will review trades initiated by members of the Public Equity team. The Chief Investment Officer will review trades initiated by the Senior Public Equity Investment Officer.

SAMPLE FORMS, DOCUMENTS, OR REPORTS (Attached): NONE

TAB 6 – OPERF OVERLAY PROGRAM REVIEW

OPERF Policy Implementation Overlay Manager
Annual Update

Purpose

To provide the OIC an update on the OPERF Policy Implementation Overlay program, provided by Russell Investments.

Background

Beginning in late 1998, the OIC elected to have State Street Bank Trust, through State Street Global Advisors (SSgA), implement an equity manager cash equitization program. Through that program, daily, excess manager cash was invested through two different commingled investment vehicles. For domestic equities, excess cash was equitized through SSgA's Stock Performance Index Futures Fund (SPIFF) and for international equities, through their International Stock Performance Index Futures Fund (ISPIFF). The respective benchmarks for the funds were the S&P 500 Index and the MSCI EAFE Index.

In September 2005, the OIC retained Russell Investments to implement a more thoughtful overlay program that does more than blindly "equitize" excess manager cash. Through this daily effort, Russell monitors excess manager cash, cash held by the fund to meet benefit payments, and the current allocation of the fund to the OIC established strategic asset allocation targets (See OIC Policy following). They then trade equity and fixed income futures to better align the fund's overall asset allocation with the OIC's targets. The OIC receives a monthly update on the overlay exposures in the asset allocation portion of the monthly agenda materials.

As of May month end, OPERF had $1.4 billion in long fixed income contracts and $357 million in long global equity contracts, for a total notional exposure of $1.8 billion.

Staff Recommendation

None. Information only.

FUNCTION: **General Policies & Procedures**
ACTIVITY: **Public Employees Retirement Fund Rebalancing Policy**

POLICY: **The Oregon Investment Council (the "Council") establishes asset allocation targets and ranges for the Oregon Public Employees Retirement Fund (OPERF), at the asset class level. On an ongoing basis, Oregon State Treasury (OST) staff must address how the asset allocation will be maintained given cash flows and market movement.**

The purpose of rebalancing back to asset class targets is to ensure that OPERF's actual asset allocation does not drift significantly from the strategic asset allocation policy. The strategic asset allocation has been developed after a rigorous analysis of the Council's objectives and risk tolerance. Rebalancing ensures that the Plan's desired strategy and level of risk are maintained consistently over time. It therefore ensures that major policy decisions of the Council are implemented effectively. Implementing rebalancing actions are the responsibility of the OST Staff with the Council's oversight. Private equity and certain real estate investments are illiquid and not subject to short-term rebalancing.

PROCEDURES:

1. BACKGROUND

In the absence of any other considerations, the optimal strategy would be to rebalance continually back to the strategic asset allocation. However, rebalancing involves costs such as brokerage and other transaction costs. As a result, ranges are established around the target asset allocation that balances the desirability of being at the target with the costs of transactions. The OIC has retained a policy implementation cash overlay manager to minimize the cash exposure at both the Fund and manager level, and to more closely align the actual portfolio with the policy portfolio, generally through the buying and selling of futures contracts to increase or decrease asset class exposures, as necessary.

A breach of any of the established ranges triggers a review and possible rebalancing back to the target allocation with due consideration given to the liquidity of the investments, transaction costs and portfolio structure within asset classes.

2. IMPLEMENTATION

A. OST Staff will undertake the implementation of the rebalancing program.

B. The Fund's actual asset allocation shall be reviewed at the end of each month when asset valuations become available. More frequent reviews may be undertaken, if appropriate, and if information on market values is available. Rebalancing will take place if the weight to any asset class exceeds the policy range. Staff shall manage liquidity by rebalancing assets between managers, as necessary, to meet cash needs of the Fund, and within target weightings assigned for individual managers within an asset class. All physical rebalancings are done in concert with the policy implementation cash overlay manager, described above.

C. Rebalancing should be implemented by the most cost-effective means available. Cash flows into and out of the Fund will be used to rebalance back toward asset class targets, whenever possible. Crossing opportunities in index fund investments and futures/options may also be used in rebalancing in order to reduce costs.

D. When rebalancing occurs, OST staff shall make a recommendation to the Chief Investment Officer of the most appropriate allocation, taking into account the portfolio characteristics, manager weights, market conditions and cash flow needs of the Fund.

E. All rebalancing shall take place within the asset class and sub-asset class ranges established in Policy by the Council.

F. For illiquid investments such as private equity, some alternative assets and real estate, the judgment on rebalancing will consider the higher transaction costs and available opportunities, if any.

G. Staff will report monthly to the Council, the actual market valuations versus the target allocations for asset classes. Staff shall report all rebalancing activity to the Council on a quarterly basis.

3. ASSET ALLOCATION POLICY TARGETS AND RANGES

Asset Class	Target Allocation	Range
Public Equities	43%	38-48%
Private Equity	16%	12-20%
Total Equity	**59%**	**54-64%**
Fixed Income	25%	20-30%
Real Estate	11%	8-14%
Alternatives	5%	0-8%
Cash	0%	0-3%
Total Fund	**100%**	

SAMPLE FORMS, DOCUMENTS, OR REPORTS (Attached): None

Russell Investments

State of Oregon

Russell Overlay Update

Steve Cauble – Regional Director

Philip Lee, CFA – Portfolio manager

Greg Nordquist, CFA – Director, Overlay Strategies

JUNE 26, 2013

Important information

Nothing contained in this material is intended to constitute legal, tax, securities, or investment advice, nor an opinion regarding the appropriateness of any investment, nor a solicitation of any type. The general information contained in this publication should not be acted upon without obtaining specific legal, tax, and investment advice from a licensed professional.

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Unless otherwise noted, source for the data in this presentation is Russell Implementation Services Inc.

This material is a product of Russell Implementation Services Inc., a registered investment advisor and broker-dealer, member FINRA, SIPC.

Date of first use: June 2013

RIS RC: 2010

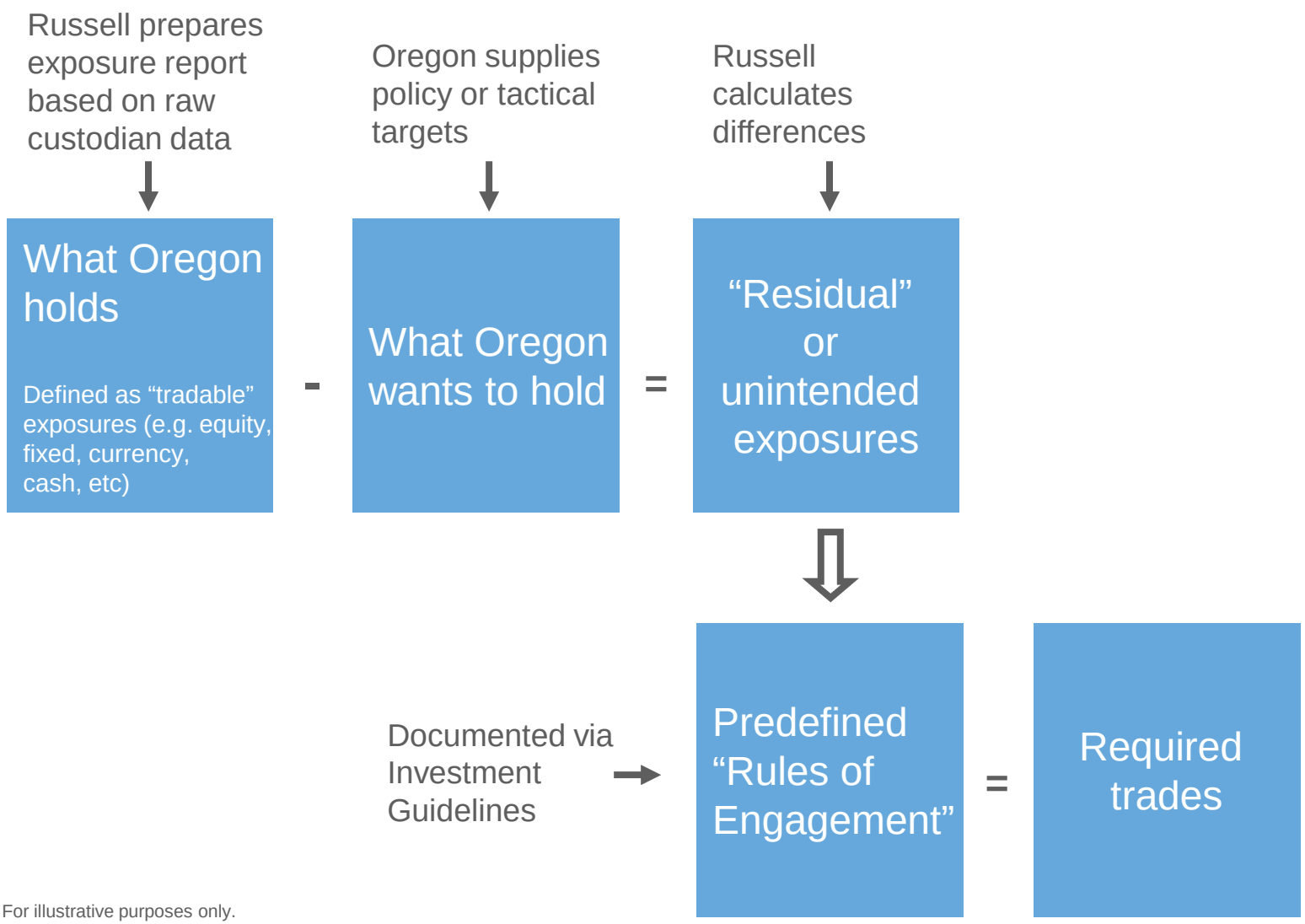
Contents

- Overlay update
  - May 2012 to May 2013
- Appendix

Russell Investments

Overlay update

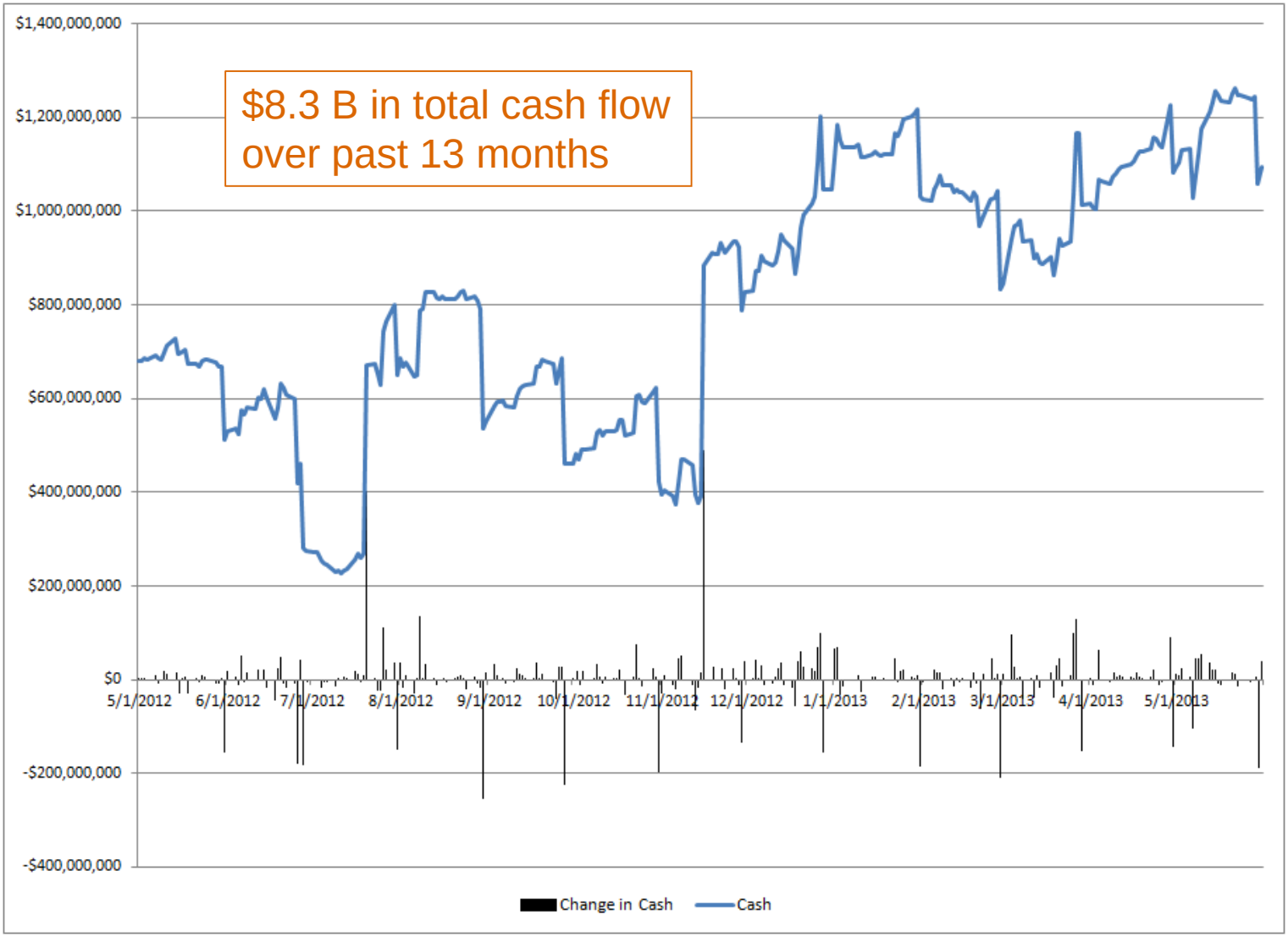
Overlay investment process (basic idea)



For illustrative purposes only.

599G Cash Account

Daily change in cash

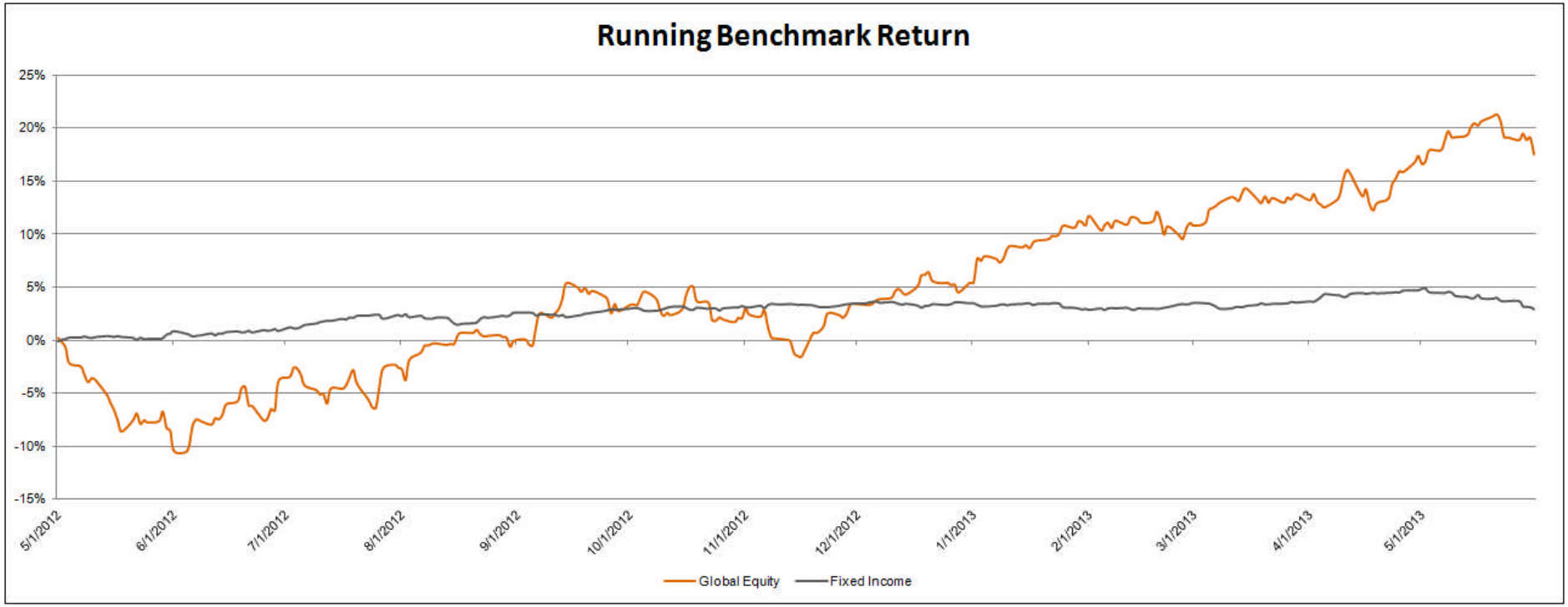


Past performance is not a guarantee of future results.

Russell Investments

Benchmark returns

May-01 2010 to Apr-30 2011



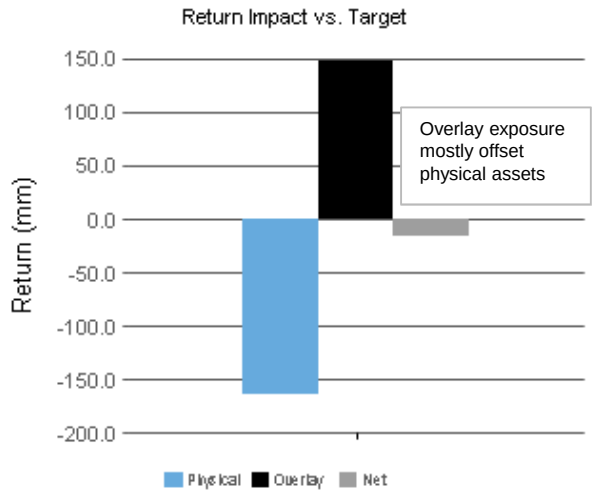
Past performance is not a guarantee of future results. Indexes and/or benchmarks are unmanaged and cannot be invested in directly.

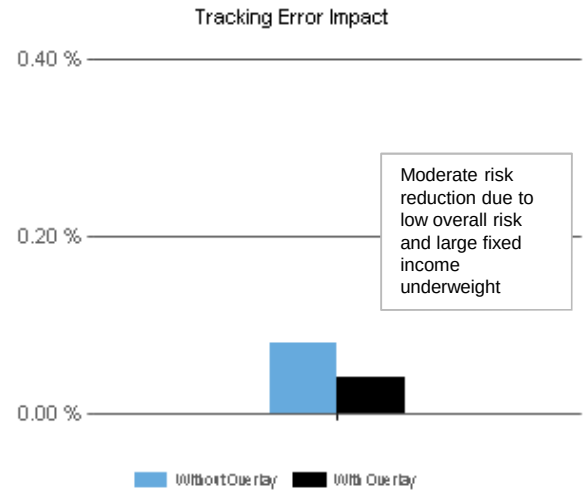
Oregon overlay highlights

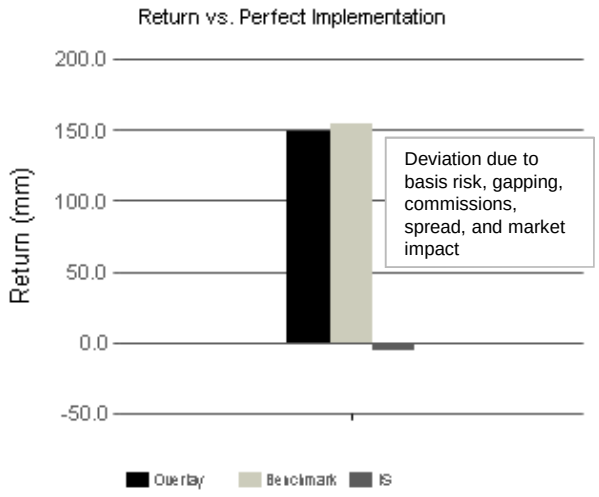
What	Why	Results (5/1/12 to 5/31/13)
› Overlay frictional cash with underweight asset class	› Capture risk premium of policy over cash › Reduce tracking error from unintended exposures	› Return › + $148 mm or 26 bps
› Long/short for deviations outside predetermined ranges (+/-2%) › Extreme market moves or tactical shifts	› Reduce tracking error from unintended exposures *(offset to physical)* › Reduce transaction costs *(trade physicals as a last line of defense)*	› Risk › TE from unintended exposures decreased by ~50%
› Raise cash opportunistically › Piggyback on other cash flows › Conditional crosses	› Reduce transaction costs › Reduced administrative burden	› Transaction Costs › Savings by equitizing and rebalancing with futures versus physicals: $16 million

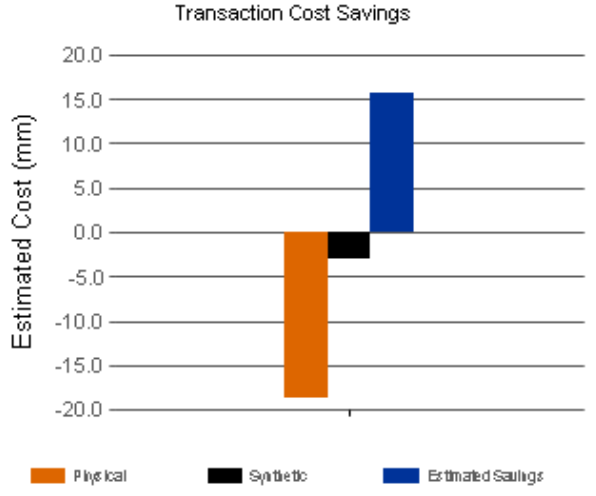
These costs assume one-way trading cost plus one quarterly roll.
Indexes are unmanaged and cannot be invested in directly. For illustrative purposes only.

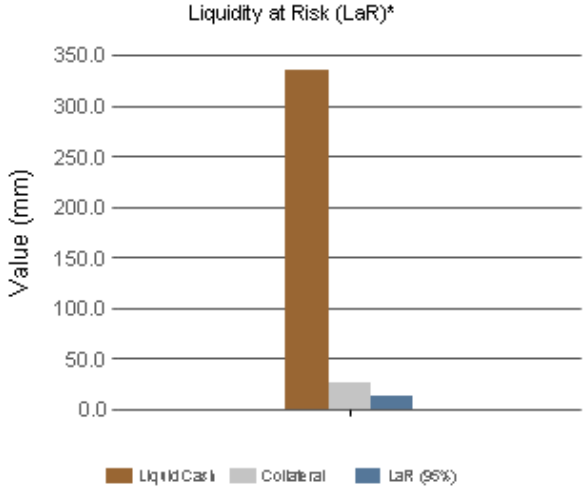
Overlay Highlights - Oregon

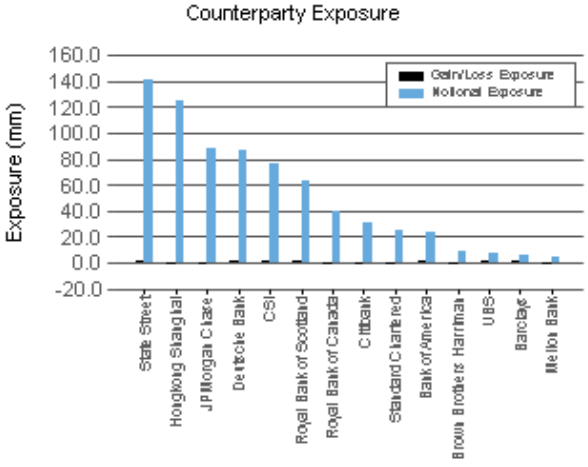








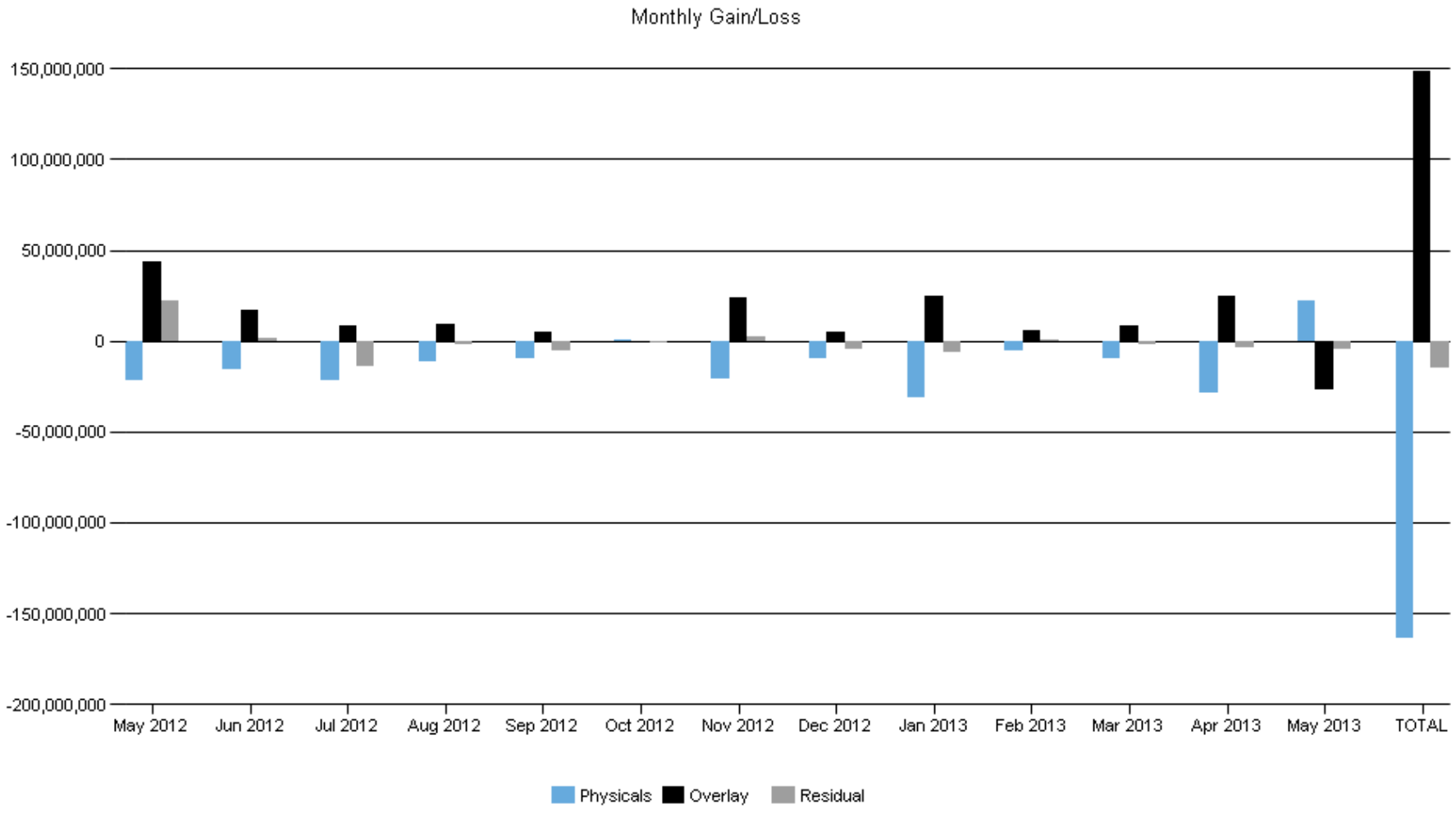




*Assumes 3 day returns

Past performance is not a guarantee of future results.

Return Impact vs. Physical Portfolio

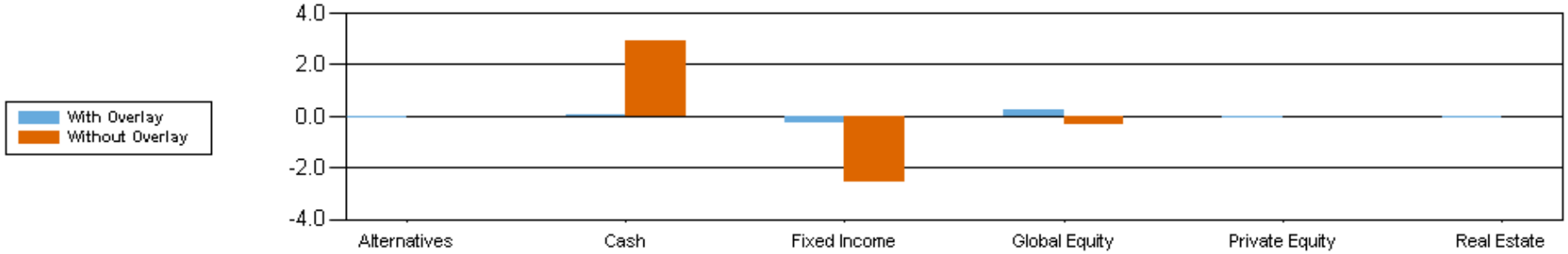


Past performance is not a guarantee of future results.

Asset Summary

Asset Class	Physical Exposure		Synthetic Exposure		Net Position		Overlay Target		Policy Target	
Total Market Value	**62,295.4**	**100.0%**	**0.0**	**0.0%**	**62,295.4**	**100.0%**	**62,295.4**	**100.0%**	**62,295.4**	**100.0%**
Cash	**1,820.9**	**2.92%**	**-1,811.8**	**-2.91%**	**9.2**	**0.01%**	**9.1**	**0.01%**	**0.00**	**0.0%**
Cash	1,820.9	2.92%	-1,811.8	-2.91%	9.2	0.01%	9.1	0.01%	0.00	0.0%
Equity	**37,371.9**	**59.99%**	**354.7**	**0.57%**	**37,726.6**	**60.56%**	**37,579.3**	**60.32%**	**36,754.29**	**59.0%**
Global Equity	23,691.2	38.03%	354.7	0.57%	24,045.9	38.6%	23,898.6	38.36%	26,787.02	43.0%
Private Equity	13,680.7	21.96%	0.0	0.0%	13,680.7	21.96%	13,680.7	21.96%	9,967.26	16.0%
Fixed	**14,318.9**	**22.99%**	**1,457.1**	**2.34%**	**15,776.0**	**25.32%**	**15,923.4**	**25.56%**	**15,573.85**	**25.0%**
Fixed Income	14,318.9	22.99%	1,457.1	2.34%	15,776.0	25.32%	15,923.4	25.56%	15,573.85	25.0%
Other	**8,783.6**	**14.1%**	**0.0**	**0.0%**	**8,783.6**	**14.1%**	**8,783.6**	**14.1%**	**9,967.26**	**16.0%**
Alternatives	1,393.2	2.24%	0.0	0.0%	1,393.2	2.24%	1,393.2	2.24%	3,114.77	5.0%
Real Estate	7,390.4	11.86%	0.0	0.0%	7,390.4	11.86%	7,390.4	11.86%	6,852.49	11.0%

Percent Deviations From Target Allocation



Total Absolute Notional Value: 1,811.77 (USD)

Past performance is not a guarantee of future results.

Russell Investments

Overlay exposure management trends

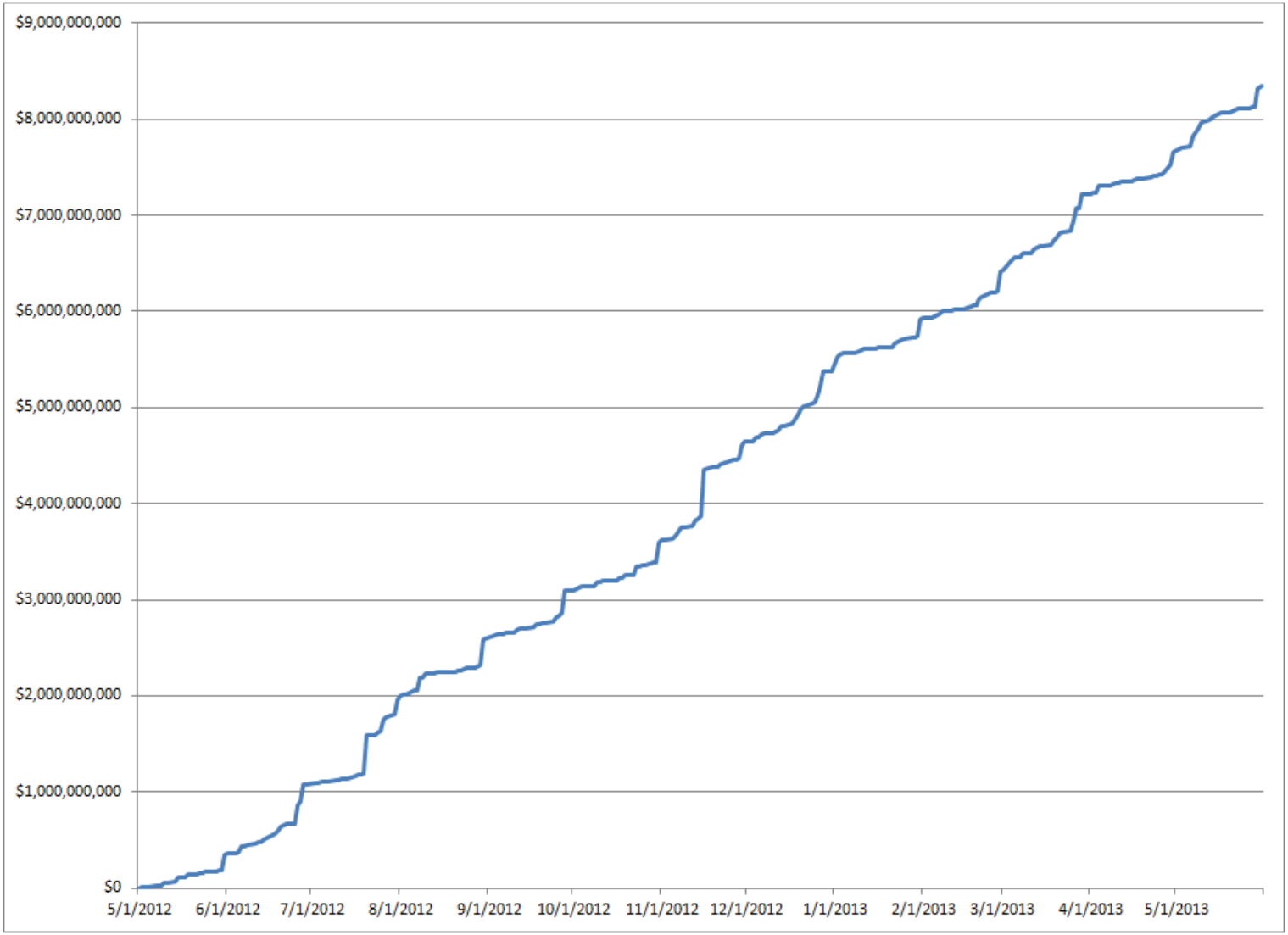
- Renewed interest in the basics
  - Liquidity management and rebalancing
- Volatility management
  - Options-based hedging
    - Opportunistic protection and systematic (call overwriting)
- Tactical tilting
  - Client directed within overlay portfolio
  - Russell strategists signals - Enhanced Asset Allocation
- Asset allocation shifts
  - De-risking, re-risking and broader global diversification
  - Overlay used to shift allocation in line with policy in a timely manner
  - Physical portfolio restructure follows

Russell Investments

Appendix

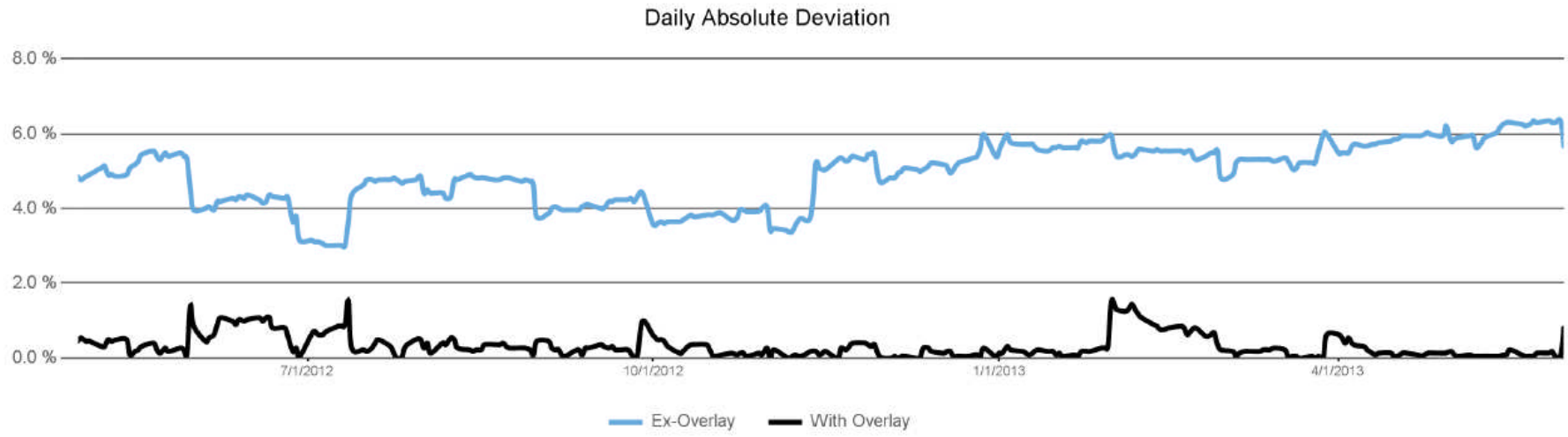
599G Cash Account

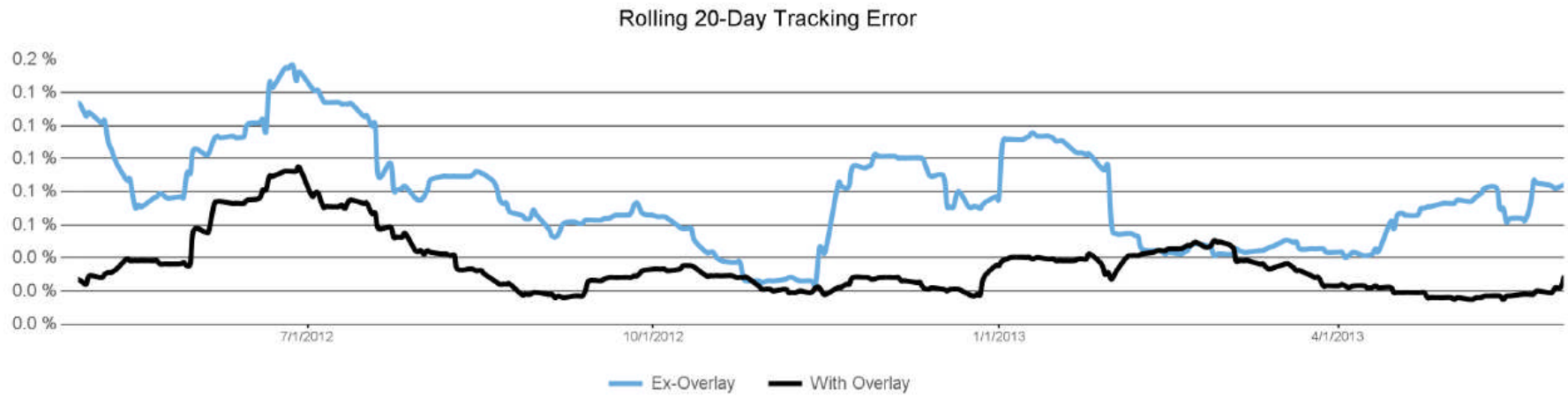
Cumulative change in cash



Past performance is not a guarantee of future results.

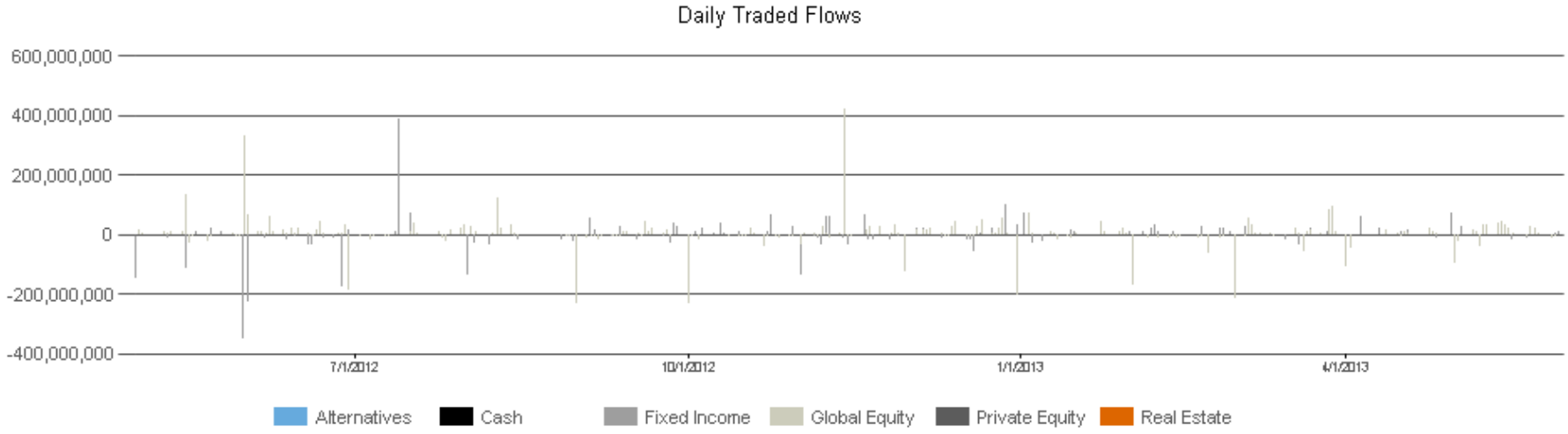
Total Fund Risk Management

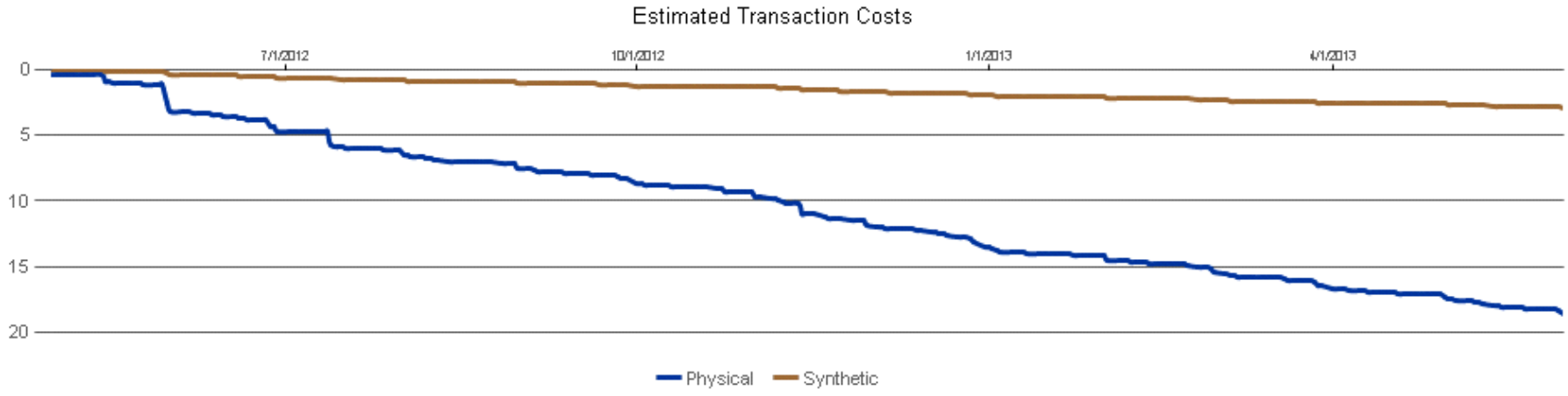




Past performance is not a guarantee of future results.

Transaction Cost Savings



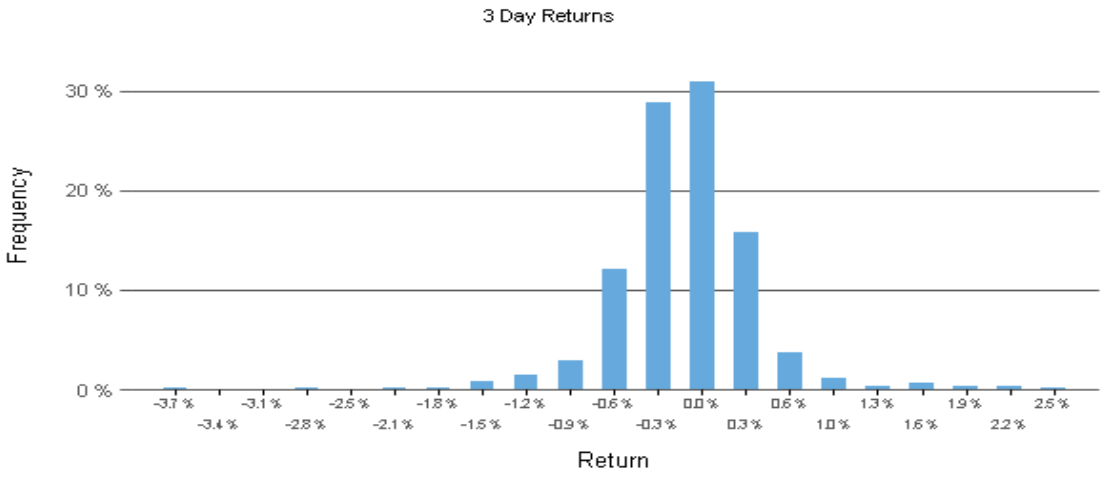


Past performance is not a guarantee of future results.

Liquidity at Risk

Account Cash	
Margin Cash	359,668,902
Security Collateral	0
Cash Collateral	27,040,000
Unrealized G/L	-1,816,295
Liquid Cash	332,628,902

Drawdown Analysis	
Liquidity at Risk	14,178,684
Max Drawdown	65,513,998
Times Below 0	0



Asset Class	Notional	Volatility	LaR
Fixed Income	1,415,357,152	4.7%	11,972,997
Global Equity	357,370,082	22.02%	14,163,851
Total:	1,772,727,234		

Security Type	Notional	Volatility	LaR
Futures	1,772,727,234	4.08%	13,032,718
Currency	162,842,220	7.89%	2,312,360
Total:	1,935,569,454		

Past performance is not a guarantee of future results. Indexes and/or benchmarks are unmanaged and cannot be invested in directly.

Russell Investments

TAB 7 – REVIEW AND TRANSITION

OPERF Real Estate

Verbal Presentation – No Materials

TAB 8 – ASSET ALLOCATIONS & NAV UPDATES

Asset Allocations at May 31, 2013

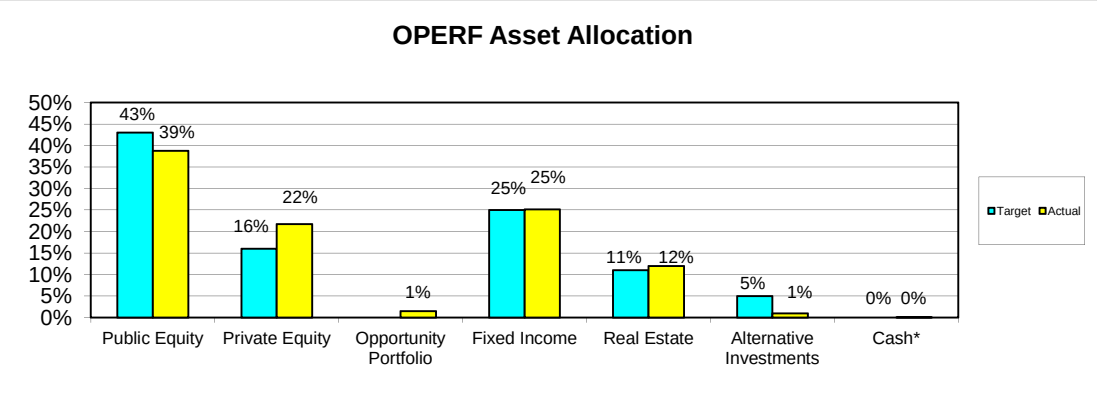
OPERF	Policy	Target	$ Thousands	Pre-Overlay	Overlay	Net Position	Actual	$ Thousands	$ Thousands
			Regular Account					Variable Fund	Total Fund
Public Equity	38-48%	43%	24,210,223	38.8%	(3,230)	24,206,993	38.8%	791,813	24,998,806
Private Equity	12-20%	16%	13,552,644	21.7%		13,552,644	21.7%		13,552,644
Total Equity	**54-64%**	**59%**	**37,762,867**	**60.5%**	**(3,230)**	**37,759,637**	**60.5%**		**38,551,450**
Opportunity Portfolio			902,305	1.4%		902,305	1.4%		902,305
Fixed Income	**20-30%**	**25%**	**14,282,227**	**22.9%**	**1,415,357**	**15,697,584**	25.1%		**15,697,584**
Real Estate	**8-14%**	**11%**	**7,473,358**	**12.0%**	**(5,300)**	**7,468,058**	12.0%		**7,468,058**
Alternative Investments	**0-8%**	**5%**	**608,490**	**1.0%**		**608,490**	1.0%		**608,490**
Cash*	**0-3%**	**0%**	**1,412,230**	**2.3%**	**(1,406,827)**	**5,403**	0.0%	8,189	**13,592**
TOTAL OPERF		**100%**	**$ 62,441,477**	**100.0%**	**$ -**	**$ 62,441,477**	**100.0%**	**$ 800,002**	**$ 63,241,479**

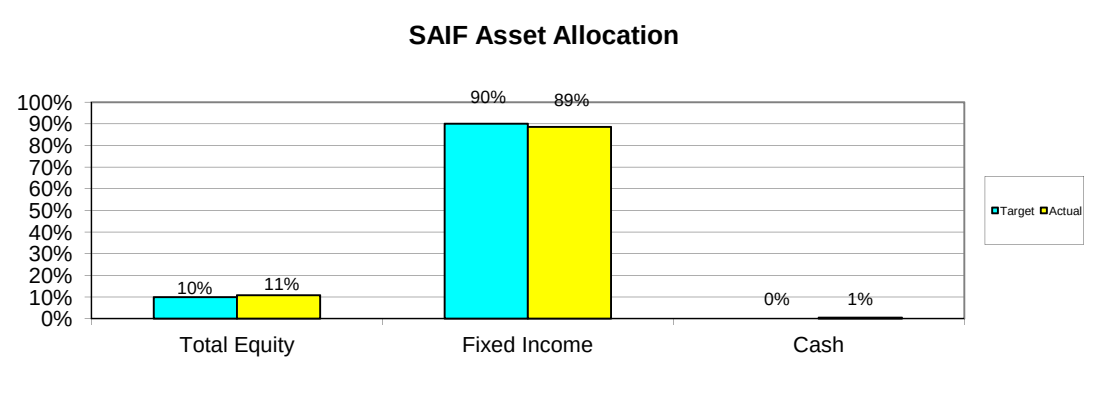
*Includes cash held in the policy implementation overlay program.

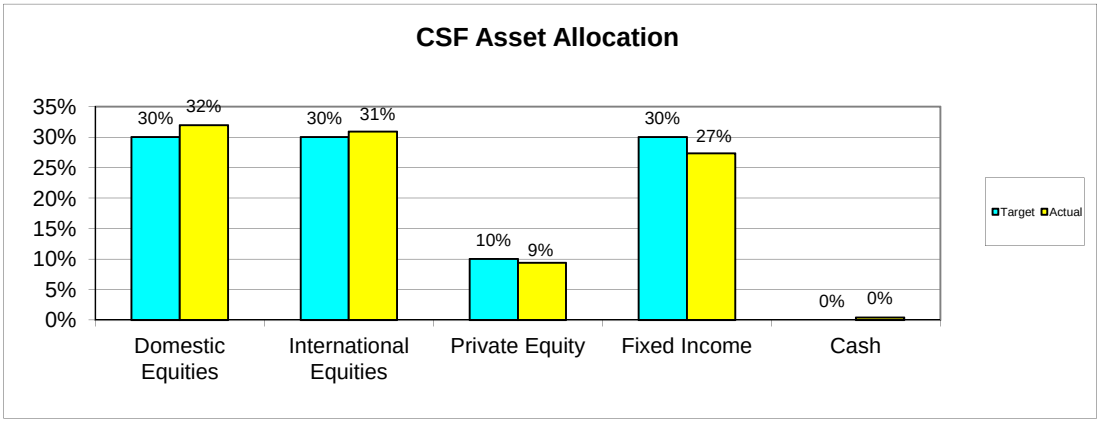
SAIF	Policy	Target	$ Thousands	Actual
Total Equity	**7-13%**	**10.0%**	**485,910**	**10.9%**
Fixed Income	**87-93%**	**90.0%**	**3,950,318**	**88.6%**
Cash	**0-3%**	**0%**	**22,582**	**0.5%**
TOTAL SAIF		**100%**	**$4,458,810**	**100.0%**

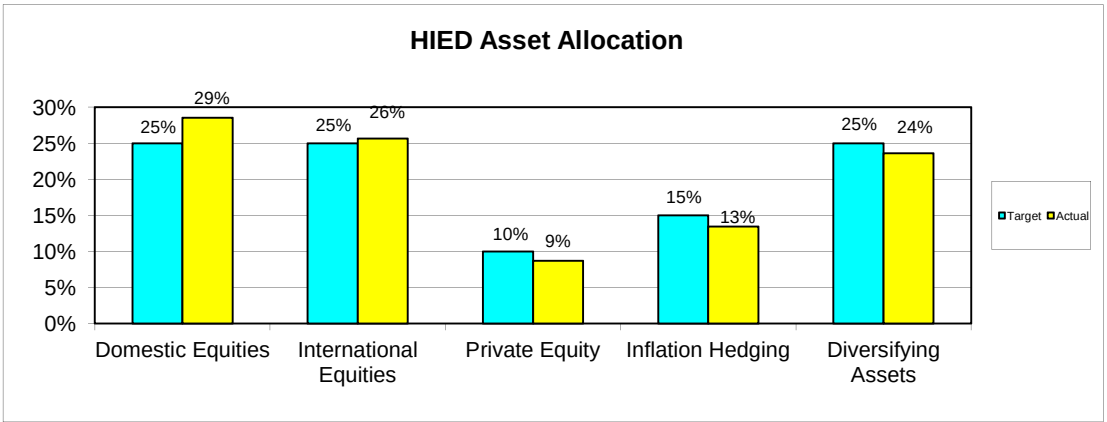
CSF	Policy	Target	$ Thousands	Actual
Domestic Equities	25-35%	30%	$400,703	32.0%
International Equities	25-35%	30%	387,436	30.9%
Private Equity	0-12%	10%	117,537	9.4%
Total Equity	**65-75%**	**70%**	**905,676**	**72.2%**
Fixed Income	**25-35%**	**30%**	**342,935**	**27.3%**
Cash	**0-3%**	**0%**	**5,470**	**0.4%**
TOTAL CSF			**$1,254,081**	**100.0%**

HIED	Policy	Target	$ Thousands	Actual
Domestic Equities	20-30%	25%	$20,341	28.5%
International Equities	20-30%	25%	18,291	25.7%
Private Equity	0-15%	10%	6,222	8.7%
Growth Assets	**50-75%**	**60%**	**44,854**	**62.9%**
Real Estate	0-10%	7.5%	4,988	7.0%
TIPS	0-10%	7.5%	4,591	6.4%
Inflation Hedging	**7-20%**	**15%**	**9,579**	**13.4%**
Fixed Income	20-30%	25%	15,643	21.9%
Cash	0-3%	0%	1,196	1.7%
Diversifying Assets	**20-30`%**	**25%**	**16,839**	**23.6%**
TOTAL HIED			**$71,272**	**100.0%**

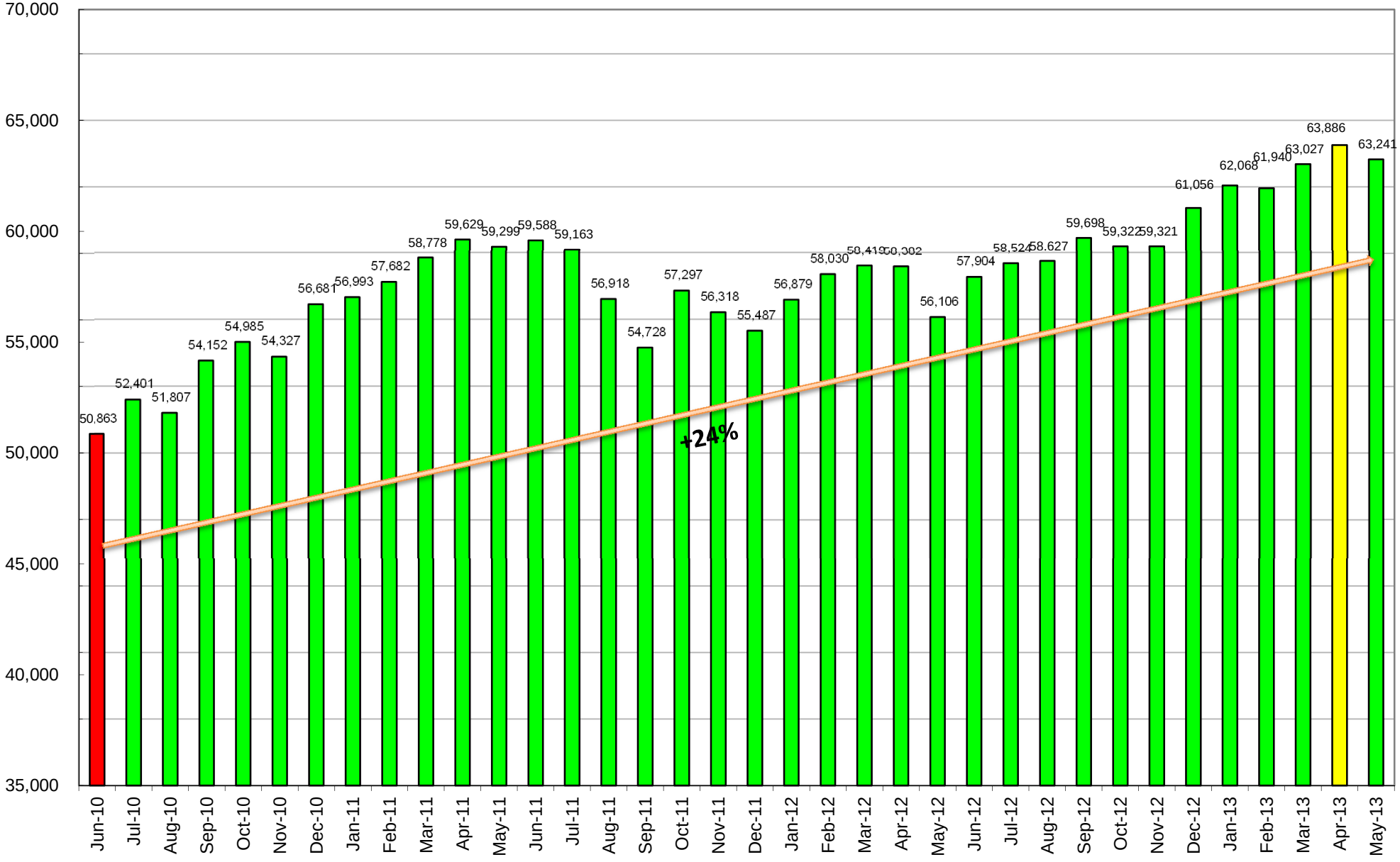

OPERF Asset Allocation
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
43%
39%
16%
22%
1%
25%
25%
11%
12%
5%
1%
0%
0%
Public Equity
Private Equity
Opportunity Portfolio
Fixed Income
Real Estate
Alternative Investments
Cash*
Target
Actual


SAIF Asset Allocation
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
10%
11%
90%
89%
0%
1%
Total Equity
Fixed Income
Cash
Target
Actual

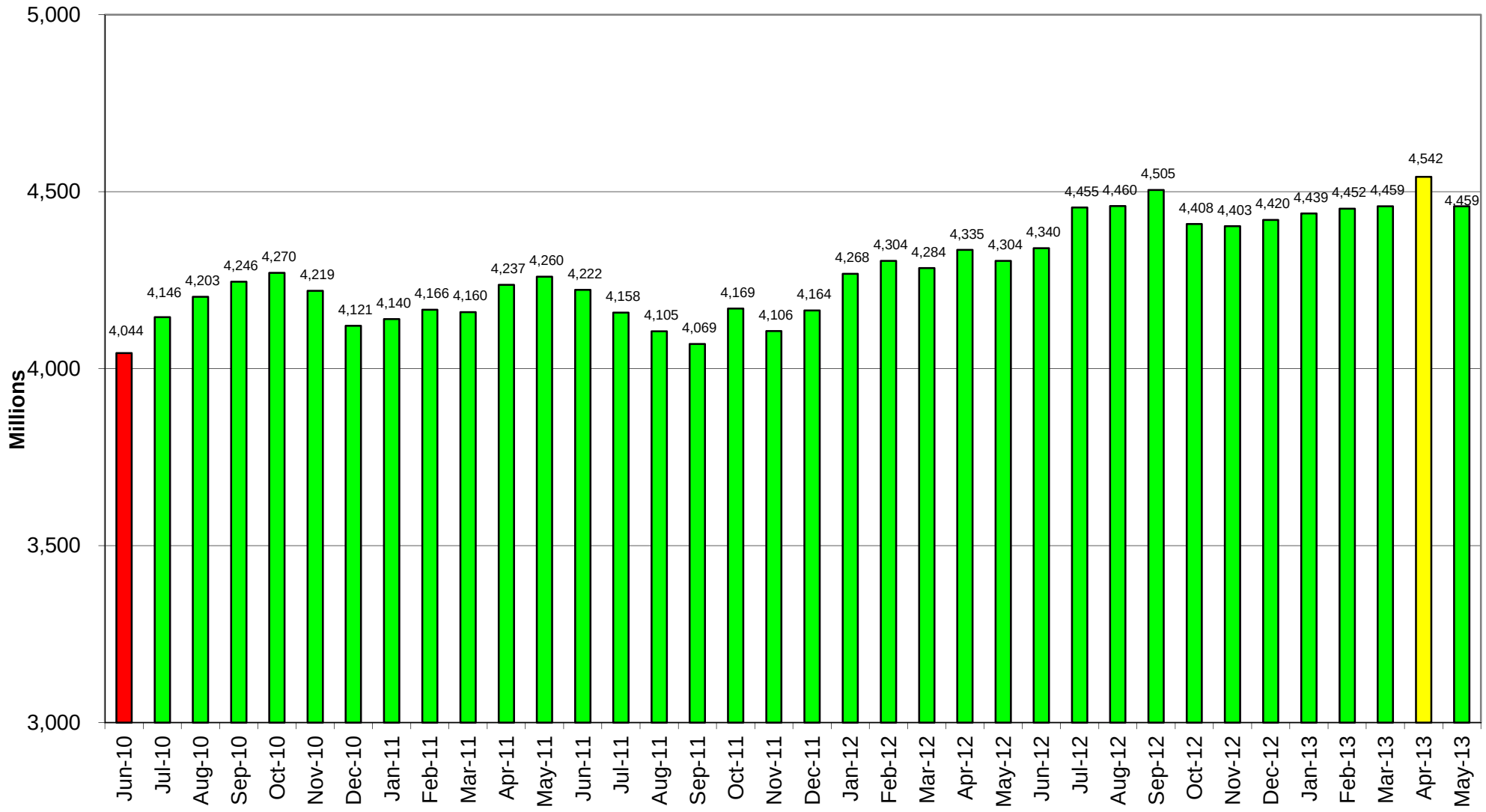

CSF Asset Allocation
35%
30%
25%
20%
15%
10%
5%
0%
30%
32%
30%
31%
10%
9%
30%
27%
0%
0%
Domestic Equities
International Equities
Private Equity
Fixed Income
Cash
Target
Actual

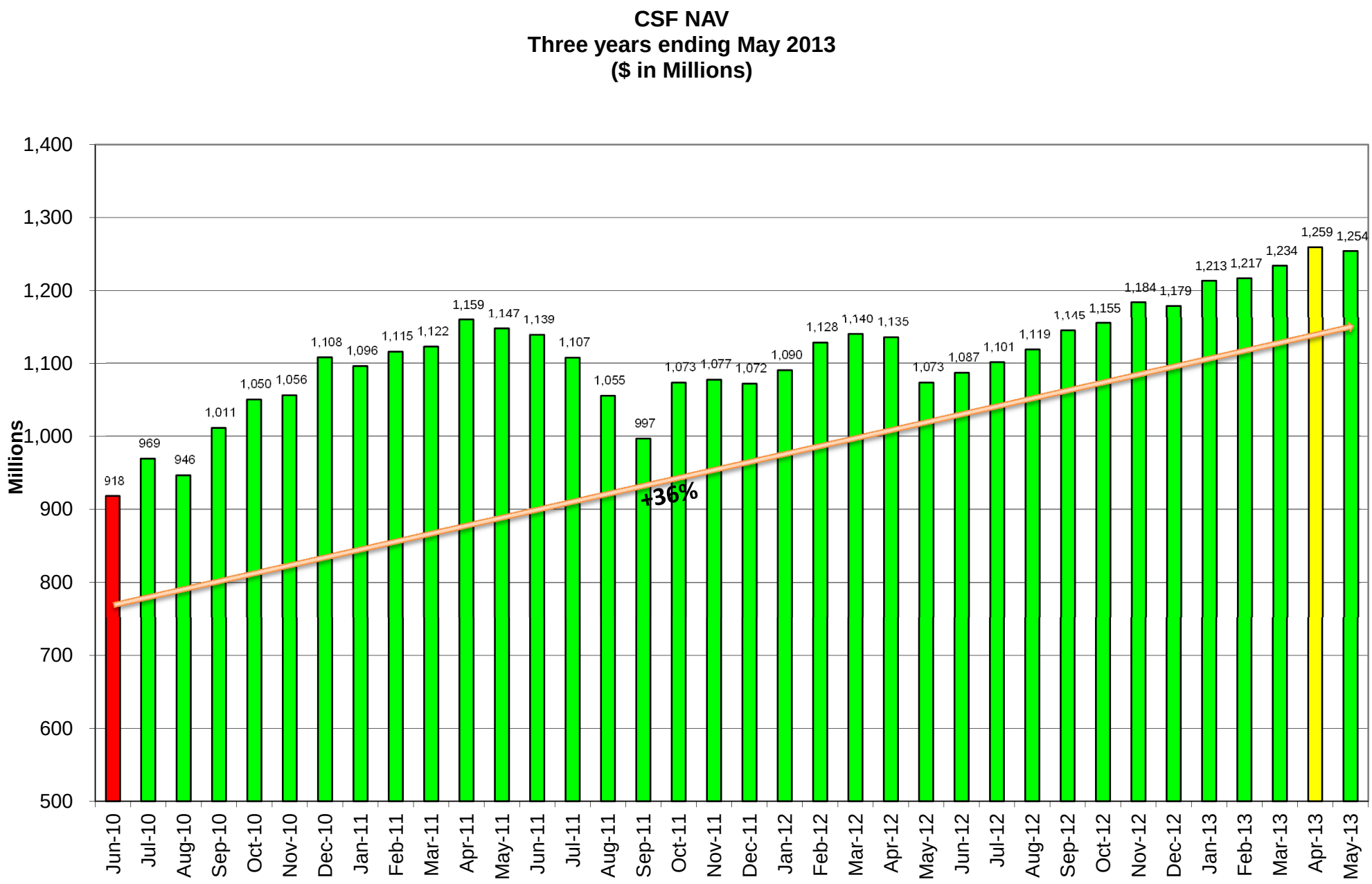

HIED Asset Allocation
30%
25%
20%
15%
10%
5%
0%
25%
29%
25%
26%
10%
9%
15%
13%
25%
24%
Domestic Equities
International Equities
Private Equity
Inflation Hedging
Diversifying Assets
Target
Actual

OPERF NAV
Three years ending May 2013
($ in Millions)



SAIF NAV
Three years ending May 2013
($ in Millions)




CSF NAV
Three years ending May 2013
($ in Millions)
Millions
1,400
1,300
1,200
1,100
1,000
900
800
700
600
500
918
969
946
1,011
1,050
1,056
1,108
1,096
1,115
1,122
1,159
1,147
1,139
1,107
1,055
997
1,073
1,077
1,072
1,090
1,128
1,140
1,135
1,073
1,087
1,101
1,119
1,145
1,155
1,184
1,179
1,213
1,217
1,234
1,259
1,254
+36%
Jun-10
Jul-10
Aug-10
Sep-10
Oct-10
Nov-10
Dec-10
Jan-11
Feb-11
Mar-11
Apr-11
May-11
Jun-11
Jul-11
Aug-11
Sep-11
Oct-11
Nov-11
Dec-11
Jan-12
Feb-12
Mar-12
Apr-12
May-12
Jun-12
Jul-12
Aug-12
Sep-12
Oct-12
Nov-12
Dec-12
Jan-13
Feb-13
Mar-13
Apr-13
May-13

TAB 9 – CALENDAR – FUTURE AGENDA ITEMS

2013 OIC Forward Agenda Topics

July 31:	OPERF Real Estate Portfolio Review OPERF Alternatives SAIF Annual Review Annual OIC Policy Review & Update
September 25:	OSTF Annual Review OITP Annual Review OPERF Public Equity Review Investment Beliefs Project
October 30:	Common School Fund Review CEM Benchmarking Report OIC General Consultant Recommendation Internal Audit Report
December 10:	OPERF Opportunity Portfolio Review HIED Annual Review OPERF 3rd Quarter Performance Review