ALASKA RETIREMENT MANAGEMENT BOARD

BOARD OF TRUSTEES
AGENDA

February 18, 2016

Meeting in the
Egan Room
Centennial Hall
101 Egan Drive
Juneau, Alaska

Thursday, February 18, 2016

I.	9:00 am	Call to Order		
II.		Roll Call		
III.		Public Meeting Notice		
IV.		Approval of Agenda		
V.		Communications, Public/Member Participation, and Appearances (Three Minute Limit)		
VI.		Approval of Minutes: December 3-4, 2015		
VII.	9:10	Reports		
		1.	Chair Report	
		2.	Committee Reports	
			A.	Audit Committee, *Martin Pihl, Chair*
			B.	Actuarial Committee, *Kris Erchinger, Chair*
			C.	DC Plan Committee, *Sam Trivette, Chair*
			D.	Legislative Committee, *Gail Schubert, Chair*
		3.	Division of Retirement & Benefits Report	
			A.	Membership Statistics/Buck Invoices/HRA Rates
			B.	Legislative Update
			Kevin Worley Chief Financial Officer, DRB *John Boucher, Deputy Commissioner, DOA*	
		4.	Department of Revenue Update Pension Obligation Bonds, *Commissioner Randall Hoffbeck* Treasury Division Report, *Pamela Leary, Director*	
		5.	Chief Investment Officer Report, *Gary Bader*	
	9:45-10:00	6.	Fund Financial Report *Scott Jones, State Comptroller, DOR* *Kevin Worley, Chief Financial Officer, DRB*	
	10:05-10:20	7.	Futures *Gary Bader, Chief Investment Officer*	

10:20 – Break
10 Minutes

10:30-11:00 8. Mondrian Investment Partners Ltd.
Todd Rittenhouse and Matt Day

11:05-11:20 9. Swaps
Gary Bader, Chief Investment Officer

11:25-11:55 10. BlackRock – Index Funds
Douglas McNeely, Laura Champion, Corin Frost, and Kathryn Donovan

Lunch – 12:00 – 1:30 pm

1:30-2:30 11. Capital Markets Assumptions
Paul Erlendson and Steve Center, Callan Associates Inc.

2:35-2:55 12. Portable Alpha
Gary Bader, Chief Investment Officer

2:55 Break
10 Minutes

3:05-3:35 13. Global Equity – Beta Neutral
John Holmgren and Roger Ibbotson
Zebra Capital Management

3:35-4:00 14. Investment Actions/Information

1. Resolution 2016-01 High Yield Guidelines
2. Futures
3. Swaps
4. Portable Alpha
5. Cash Equitization
6. Sentinel Realty Capital Expenditure
7. Beta Neutral-Advantage Mandate
8. Defined Contribution Plan Proposal

Gary Bader, Chief Investment Officer

VIII. Unfinished Business

1. Disclosure Reports
2. Meeting Schedule
3. Legal Report

IX. New Business

X. Other Matters to Properly Come Before the Board

XI. Public/Member Comments

XII. Investment Advisory Council Comments

XIII. Trustee Comments

XIV. Future Agenda Items

XV. Adjournment

(Times are approximate. Every attempt will be made to stay on schedule; however, adjustments may be made.)

State of Alaska
ALASKA RETIREMENT MANAGEMENT BOARD
MEETING

Location:
Anchorage Mariott Hotel
820 West Seventh Avenue
Anchorage, Alaska

MINUTES OF
December 3-4, 2015

Thursday, December 3, 2015

CALL TO ORDER

CHAIR GAIL SCHUBERT called the meeting of the Alaska Retirement Management Board (ARMB) to order at 9:00 a.m.

ROLL CALL

Nine ARMB trustees were present at roll call to form a quorum.

Board Members Present
Gail Schubert, *Chair*
Sam Trivette, *Vice Chair*
Gayle Harbo, *Secretary*
Kristin Erchinger
Commissioner Sheldon Fisher
Commissioner Randall Hoffbeck
Tom Brice
Sandi Ryan
Martin Pihl

Investment Advisory Council Members Present
Dr. William Jennings

Investment Advisory Council Members Absent
Robert Shaw
Dr. Jerrold Mitchell

Department of Revenue Staff Present
Gary M. Bader, Chief Investment Officer
Scott Jones, State Comptroller
Pamela Leary, Director, Treasury Division
Judy Hall, Board Liaison

Bob Mitchell, Deputy Chief Investment Officer

Department of Administration Staff Present
Kevin Worley, Chief Financial Officer, Division of Retirement & Benefits (DRB)
John Boucher, Deputy Commissioner, Office of Management & Budget

Consultants, Invited Participants, and Others Present
Matt Egenes, Barrow Hanley Mewhinney & Strauss, LLC
Jim McClure, Barrow Hanley Mewhinney & Strauss, LLC
Steven Center, Callan Associates, Inc.
Jay Kloepfer, Callan Associates, Inc.
Gary Robertson, Callan Associates, Inc.
Stuart Goering, Department of Law, Assistant Attorney General
Tim Atwill, Eaton Vance
Daniel Ryan, Eaton Vance
Melissa Beedle, KPMG
Michael Hayhurst, KPMG
Tony Dote, Lazard Asset Management
Rob Failla, Lazard Asset Management
Steve Courtney, Quantitative Management Associates, LLC (QMA)
Michael Hackett, Victory Capital Management
Gary Miller, Victory Capital Management

PUBLIC MEETING NOTICE

JUDY HALL confirmed that public meeting notice requirements had been met.

APPROVAL OF AGENDA

MS. RYAN moved to approve the agenda. MRS. HARBO seconded the motion.

GARY M. BADER, Chief Investment Officer, requested to amend Item 9. from 1:15 to 2:00, add Item 9A. Earnings Assumption Discussion from 2:00 to 2:15, and add Item 12E. Fidelity Small Company Fund.

MR. BRICE moved to amend the agenda changing Item 9. from 1:15 to 2:00, adding Item 9A. Earnings Assumption Discussion from 2:00 to 2:15, and adding Item 12E. Fidelity Small Company Fund. MRS. HARBO seconded the motion.

The motion to amend the agenda was approved.

The agenda was approved as amended.

PUBLIC/MEMBER PARTICIPATION, COMMUNICATIONS, AND APPEARANCES

None

APPROVAL OF MINUTES: September 24-25, 2015, and November 9, 2015

MRS. HARBO moved to approve the minutes of September 24-25, 2015, and November 9, 2015 meetings. MR. BRICE seconded the motion.

The minutes were approved.

ELECTION OF OFFICERS

MR. PIHL moved for unanimous consent to reelect CHAIR SCHUBERT, VICE-CHAIR TRIVETTE, and SECRETARY HARBO. MR. BRICE seconded the motion.

The motion passed unanimously.

REPORTS

1. CHAIR REPORT

CHAIR SCHUBERT expressed her disappointment in not being able to attend the October training.

2. COMMITTEE REPORTS

A. Audit Committee

MR. PIHL reported the full Audit Committee met on December 2nd. The meeting was very well-attended. The main topic of the meeting was a report by KPMG on the conclusion of the six audits of the retirement plans administered by the Department of Administration. Staff provided full cooperation during the audits and KPMG will present on their findings to the Board today.

MR. PIHL stated the Audit Committee heard reports on the salary floor billings, employer late filings, and employer audits. MR. PIHL advised the state issued final schedules of the interpretation of GASB required reporting of the unfunded liability. Employers have the responsibility to make their own interpretations regarding special funding and calculations.

B. Legislative Committee

None

3. RETIREMENT & BENEFITS DIVISION REPORT

A. Membership Statistics (informational)

Chief Financial Officer of the Division of Retirement and Benefits KEVIN WORLEY noted the informational membership statistics were provided in the packets. The total active members, as of September 30, 2015, for PERS DB was 17,538. The PERS DC has now exceeded that number for a total of 17,971 members. The TRS DB system has a total of 5,616 members, which exceeds the TRS DC system by about 715 members.

MRS. HARBO asked if the DC members' full disbursements included their SBS accounts. MR. WORLEY noted staff is still working on MRS. HARBO's request from the last meeting to weave that information together and show it in the report.

B. Buck Consulting Invoices (informational)

MR. WORLEY noted the Board requested a summary of monthly invoice billings from Buck Consultants. This report includes billing for the first three months of FY 16 and a comparison to billing for the first three months of FY 15. There was a significant increase in both PERS and TRS during this timeframe due to Buck's additional work with the Actuarial Committee in completing the valuation reports on an accelerated timeline.

C. TRS FY17 Contribution Rate - Corrected Resolution
Resolution 2015-21

MR. WORLEY stated Resolution 2015-11 previously passed by the Board, related to the Teachers' Retirement Defined Benefit employer contribution rate, included an error referencing the PERS rate. All other sections were correct. MR. WORLEY stated Resolution 2015-21 corrects the error to reflect the TRS rate and replaces Resolution 2015-11. MR. WORLEY requested adoption of Resolution 2015-21.

MRS. HARBO moved the Board set fiscal year 2017 Teachers' Retirement System actuarially determined contribution rates attributable to employers, consistent with its fiduciary duty, as set out in the attached form of 2015-21. VICE-CHAIR TRIVETTE seconded the motion.

A roll call vote was taken, and the motion passed unanimously.

D. Legislative Session Update

JOHN BOUCHER, Deputy Commissioner, Office of Management & Budget, informed the court system requested a different approach to the Judicial Retirement System 2017 rates brought before the Board at the September meeting in a letter from the Commissioner of Administration. The proposal is for a slightly lower rate for FY 17 by paying in advance. The contributions over time would be exactly the same. Staff is working with Buck Consultants to accommodate this request. This issue will be brought before the Board once discussions are concluded.

DEPUTY COMMISSIONER BOUCHER provided the legislative session update. HB47 is an active legislation related to PERS, which would allow certain municipalities whose population has decreased more than 25% between the 2000 and 2010 census to be retroactively exempt from the 2008 salary for PERS contributions. HB47 also would lower the interest rate charged on delinquent contributions to 8% from the current 12%.

DEPUTY COMMISSIONER BOUCHER reported HB66 would provide health insurance coverage from the retirement systems for dependents of public employees who die in the line of duty. HB90 and SB83 is the hybrid approach for the police officer/firefighter defined benefit retirement bill. HB211 would make available retirement incentive programs for DB plans in both PERS and TRS. SB79 and HB172 would allow the rehiring and employment of retired teachers and administrators. SB88 would allow current Tier IV employees to be offered a DB plan option.

TRUSTEE BRICE inquired regarding the Administration's position on HB90. DEPUTY COMMISSIONER BOUCHER noted the general position of the Governor has been to consider a DB bill if it were both cost neutral and risk neutral. TRUSTEE BRICE requested an update on the RIP program, in terms of state finances. DEPUTY COMMISSIONER BOUCHER indicated his understanding was RIP bills were not favorable for the system.

MRS. HARBO commented the early retirement incentive bills in the late '80s and early '90s were detrimental to the system and increased the unfunded liability.

COMMISSIONER FISHER noted over 20% of state employees are eligible or will be eligible to retire in the next five years, and approximately 2/3 of those employees will retire without an incentive program.

MR. PIHL commented the actuary report shows the retirement system benefit payments per year will be over $2.5 billion in not too many years in the future.

4. TREASURY DIVISION REPORT

Treasury Division Director PAMELA LEARY reported the Governor's budget is forthcoming in the next couple of weeks and she will provide more information as it is revealed. MS. LEARY reported she and State Comptroller SCOTT JONES visited with State Street last month as part of the due diligence and discussions regarding ongoing issues. MS. LEARY requested the existing contract with State Street be amended for one to three years. The accounting system is new and it is important to ensure the interfaces continue to work well. Staff is also working with State Street on additional services, including securities lending and risk products. Possible cost efficiencies could result because of the continued relationship with State Street. MS. LEARY advised the Board will not have an action item regarding the amendment. She will seek approval from the Board and COMMISSIONER HOFFBECK and will report back during the process.

5. CIO REPORT

MR. BADER reviewed the CIO Report included in the Board's packet. The MacKay Shield's allocation was reduced by $190 million, which funded two other high yield Board approved mandates. The Brandes allocation was reduced by $300 million, of which $100 million increased funding went to each Alliance, Baillie Gifford, and Arrowstreet. This occurred to bring the international investments more into balance with one another. Approximately $31 million from two transactions was transferred to Blue Glacier funds.

MR. BADER believes the line item reflecting a $25,000 transfer from cash to Fidelity Real Estate High Income Fund should be $25 million. He will verify the accuracy at the next meeting. The retirement fund has been rebalanced several times. The rebalancing included in the packet is from November 19th.

MR. BADER reported the proposal for a review of the defined contribution plans by Callan will be brought before the Board at the February meeting. Discussions with Department of Administration will occur regarding the Callan review and other items. MR. BADER informed the net of fee template requested by COMMISSIONER FISHER continues to be developed by Callan and is expected to be included at the February meeting.

MR. BADER noted the earnings assumption discussion added to the agenda relates to the change in earnings assumption by the California Public Employees Retirement System (CalPERS) and adoption of a strategy for lowering the earnings assumption over time. MR. BADER indicated Governor Brown of California criticized the change and wanted a more aggressive timeline. MR. BADER stated the later agenda item discussion will review the ARMB's reasonable earnings assumption and the evidence supporting the assumption.

6. FUND FINANCIAL REPORT with CASH FLOW UPDATE

State Comptroller SCOTT JONES and MR. WORLEY presented the Fund Financial Report. MR. JONES reviewed the financial statements for the year-to-date ending September 2015. The approximate numbers are: the PERS system ended with $15.4 billion, the TRS system with $7.6 billion, the JRS with $160 million, the National Guard and Naval Militia (NGNMRS) with $34.8 million, SBS with $3.2 billion, and Deferred Comp with $767 million, for a total of $27.7 billion, of which $22.4 billion is non-participant directed assets and $4.8 billion is participant-directed assets. This is a year-to-date change of -6.4% and roughly -5.44% was due to investment income. The asset allocation was within bands at the end of September.

MR. JONES reviewed the updated financial statements as of the end of November. The approximate numbers are: the PERS system ended with $16 billion, the TRS system with $7.9 billion, the JRS with $171 million, the NGNMRS with $36 million, SBS with $3.4 billion, and Deferred Comp with $806 million. The year-to-date change is a total of -2.4% and roughly -1.67% was due to investment income.

MR. WORLEY informed the three-month report for the Division of Retirement and Benefits PERS Healthcare Trust received $6.4 million in pharmacy and prescription rebates and TRS Healthcare Trust received approximately $2.1 million in pharmacy and prescription rebates.

MR. PIHL commented the state assistance contribution normally occurs in July, and asked for an update on the schedule this year. MR. WORLEY explained the state has gone through an accounting system conversion which began July 1. The Division of Finance requested the state assistance contribution transaction be initiated on September 30th due to the new accounting system transition. MR. WORLEY indicated the transaction will be shown on the next report.

VICE-CHAIR TRIVETTE expressed his appreciation to MR. WORLEY for fulfilling his request to provide highlights and notes for the DRB Supplement to the Treasury Report.

CHAIR SCHUBERT noted the meeting was ahead of schedule and requested to address Unfinished Business while waiting for the next presenters. There was no objection.

UNFINISHED BUSINESS

1. Calendar

JUDY HALL, Board Liaison, stated the 2016 calendar of meetings was included in the Board's packet and no additions have been made.

VICE-CHAIR TRIVETTE requested the DC Committee meeting in February be added to the calendar.

2. Disclosure Report

MS. HALL indicated the Disclosure Report was included in the Board's packet. There is nothing unusual to report.

3. Legal Report

STUART GOERING, Department of Law, Assistant Attorney General, reported the action against Petrobras has been filed on behalf of the Board and the Permanent Fund Corporation. The case has been assigned to Judge Rakoff in the United States District Court for the Southern District of New York. The case has a very aggressive schedule, with discovery underway and the trial set for September. MR. GOERING commented the course of discovery and the initial disclosures supports the assessment of outside counsel that the primary objective at this point of Petrobras is to obtain early settlements with larger institutional investors. He believes this is positive for the Board.

MR. GOERING advised this matter raises broader policy issues for Board action sometime next year. The current class litigation policy is an obsolete ASPIB era policy, which needs to be reconsidered and updated. A policy on foreign opt-in class litigation needs to be created. MR. GOERING informed the Board previously adopted a resolution and memorandum of understanding (MOU) with the Department of Law relating to class litigation. As far as he can tell, these were never executed by the Department of Law. MR. GOERING stated the MOU will be updated and brought back for Board approval. The experience over the next couple of months with the current litigation will help shape the policy development.

MR. PIHL asked if there are hundreds of class litigations over the scope of investments and if the managers are responsible for filing on the Board's behalf. MR. GOERING noted he does not know the number of class litigations. On U.S. domestic investments, no filing for class litigation is necessary because it is an automatic inclusion. On foreign investments, the Board is notified by the custodial managers regarding class actions and are given an opportunity to opt in.

7. PRIVATE EQUITY REVIEW

GARY ROBERTSON, Senior Vice-President, Callan Associates, Inc., provided a detailed presentation on the Private Equity Portfolio Review and Performance Analysis. He reported this has been another very good year in the private equity market and the third year in a row where the private equity market has been very liquid and distributions very strong. The since-inception returns are competitive against the databases. Callan is urging clients to be mindful of the denominator effect going forward. The denominator effect happens when the public securities decline and the private equity portfolio does not decline as much. The effect can be much higher funding very quickly. The private equity portfolio allocation is currently 7.6%. The target allocation is 9%.

MR. ROBERTSON discussed a timeline chart showing industry commitments to private equity funds in each vintage year and compared the investment year and timing of each manager. The backlog of uncalled commitments has been moved up to almost 70% of the NAV. The portfolio is well funded to achieve the long-term goals.

MR. ROBERTSON indicated fundraising is strong this year for the private equity market and prices are high. Debt is easy to get, but the leveraged amount has been regulated to six times EBITDA. The SEC has an interesting influence on the industry right now. They established their presence in 2014, and began enforcements in 2015. As a result, limited partners are interested in transparency of fees, carried interest, and expenses. This trend will be monitored.

MR. ROBERTSON noted the message to clients is to be very cautious. The hope is liquidity will continue. If the equity valuations move up and down, the M&A activity slows down. Private equity is performing at expectations and public markets are a little above expectations. The spreads between the two are narrowing.

MR. ROBERTSON reviewed the private equity performance for 2015 and compared it to the performance of 2014. The commitments increased by $641 million or 16%. Paid-in capital increased $401 million or 13%. Uncalled capital increased $271 million or 27%. The portfolio is 75% paid-in. This was a historic year for distributions at $515 million of gross cash flow. The net cash flow was $114 million, which is a yield of approximately 7%. The remainder was reinvested into the portfolio. The IRR was at 11.1%. The total unrealized portfolio appreciation totaled 13%. This is the net cash flow plus the NAV increase minus the amount reinvested. MR. ROBERTSON noted the portfolio's benchmark comparisons. The 11.1% IRR is in the second quartile. The TVPI is in the middle of the second quartile.

MR. BADER requested examples of investment characteristics of portfolios that achieve top quartile results. MR. ROBERTSON explained he has never seen a portfolio within the top quartile distribution because the top quartile strips out the very best partnerships and no one picks all first quartile partnerships every year.

MR. ROBERTSON continued his presentation with a historical assessment of the portfolio's development of relative strength over time. The net cash flow plus the NAV increase equals the total portfolio appreciation, which averaged a 12% return over the nine-year period. The portfolio diversification is very broad and nicely balanced. The managers are complementary. MR. ROBERTSON provided a detailed review of the managers' profiles.

MR. PIHL asked why the vintage year peer group benchmark slides only show up to year 2012. MR. ROBERTSON explained the investments made in the last two years are included in the cumulative numbers, but not included in the year-over-year bar graph because the industry convention is funds that are less than four years old are too undeveloped to uniquely benchmark and managers usually do not provide numbers for those.

MR. ROBERTSON reviewed the in-house portfolio. It is comprised of 13 partnerships, $545 million, 48% paid-in, and currently is 12% of the private equity portfolio's NAV. The portfolio was very dynamic this year because of the recent large increases in commitments. Committed capital increased 95%. Paid-in capital increased 61%. Uncalled capital increased 158%. The gross cash flow was 26% of the starting NAV. The total appreciation was 14%, which is very similar to the total portfolio. It is still very early for benchmarking and the in-house portfolio is less than half paid-in.

MR. BADER noted the in-house portfolio's IRR is 11.2%, which is between Abbott and Pathway for 2015. He asked if it is fair to believe these numbers support a request to ramp up the internal managed program. MR. ROBERTSON agreed the in-house portfolio is doing well and staff is running a good program. He cautioned against comparing the in-house portfolio to Abbott and Pathway's very long and mature portfolios.

COMMISSIONER FISHER requested the next presentation include a peer group by strategy chart comparable for the in-house portfolio. MR. ROBERTSON agreed and said it is best to remain consistent with the convention that anything less than four years is too early to benchmark and will remain judicious about showing information that could change radically. He noted the vintage years by partnership are 10, eight, and seven.

CHAIR SCHUBERT recessed the meeting from 10:27 a.m. to 10:40 a.m.

8. KPMG - Audit Report

MELISSA BEEDLE AND MICHAEL HAYHURST of KPMG gave an overview presentation of the State of Alaska Division of Retirement and Benefits Audit Results of June 30, 2015. MR. HAYHURST reported there was detailed discussion at the Audit Committee yesterday regarding the audit, the procedures performed, and the conclusions reached. KPMG has issued unmodified and clean opinions on the financial statements for the invested assets of the retirement systems and the invested assets under the investment authority of the Commissioner of Revenue.

MR. HAYHURST stated KPMG is expected, in the near-term, to issue unmodified opinions on the financial statements for the PERS, TRS, JRS, NGNMRS, SBS, and DC plans. After which, KPMG is expected to issue an unmodified opinion on the 2015 Schedules of Employer and Nonemployer Allocations and Schedules of Pension Amounts for PERS and TRS. There were no corrected misstatements identified that are being recorded within the system financial statements. The one uncorrected item relates to the non-generally accepted accounting principles (non-GAAP) policy Revenue has for the alternative investments and the one-month lag. This is consistent with prior years and is not material to the financial statements.

MR. HAYHURST informed there will likely be a significant deficiency, not a material deficiency, related to the process Department of Administration has for gathering and validating census information for the Militia Reserve System. Work is ongoing to determine the root cause of this deficiency. MR. HAYHURST commented KPMG has a consistent core audit team and utilizes specialists in areas such as financial risk management, tax review, and marketable securities pricing.

MR. HAYHURST discussed working on the third year of census testing for PERS and TRS. Nineteen employers, with 565 total employees were selected for PERS testing. Sixteen employers, with a total of 400 employees were selected for TRS testing. MR. HAYHURST reviewed the results and noted the issues did not have a material impact to the assessment of a clean opinion.

MR. HAYHURST advised the systems will have to adopt the new other postemployment benefits (OPEB) accounting standards for next year. The employers will have to adopt the OPEB accounting standards in two years. OPEB schedules will be prepared accordingly. MR. HAYHURST provided an overview of the responsibilities listed in the appendix. It is the responsibility of management to prepare the financial statements in accordance with GAAP and having controls in place to do that. This is completed under the direction of the Audit Committee and the ARM Board. KPMG is responsible to plan and perform the audit and issue opinions on the financial statements. KPMG also reviews the information in comprehensive annual financial reports (CAFR) for the PERS and TRS to ensure the information is consistent with the audited financials and other provided information.

MR. PIHL noted MR. HAYHURST is transitioning from Alaska to Boise. MR. PIHL expressed his appreciation to MR. HAYHURST for his work over the years and his ability to clearly articulate that work to the Audit Committee.

9. PERFORMANCE MEASUREMENT - 3rd Quarter

MR. BADER introduced STEVEN CENTER and JAY KLOEPFER of Callan Associates, Inc., and informed the Board MR. ERLENDSON had a scheduling conflict for the meeting. MR. CENTER noted MR. KLOEPFER is an Executive Vice-President and has been at Callan for 17 years. He leads the Capital Markets team. MR. CENTER provided a detailed report on the third quarter performance measurement, through September 30th, 2015, and also provided an update on the positive months of October and November. The U.S. economy has been performing well and the revised GDP number came in at 2.1% for the third quarter. Headline inflation remained unchanged. Core inflation rose just under 2%. Payroll growth continued during the quarter. Oil prices continued to drop with West Texas Intermediate falling a full 51% from September 30, 2014 to September 30, 2015.

MR. CENTER reported the only positive asset class for the last quarter was the Barclays Aggregate Index at 1.2%. The equities side entered negative territory during the quarter. The S&P 500 returned -6.4%, S&P 400 Mid Cap returned -8.5%, Russell 2000 Small Cap returned -11.9%, and MSCI Emerging Markets returned -17.8%. MR. CENTER indicated the year-to-date return for MSCI Emerging markets is -13%, and all of the other benchmarks year-to-date returns are now in positive territory. The only sector that performed well in the Russell 3000 for Q3 was utilities returning 4.2%.The laggards were materials returning -17.3% and energy returning -19%. MR. CENTER noted growth strategies outperformed value strategies during the year, and the small cap space was the worst performer.

MR. CENTER believes the market is pricing an 80% chance the Fed will act and raise rates at their December meeting. VICE-CHAIR TRIVETTE asked what percent increase the Fed is expected to move in December. MR. KLOEPFER explained there is no consensus on how much rates will increase in the near-term. The market is pricing and the consensus is for rates to be at 3.75% for the 10-year Treasury. MR. KLOEPFER stated there is irrationality in the market now regarding short-term rates. MR. CENTER added another impact that cannot be predicted is the statement Janet Yellen will give about the future path of interest rates.

MR. CENTER discussed activity by the Chinese government, including devaluing the yuan, was not anticipated by the market and led to a continued drop in energy prices and a rapid increase in volatility of the equity market. During this time, the VIX, which measures U.S. equity market volatility, spiked to its highest level since 2012. The Chinese equity market has fallen by almost 40% since the beginning of the calendar year. International equity had negative performance. This was driven by a combination of continued dollar strength and weakness in the emerging market space.

Fixed income rates remain very low and pulled down during Q3. The dip in rates on the long end of the curve is driven by investor sentiment. Real estate was a bright spot for the quarter, with both institutional direct real estate and the REIT space performing fairly well. The NCRIEF Property Index rose over 3% and the REIT benchmark rose about 2% for the quarter.

MR. CENTER reviewed the actual allocation for PERS versus the target asset allocation and all are very close to targets. Compared to the Callan Public Fund Database, which shows allocations of peer public funds, PERS has a lower than average allocation to fixed income and a higher than average allocation to real assets and alternatives. The PERS near-term performance versus the peer group is not above median. This is driven by a lower fixed income allocation versus the peer group. PERS near-term performance is in line with the target benchmark.

MR. CENTER explained the attribution analysis for Q3 and the recent 12 months. Manager effect had a very slight negative impact over the quarter, and over the year, both the manager and asset allocation effects have remained fairly low. There was a dip during the quarter in long-term performance versus the actuarial return. Performance versus the asset allocation policy return remains in line. For the three-year performance, both PERS and TRS are ahead of the target benchmark and are right below the top quartile of the peer group. Over the last 10 years, PERS and TRS are both ahead of the benchmark and just below the median. Over the full 24 years, performance remains ahead of the target index and just below the bottom quartile line, again driven by the fixed income rally over the longer-term.

MR. CENTER indicated Callan is still in the process of auditing and confirming the fee system to accurately measure the net-of-fee return for each manager as requested during the previous meeting. As of September 30, PERS and TRS were both down approximately 2.4%. Through the end of November, it is expected the year-to-date numbers have improved to basically flat to slightly positive due to improvements seen in the equity space.

Total domestic equity for the quarter returned -7.3% versus the Russell 3000 at also -7.3%. Over the last 10 years, total domestic equity returned 6.6% versus the Russel 3000 at 6.9% and the S&P 500 at 6.8%. MR. CENTER believes there is a good mix of approximately 1/3 active and 2/3 passive management in the domestic equity space, along with the alternative equity allocation, including the defensive equity-oriented portfolio and the in-house equity yield portfolio. Alternative equity continued to minimize volatility on the equity side, coming in as the strongest performer across all equity allocations during the quarter at a -4.2% performance.

The international equity performance during the quarter was approximately -12%. This is in line with the MSCI ACWI ex-US benchmark. The returns compare favorably to the index over 3-year and 5-year periods. Most of the international equity managers performed in line with the index during the quarter. Mondrian, within the international small cap space, had some difficulty over the last three years of this momentum-driven market. MR. CENTER indicated there are no concerns regarding Mondrian's performance and believes Mondrian will perform well when prices come back down and valuations drive performance. The emerging markets pool has struggled over the last year and has lagged over longer-term periods. One of the emerging markets managers, Eaton Vance, will be presenting to the Board during tomorrow's meeting.

MR. CENTER reminded the Board the PERS total bond market performance is compared to Callan's fixed income database group, which includes the fixed income allocation of all public funds. The PERS fixed income allocation is comprised of an intermediate duration, high quality strategy, and is expected to lag the benchmark in periods when treasuries performed well, rates declined, and the duration bias shortened, such as the last quarter. Over longer-term periods, the bond portfolio has performed well versus the target, not the peer group.

MR. CENTER discussed the preliminary returns for real assets through September 30. There are no areas of concern. The biggest negative numbers during the quarter were on the MLP side, which is expected due to the recent energy prices. All of the MLP managers have outperformed the MLP benchmark. There was also difficulty on the infrastructure side. The Global Infrastructure Index was -7% during the quarter. This was impacted by the currency effect and concerns about commodity prices. The absolute return performance was -3.09% last quarter compared to the HFRI Fund of Funds benchmark at -3.55%. Other than last year, the absolute return performance has exceeded its benchmark over all trailing time periods. MR. CENTER informed updated reports will be issued when the finalized numbers for all the asset return strategies become available.

MR. CENTER presented the performance of the Defined Contribution's individual account options. The Life-Cycle Funds have all been in line with benchmarks. There are no concerns with the International Equity Fund. The Stable Value Fund remains a very strong investment option. The Interest Income Fund has performed in line with expectations. The Allianz Socially Responsible Fund performed slightly better than its benchmark, which is a welcome change to their previous difficulties. All of the passive options have performed in line with their benchmarks.

A. Earnings Assumption Discussion

MR. KLOEPFER stated Callan has not had any conversations with CalPERS. The impressions expressed are from third-party information and the one-page release by CalPERS. There has been much pressure within California to lower their discount rate. Their goal is to lower the discount rate to 6.5% over the next 20 years. The mechanism to accomplish this is in any year their return is at least 4% above the discount rate, they will ratchet down their discount rate between five and 25 basis points. This will become the new discount rate. If the annual return does not produce at least 4% above the discount rate, the discount rate will not be lowered. MR. KLOEPFER explained another stated goal by CalPERS is to lower the volatility of the funded status to 8%. He believes the current volatility is between 12% and 14%, but is not certain of this accuracy.

MR. BADER asked if it is fair to say if CalPERS has good investment returns, they will lower their earnings assumption and ask more from their employers, and if the investment returns are bad, the employers will not be asked to contribute more. MR. KLOEPFER agreed to the MR. BADER's summary.

MR. BRICE asked if the target of 4% above the discount rate is too high to be reached. MR. KLOEPFER believes the 4% target is not too high and has been achieved over the last five years. He explained the mathematics show it is probable the target of 4% over the discount rate will be reached one out of every three years.

MS. ERCHINGER commented it seems like backward logic to lower their volatility and mitigate against the down years as opposed to not being able to achieve their current return targets. MR. KLOEPFER believes the logic is, without having spoken to CalPERS, that the immutable formula is comprised of contributions plus investment earnings will equal benefit payments. CalPERS is ratcheting down their discount rate to what they believe is a reasonable expectation going forward and letting the contribution side absorb the shortfall.

MR. KLOEPFER noted ARMB's discount rate is 8%, and he believes this is a decent return assumption.

COMMISSIONER FISHER asked to what extent MR. KLOEPFER interprets CalPERS' action as driven by a change in the equity markets with expected lower returns in the future versus a desire to lower CalPERS' risk and thus their return. MR. KLOEPFER believes CalPERS' stated goal is to lower risk, thus expecting a lower return. MR. KLOEPFER noted there is also political pressure in California to lower the discount rate.

COMMISSIONER FISHER asked if the political pressure is being driven by a perception the equity markets have changed. MR. KLOEPFER responded there is an overwhelming chorus of commentators who believe forward-looking expectations are going to be lower than the last 50 years. He stated public funds have achieved an 8% to 8.5% return from the capital markets over the last 50 years. MR. KLOEPFER cautioned against arguing about forecasts.

MR. PIHL asked if CalPERS and California are comparable to Alaska in providing state assistance to reduce unfunded liability. MR. KLOEPFER informed California employers and employees contribute to the system, and the state does not contribute additional funding.

MR. KLOEPFER explained a chart illustrating the fund's real return of 5.4%, net of inflation, on a rolling three-year basis back to 1991. The assumed number embedded in the fund's discount rate is 4.88%. This has been achieved. Inflation has averaged 3.7% over the long-term. The fund's inflation assumption is 3.12%. MR. KLOEPFER believes the fund's discount rate and inflation assumption are reasonable.

MR. BADER informed KPMG gave their opinion at the Audit Committee meeting yesterday affirming the earnings assumption is within an acceptable range.

MS. ERCHINGER expressed appreciation for the chart illustrating real returns. She believes it is important to see how the inflation assumption contributes to meeting the investment target.

MR. CENTER invited the Board to Callan's National Conference January 25-27, 2016.

CHAIR SCHUBERT recessed the meeting from 11:40 a.m. to 1:17 p.m.

10. VICTORY CAPITAL MANAGEMENT

VICE-CHAIR TRIVETTE welcomed GARY MILLER, CIO, Lead Portfolio Manager, and MIKE HACKETT, Director Institutional Markets, from Victory Capital Management. MR. HACKETT provided an organizational update and noted Victory Capital Management manages approximately $35 billion in assets. Sycamore Capital is one of the nine independent investment franchise models Victory Capital rolled out last year. Sycamore Capital manages approximately $6 billion in assets. The ARMB participates in the small cap value strategy. The small cap value strategy has total managed assets at $2.9 billion.

MR. MILLER expressed his appreciation to the Board for continued trust in Sycamore Capital's asset management. He explained his team chose the name Sycamore Capital for the investment franchise because it reflects their investment style of long-term steady growth and strength, having the ability to flex in periods of turmoil and storms, and performing well in different environments. The Sycamore tree is also indigenous to the Midwest and Victory Capital is headquartered in Ohio.

MR. MILLER stated the fund's inception date is May of 2012. The ARMB's portfolio was approximately $90.5 million for the quarter ending September 30th, with a return of -6.01%, compared to the Russell 2000 Value benchmark at -10.73%. The portfolio returned -2.75% year-to-date, compared to the benchmark at -10.06%. He reported performance has been on a steady upswing recently and the portfolio increased to $99.4 million as of November 30th, which brings the year-to-date up to 5.9% versus the benchmark at -2.3%. MR. MILLER stated the portfolio gained a solid 8% in 2014, versus the benchmark of about 4.2%.

MR. MILLER explained relative performance of the strategy is clearly delineated during times when excess liquidity is being pumped into the market. Domestic sectors have been the leaders since the beginning of 2014, with the best industries being health care, staples, financial, and utilities. Stock selection has been solid the entire period. MR. MILLER stated Sycamore Capital's expertise is picking stocks and utilizes a bottom-up, fundamentally driven, intrinsic value investing method. MR. MILLER reviewed the M&A activity has been helpful in the portfolio and is a byproduct of the investment approach of buying companies with high quality, strong balance sheets that are mispriced.

MR. MILLER indicated the global cyclical sectors were weak across the board during 2014 and 2015, and commodities was especially weak during this same time period. Energy has been a very difficult space, declining 38% in 2014, followed by another 38% decline in 2015. MR. MILLER noted the portfolio's energy holdings underperformed the benchmark, returning -45%. The services holdings were affected dramatically and the underperformance was unique and surprising. Despite the excess return in the overall portfolio, MR. MILLER discussed how sector allocation has been a headwind in both 2014 and 2015, specifically the underweight in financials and the overweight in industrials and materials.

MR. MILLER reported an uptick in turnover in the portfolio during the year. This is due to opportunities outside the portfolio with longer-term time horizons and using liquidity to unwind some of the really strong performing stocks. The portfolio is beginning to show a more cyclical bias and less of a recurring revenue bias.

VICE-CHAIR TRIVETTE asked what opportunities are expected to be available in the next two or three years in the energy sector. MR. MILLER believes the market is self-correcting. The service costs have decreased dramatically, which brought down the breakevens. When credit rationalizes, the highly levered energy companies will have to start selling assets. The energy companies who are cash flow positive and perform regulatory services can benefit in different market environments.

MR. BRICE requested additional explanation regarding the portfolio stock selection process. MR. MILLER gave an overview of the investment process the team uses to identify U.S. based stocks with better business, a margin of safety, and a positive driver for the outlook of the business. This screening process includes reviewing classic valuation metrics, such as P/E, price-to-book, EBITDA, and price-to-sales. The team looks for relative underperformance or companies that have cyclically depressed margins compared to their history and compared to their peer groups.

11. EATON VANCE - Emerging Market

CHAIR SCHUBERT introduced DAN RYAN, Managing Director Client Relationship Management, and TIM ATWILL, Head of Investment Strategy, of Eaton Vance, Parametric, who provided an update on the Parametric Emerging Market Equity. MR. RYAN expressed his appreciation to the Board for the long-standing relationship of eight years in the emerging market strategy. Parametric is a subsidiary of Eaton Vance, with approximately $150 billion in total assets under management. Portfolios include traditional passive, specialty beta type, systematic alpha, and overlay strategies. The common philosophical foundation is to add value using a disciplined, transparent process by focusing on portfolio construction and efficient implementation, while taking advantage of inefficiencies of particular asset classes.

MR. RYAN explained the emerging market strategy uses a top-down process and takes advantage of the structure inefficiencies in the emerging markets to add value. The ARMB portfolio is approximately $225 million. Performance has been challenged over the past year. The strategy has performed as expected, given the nature of the emerging markets during the time period.

MR. ATWILL gave an overview of the philosophical underpinnings of the strategy and described techniques used in portfolio construction, which are based on the underlying premise the market cap benchmark is too concentrated. Political risk is rampant in the emerging markets asset class and transaction costs are high. It is difficult to get an information edge and it is unknown which countries are going to experience strong rallies. MR. ATWILL described value can be added by building an equal-weighted, diversified portfolio that tries to avoid transactions and keeps the diversification intact through a dynamic rebalancing mechanism. MR. ATWILL explained the tiered process used to achieve the diversification goals and to get closer to an equal weighting through systematic rebalancing.

MR. ATWILL discussed the steep reversal pathways in emerging markets where the relative winners in one year become the losers the following calendar year and the reverse dynamic is equally true. Rebalancing to the target weight is utilized to get less exposure to a potential downfall and to gain exposure to the potential winners. The primary risk factor in emerging markets is countries. The portfolio has underperformed year-to-date due primarily to the large underweight to China and the exposure to the non-index frontier market countries. MR. ATWILL believes the portfolio rebalancing is set for a very good rebound. The cycle of a country outperforming and then falling back tends to take about 18 to 24 months. MR. ATWILL indicated the team continues to work on improvements to the strategy on both the sector diversification process and the rebalancing techniques. These evolutions will add a moderate amount of alpha and risk reduction potential to the strategy.

DR. JENNINGS asked how much return should be expected from the rebalancing process compared to the benchmark. MR. ATWILL described the historical alpha is comprised of approximately 3/4 diversification and 1/4 rebalancing, but this varies quite a bit depending upon the time period. MR. ATWILL believes the risk versus the benchmark is mostly focused in the large underweight to the larger constituents. The last cycle underperformed the benchmark by about 250 basis points. MR. ATWILL believes the current positioning is at a potential risk of a similar one-year underperformance.

MR. BRICE noted the portfolio is beating benchmark returns during the three and five-year time period, but not the one-year. He asked what needs to occur in the global economy to get positive in this strategy. MR. ATWILL believes the fear about the Fed interest rate increases is a factor for emerging markets and the impact will not be known until movement occurs. The strength of the dollar has been a headwind and the fear around the China growth story has had an effect on emerging markets.

MR. PIHL commented the strategy lost 51% in 2008 and has not fully recouped those losses. He asked for the reasons to stay in the strategy and what would need to happen to benefit the strategy. MR. ATWILL noted the U.S. markets are more richly valued than the emerging markets and buying at lower multiples over time provides a higher probability of investment success. MR. ATWILL believes there is still a growth potential in emerging markets, but sentiment is very negative and people will have to realize the potential again before it turns around. MR. ATWILL commented, in general, it is a bad investment thesis to invest in things that have gone up and get out of things that have done poorly.

12. INVESTMENT ACTIONS

A. Information: Manager Review

MR. BADER described the manager review process and the questionnaire he created with MS. HALL. Every manager was sent a questionnaire and returned it. MS. HALL compiled a report. The report was provided to each member of the IAC, MR. ERLENDSON and MR. CENTER, and was discussed at a meeting held in Denver on October 5th. Dr. Mitchell participated by phone because of the floods in North Carolina.

MR. BADER noted the first topic discussed was regarding managers with below benchmark performance. DePrince, Race & Zollo is a microcap mandate who has struggled for quite some time. They provided supplemental materials to their presentation in the questionnaire as to why they believe they will improve. The fiscal year-to-date number is -2.91%. This is beating the index of -3.71%. The manager Luther King was discussed because of their struggles and continue to trail their benchmark. Luther King has added reach to their portfolio. Neither manager has had significant staff turnover. The group feels these two managers have skill and the consensus was to continue to monitor DePrince, Race & Zollo, and Luther King.

MR. BADER reported there was not much comment on the real assets managers and there were no concerns. The manager with changes in the firm worth noting was McKinley Capital, having a significant decrease in assets over the years, which impacts the ability to keep payroll. Growth managers were out of favor for a long period of time and McKinley struggled. They have since turned around and McKinley came off of the watch list at the last meeting.

MR. BADER noted the distribution of the corporate governance mandate with Blum is complete, after several years. The last investments with Relational Investors will be distributed soon. MR. BADER noted staff is expected to respond at the February meeting regarding portfolio structure relating to options, puts, calls, buy-write, and buy-sell programs.

MR. BADER informed he visited Guggenheim and held discussions with the chief counsel and chief compliance officer regarding the signed consent decree. MR. BADER believes sufficient controls have been put in place and Guggenheim is very sensitive to the events that led up to their censure by the SEC and the $20 million fine. MR. BADER is content the municipal bond investment with Guggenheim is among the best in class.

MR. BADER stated discussion occurred regarding additional leverage on the portfolio. The group determined the portfolio will not use leverage beyond what is involved with the current real estate comingled funds. There was no final position on the use of a brokerage window in the defined contribution plans. MR. ERLENDSON was not favorably inclined to brokerage windows and will provide a brokerage window study completed by Callan.

DR. JENNINGS commented the discussions at the IAC meeting were useful to flesh out low level issues and concerns. He believes it is good to hear the independent views of the members and to discuss those with staff.

B. Securities Lending Policy

Action: Securities Lending Policy
Resolution 2015-22

MR. MITCHELL informed the Board authorized staff, at the meeting in September, to restart the Securities Lending Program and to develop a securities lending policy. Resolution 2015-22 outlines the recommendations for the Securities Lending Policy, addressing the objective of the program, the structure, reporting requirements, and the delegation of authority to staff.

<u>MRS. HARBO moved to adopt Resolution 2015-22. MR. PIHL seconded the motion.</u>

VICE-CHAIR TRIVETTE asked if the specific procedures and lending thresholds will be put in writing and included in the policy at a later date. MR. MITCHELL agreed and informed State Street will be the lending agent and internal staff will be investing the cash collateral from the Securities Lending Program, to the degree possible. Staff will be in discussions with State Street regarding the processes for concentration risks.

A roll call vote was taken, and the motion passed unanimously.

C. Securities Collateral Investment Guidelines

Action: Securities Collateral Investment Guidelines
Resolution 2015-23

MR. MITCHELL informed Resolution 2015-23 contains a draft set of investment guidelines for the cash collateral pool that would be created to hold the cash collateral for the Securities Lending Program. The guidelines emphasize a preservation of principal and liquidity. The guidelines mirror the current guidelines for the cash pool of the short-term fixed income pool component.

VICE-CHAIR TRIVETTE moved to adopt Resolution 2015-23. MS. RYAN seconded the motion.

MS. ERCHINGER commented the performance objectives state there are no specific goals with respect to the nominal amount of income generated by the Securities Lending Program. MS. ERCHINGER asked how the success of the guidelines will be measured by staff. MR. MITCHELL explained the utilization of the portfolio cannot be predicted because the volume of securities lending is a function of the markets and lending conditions. The intent is the program will lend out a smaller portion of the portfolio than the previous securities lending program.

VICE-CHAIR TRIVETTE asked if staff believes additional monies can be generated beyond the cost of staff time to implement the program. MR. MITCHELL agreed.

A roll call vote was taken, and the motion passed unanimously.

D. Insurance Linked Securities

MR. BADER explained insurance linked securities are related to weather events and catastrophes, and are not correlated to the financial markets. It is important to have assets in the portfolio that are not correlated to other assets in order to reduce volatility. The insurance linked securities product presented by Schroders at the educational conference in New York is in development. Staff is requesting authority from the Board to work with Callan to perform due diligence on Schroders investment linked securities investment capabilities and products, and assuming a favorable review, authorize staff to enter into contract negotiations with Schroders to invest up to $75 million.

MRS. HARBO moved to authorize staff to work with Callan to perform due diligence on Schroders investment linked securities investment capabilities and products, and assuming a favorable review, authorize staff to enter into contract negotiations with Schroders to invest up to $75 million. MR. PIHL seconded the motion.

COMMISSIONER FISHER commented the presentation was quite interesting. He asked for the difference in correlation of this asset versus other assets in the portfolio. MR. BADER recalled the investment returns were not aligned with much volatility and believes it has a very low correlation. He does not have the precise number at this meeting, but can get the information. MR. BADER noted this asset class is volatile during catastrophic events.

A roll call vote was taken, and the motion passed unanimously.

E. Fidelity Small Cap Fund

MR. BADER reported the Fidelity Institutional Management Small Cap Fund is now open to new institutional investors. The current 12 institutional investors hold a total of $2.5 billion under management. The target rate of return is an excess of 4% over the Russell 2000 Index, with a tracking error of 4% to 8%. The annualized performance for 10 years was 10.67% versus the index return of 6.55%, which is 4.12% gross of fees and 3.14% net of fees. The managers utilize bottom-up research and valuation on funds while looking for significant growth possibilities. The portfolio contains between 150 to 250 stocks.

MR. BADER stated the Board has given him authority as CIO to make investments of this nature with managers in good standing, such as Fidelity. MR. BADER advised the Board of his intent to make an investment into Fidelity Small Cap Fund, absent any prohibition from the Board during this discussion. He believes it is a good investment. MR. BADER commented the investment opportunity may be closed by the February meeting.

VICE-CHAIR TRIVETTE inquired about the amount to be invested. MR. BADER indicated the delegation allows him to investment up to 1% of fund assets, which is approximately $200 million. He does not intend to invest the entire allowed amount. MR. BADER explained this investment could be used to fill one or more of three potential investment needs, 1) combining this fund with a portable alpha strategy, 2) using this fund to replace poor performing small cap strategies, or 3) utilizing this fund as a new product in the small cap branded strategy space.

There was no objection to MR. BADER moving forward with the Fidelity Small Cap Fund investment.

RECESS FOR THE DAY

CHAIR SCHUBERT recessed the meeting at 2:39 p.m.

Friday, December 4, 2015

CALL BACK TO ORDER

VICE-CHAIR TRIVETTE reconvened the meeting at 8:59 a.m.

Trustees Hoffbeck, Fisher, Harbo, Erchinger, Brice, Ryan, and Pihl were also present. Chair Schubert arrived after 9:00 a.m.

13. BARROW HANLEY MEWHINNEY & STRAUSS, LLC

MR. BADER noted Barrow Hanley runs two mandates for the ARMB. The Diversified Large Cap Value Fund is comprised of approximately $320 million out of total assets under management of approximately $4 billion. The Small Cap Value Concentrated Fund is currently closed and is comprised of approximately $80 million out of total assets under management of approximately $2.4 billion. MR. BADER introduced MATT EGENES, Client Portfolio Manager, and JIM MCCLURE, Portfolio Manager for Small Cap Value.

MR. EGENES provided an overview of Barrow Hanley. He reviewed the equity investment team and explained the first, second, and third generations of managers. MARK GIAMBRONE has been the Manager for the Diversified Large Cap Value since the inception of the strategy in 2000, and is assisted by equity analysts MICHAEL NAYFA and TERRY PELZEL. MR. MCCLURE comanages the Small Cap Value Fund with JOHN HARLOE, and they are assisted by equity analysts COLEMAN HUBBARD and MELODIE HUNT, a new addition to the team. MR. EGENES noted the pending retirement of TIM CULLER, who is the large cap value portfolio manager. This has no impact on the ARMB's strategies and there are no other planned retirements. MR. EGENES directed the Board's attention to the decades of investment experience of the portfolio managers. He commented Barrow Hanley has not lost a portfolio manager to a competitor in 36 years. MR. EGENES reviewed a subset of the 280 client partnerships and their years of investment. Barrow Hanley is a uniquely stable firm growing in a controlled fashion.

MR. BADER inquired about the qualities Barrow Hanley considers important in hiring new analysts, such as MS. HUNT. MR. MCCLURE indicated he hired MS. HUNT, and explained Barrow Hanley utilizes a stock selection system that is different from other managers. Barrow Hanley looks for people who fit the criterion of no experience, good education credentials, and a temperament to withstand the necessary difficulties of investing in highly undervalued troubled companies.

MR. EGENES gave an overview of the current market conditions. 2015 has been a volatile period, with most of the indices through September in negative territory. He explained a chart illustrating for large cap and small cap, when returns are robust and above average, a minority of active managers outperform the indexes, and when returns are modest and down, a majority of the managers outperform the index. The Diversified Large Cap Value through the end of November is 2.6% compared to the Russell 1000 Value Index of -1.7%. The portfolio has outperformed the index by about 3.4% annualized over the last 16 years..

MR. EGENES explained the investment process of the Diversified Large Cap as valuation and dividend-centric. The experienced managers are looking for companies that are down for reasons that can be identified and are temporary. The proof statement showed the portfolio with a lower P/E and lower price-to-book relative to the market and a dividend yield premium relative to the market. The long investment horizon of three to five years and a low turnover approach of 25% to 30% contributes to the success of the process. The mergers and acquisitions cycle has been the most active in history and very positive for the portfolio, both for companies being acquired and the companies that acquire.

MR. EGENES noted the portfolio positioning in Diversified Large Cap is an overweight in consumer discretionary, particularly the cruise lines of Royal Caribbean and Norwegian. Capacity is being taken out of the Caribbean, improving pricing, and is being moved to China where there is demand. The middle income consumer in China is doing well and the cruise lines are catering to them. The cruise lines will probably be the first business able to take advantage of the opening of Cuba to tourism when it comes.

MR. EGENES showed the portfolio has been underweight energy for quite some time. The analysis is based on the individual company's merit and modest additions have occurred to current companies, such as BP, ConocoPhillips, and Occidental Petroleum. The current price of energy is used in the earnings model. MR. BRICE requested an opinion regarding oil prices. MR. EGENES believes 2016 will be a year of flat to down trending prices in energy. Out into 2017 and beyond, MR. EGENES believes demands will be greater and supply may be cut, leading to higher energy prices. He noted some companies are still able to make money at $40 a barrel.

MR. EGENES explained the portfolio is underweight financials, but overweight banks, especially the interest rate sensitive banks. As interest rates rise, which he believes will occur slowly and methodically in December and in June, the assets reprice faster than the deposits. The interest rate sensitive banks can capture the rising net interest margin. Conversely, the portfolio does not own any utilities or REITs, which will be hurt by higher interest rates. The valuation and relative yield on REITs is about half of its historical yield, which is prohibitive to investment in the sector.

MR. EGENES believes the market is in the range of fair value. The bull market is about 6.5 years in duration. Over the next 10 years, returns are expected to be in the low to mid single digits. This strategy adds the most value when returns are less than 10% annually.

MR. MCCLURE expressed his appreciation to the Board for allowing Barrow Hanley to manage funds. He noted the strategy for investment in Large Cap Value and Small Cap Value is the same, but the amount of opportunities is much broader and it changes more frequently. MR. MCCLURE indicated the market today presents constant challenges, domestically and abroad. This volatility produces opportunities. Year-to-date, the Small Cap Value portfolio is positive over the index by about 2.5%.

MR. MCCLURE explained the Small Cap Value portfolio focuses on companies with sustainable free cash flow. The value tends to be located in companies who have relatively low dividend yields, are immature, growing rapidly, and are out of favor. There have been three buyouts in the portfolio of 37 stocks this year. The top 10 holdings have changed dramatically during the last year and stock selection is the primary reason for outperforming the index. MR. MCCLURE discussed the stocks added and eliminated from the portfolio during the year. The average turnover is approximately 20% a year.

MR. MCCLURE reviewed the charts showing the long-term performance relative to the benchmark. He apologized for it being an arithmetic scale, rather than a logarithmic scale, and focused the Board's attention to the sharper upturn at the end of the chart, which also occurred in 2011. MR. MCCLURE reminded the Board this mandate was given in April of 2011, right before the market took an enormous hit. Between the time the account was acquired and the end of the third quarter of 2011, the benchmark was down 24%. What managers did then was what they were doing at the end of the last quarter when the benchmark was down almost 11%. Managers went through the portfolio and sold companies that had held up well in the downturn, and became more concentrated in stocks that had higher potential. This was explained and the Board understood in a very thoughtful way. When the market turn came, in both cases, the portfolio did well. MR. MCCLURE expressed his appreciation for the Board's long-term point of view. He explained in downturns, they try to maximize the advantage and turn adversity into opportunity by becoming more concentrated in the very best ideas.

MR. BADER requested additional information on the managers' sell discipline. MR. MCCLURE informed the portfolio is run with a real time model that ranks each position according to relative return over a forward three-year period, making assumptions about free cash flow, earnings, and valuation levels. The positions with the least relative return at the bottom of the list are automatically replaced by positions that are either new ideas or existing companies that are ranked higher.

14. LAZARD ASSET MANAGEMENT

MR. BADER introduced TONY DOTE, Managing Director, and ROBERT FAILLA, Director, Client Portfolio Manager, of Lazard Asset Management. MR. BADER advised Lazard is one of the ARMB's largest active investment managers with ARMB assets well over a billion dollars. The investment mandates include an emerging markets fund, infrastructure fund, small cap international fund, and an LEI. Under discussion today is Global Equity consisting of $729 million of ARMB's assets.

MR. DOTE expressed his appreciation to the Board for their trust, confidence, and business placed with Lazard over the years. MR. DOTE indicated Lazard business and asset management has been good in 2015, despite the difficult and volatile markets. Security selection is a bottom-up style, looking for companies that have high returns on their business and are selling at a reasonable price. The banking side has had record profitability the last two years. The Lazard client type is very diverse with 114 clients. Public funds are approximately 25% of the firm's business. Lazard is a highly equity-oriented firm with about

2/3 or the assets in global equity, international, and emerging markets mandates. The fixed income portion of the firm's assets is growing.

MR. DOTE stated there have been no changes to the investment philosophy and process. The combination of consistency of implementation and consistency of people is what leads to the strong and consistent investment performance. MR. DOTE indicated a slight amendment to the structure of the global portfolio late in 2015 allows the portfolio to hold 0% or up to 10% over the benchmark exposure in emerging markets. Today, the portfolio is approximately equal weighted to the benchmark. The Board also allowed the capitalization of the portfolio to be broadened to include international small cap and U.S. small cap companies. Today, the allocation is approximately 10% international and U.S. small cap.

MR. DOTE noted the market year-to-date has been through a tumultuous period. The U.S. market was 3%. The EAFE was 5/10th of 1%. The emerging markets were -13%. MR. DOTE believes the selling momentum in emerging markets has been driven by fear, with the macro issues dominating the market environment. The alpha in the portfolio is driven by the companies owned and the sector allocations are neutral. The market was -7% year-to-date through September, and the portfolio outperformed at -4.2%. The added value was from strong stock selection in Europe, UK, U.S., and Japan, with good performance in the consumer areas, health care, and finance. Performance in technology and telecom has been weak, and emerging markets has underperformed.

MR. DOTE reviewed the asset allocation of the portfolio compared to the index, with a slight overweight in the international markets, a slight underweight in the U.S., and evenly weighted in emerging markets. MR. DOTE noted the last five years have been volatile and difficult, but the results have been consistent. The portfolio outperformed in four out of the last five years.

COMMISSIONER FISHER requested additional comments regarding the long-term view of the emerging markets, including predominant issues and suggested allocation changes. MR. DOTE believes the emerging markets are the least efficient markets of all the equity markets. The non-fundamental macro issues that are dominating include governments, politics, currency, surpluses or deficits, and corruption. Currently, the valuation gap between the emerging and developed markets is at an all-time low. Emerging markets are cyclical like any other equity market. MR. DOTE believes there are still some headwinds in the near-term, especially with significant problems with Brazil, but going forward there is great opportunity and allocation will be increased.

MR. FAILLA added the portfolio is focused on valuation and financial productivity. The emerging markets team is comprised of 80 people in three groups; equity, debt, and currency. The belief is there is a mismatch between perception and reality in the emerging markets landscape. Emerging market equities are correlated with commodities, and as the commodity markets stabilize, so will the emerging markets. MR. FAILLA believes the market has been conditioning for the potential of an increase in interest rates for the last two-and-a-half years.

MR. FAILLA presented the portfolio direction in terms of sector and regional weights versus the benchmark, and illustrated the managers are stock pickers and not thematic investors. MR. FAILLA reviewed recent company additions to the portfolio in consumer staples, and financials, and trimmings in technology, health care, and consumer discretionary. Many companies have reached their price targets or their thesis has changed. There have not been many changes in regional allocation. The positioning in Japan has been increased over the past several years.

MR. BADER requested the evaluation process for Volkswagen. MR. FAILLA noted the portfolio has not owned Volkswagen for quite some time. The return on capital versus its valuation is a big consideration. The situation for Volkswagen is very opaque because of the unknowns concerning the litigation reserves. MR. FAILLA stated Lazard's auto analysts around the world are monitoring the situation and believes a passage of time must occur.

MR. FAILLA informed the overall outlook is lower economic growth globally for developed and emerging markets. There are very few signs of inflation around the globe. The U.S. labor markets are improving and we need to continue to create jobs. The U.S. has the potential of raising the Fed funds rates in the coming weeks. The consumer and financial sectors within the U.S. market have de-levered since the financial crisis and the public sector still has a significant amount of leverage. This could become an issue if the U.S. rates rise more rapidly than expected. Earnings growth in the U.S. is decelerating because of the strong dollar. The U.S. GDP growth is around 2.5%.

MR. FAILLA noted earnings growth in Europe is better than last year. Commodity prices are cheaper and the currency is weaker. There is opportunity to grow margins and earnings in Europe. Japan is also seeing earnings growth. There is a positive change from a structural reform standpoint and companies are more focused on better corporate governance and profits. Japan has been fighting 25 year's deflation. The government has incentives to pay their workers more and have created a stimulative monetary policy to create some inflation.

MR. FAILLA described emerging markets continue to be challenged by the macro environment. The headwinds include the transition from fixed asset growth, particularly in China, to a more domestic consumer-driven economy, weaker commodity prices, and currency issues. Consumer services is growing very rapidly in China and elsewhere in Asia.

VICE-CHAIR TRIVETTE asked if the fear that is driving emerging markets will change in the next two to three years to other factors that might have a bigger impact. MR. DOTE stated from a behavioral point of view, the retail investor is still exhibiting lots of fear and the institutional investor is leading the behavior shift by looking at this as a three to five-year opportunity. There have been very large asset flows out of emerging markets in the past two years, but so far this quarter, there has been a very slight positive flow into emerging markets. Valuations are expecting the slowdown and a lot has been priced in.

CHAIR SCHUBERT recessed the meeting from 10:22 a.m. to 10:34 a.m.

15. QUANTITATIVE ASSET MANAGEMENT

MR. BADER informed the ARMB has been investing with QMA since 2007 in the large cap value portfolio, which is comprised of $314 million. MR. BADER introduced STEVE COURTNEY, Co-Head of Value Equity, of QMA, who discussed the large cap value portfolio and investment style. MR. COURTNEY expressed his appreciation to the Board for their participation with QMA. MR. COURTNEY noted QMA is a wholly-owned investment subsidiary of Prudential Financial and have been serving investors since 1975. QMA is operated independently in terms of investment decision-making process, staff, and administration. There is currently a total of $105 billion under management in all strategies and asset allocations. The value equity team manages $5 billion in assets.

MR. COURTNEY reviewed the members of the value equity team and noted he and MITCH STERN were named as co-heads of the team in March. JOHN LEIB, who had been the head of the group, announced his retirement in March of 2014, and granted a one-year transition period. MR. COURTNEY stated he has been in the industry for 29 years and 26 of those years were at ClearBridge Investments. He joined QMA in 2013. MR. STERN has been with QMA for 17 years and has done significant work with the team as a research developer enhancing the value equity strategy process.

MR. COURTNEY discussed the environment for stocks have been tough. Large cap stocks have outperformed small cap stocks year-to-date. He believes this is due to a growing distaste for risk within the market and a fear of higher interest rates in the U.S. MR. COURTNEY noted the bigger issue in the large cap space is the underperformance in value stocks versus growth stocks. Investors are willing to pay a larger premium for companies with higher rates of growth. The gap is significant and the largest MR. COURTNEY has seen at about 900 basis points.

MR. COURTNEY believes the very attractive portfolio will be realized when the reversion to the mean occurs. The portfolio has trailed the Russell 1000 Value Index year-to-date by 26 basis points, net of fees. The emphasis is on deeper valued stocks. The models perform best among the financial, energy, and health care sectors. Financials are quite attractive now, especially banks and insurers that are beneficiaries of expanded spreads in interest rates. Discretionary stocks appear relatively attractive and are the largest overweight in the portfolio. Energy remains challenged and it is important to analyze the quality of holdings on the balance sheets. Health care and consumer staple stocks are the most expensive and are the largest underweights in the portfolio.

MR. COURTNEY provided an overview of the investment process. The managers are focused on low price-to-earnings companies across the Russell 1000 Index, reviewing the trailing two-year earnings of various data sources. Significant research occurs on individual companies to reflect the underlying operations of the companies. The stocks are ranked on attractiveness of valuation. The stocks are reviewed in terms of relative performance, particularly looking for companies that have underperformed due to the overreaction or the unfair discount by the market. Those attractive stocks undergo an additional portfolio manager review.

MR. COURTNEY explained the sell process ranks companies in the portfolio that are at higher P/Es and have a positive relative performance profile. The stocks are reviewed and when they meet the criteria as unattractive, they become part of the sell list. This is a very disciplined process and is key to the value approach of investing. The diversified portfolio currently holds 144 stocks. MR. COURTNEY noted the top individual contributors to relative performance have been from the health care, energy, utilities, and consumer discretionary sectors. The detractors were in industrials, energy, consumer staples, information technology, and materials sectors.

ACTION ITEMS - NEW BUSINESS

None

OTHER MATTERS TO PROPERLY COME BEFORE THE BOARD

None

PUBLIC/MEMBER COMMENTS

None

INVESTMENT ADVISORY COUNCIL COMMENTS

DR. JENNINGS walked the Board through an example of a base rate problem used in behavioral finance, which is the tendency to get too focused on details rather than the broader math. DR. JENNINGS noted the outperformance over the last decade of 10 basis points is hugely relevant at $250 million. He suggested any underperformance reported should be calculated from a percentage to an actual dollar amount to understand the difference.

DR. JENNINGS gave an example if the index fund expenses of roughly two basis points on 10% of the portfolio could be saved, this is approximately $500,000 a year, which could be used for staff to hire people to potentially implement that internally. DR. JENNINGS noted the three managers who presented have been good managers with reasonable fees. Those fees added up to $5 million in the past year. DR. JENNINGS believes it is important to get the calculators out and show some real dollar consequences.

TRUSTEE COMMENTS

COMMISSIONER HOFFBECK informed the Board there will be discussion during the February meeting regarding pension obligation bonds. The Governor is rolling out his budget and fiscal plan next week, which includes pension obligation bonds.

MR. PIHL highlighted the two takeaways from the meeting were that banks and financials will benefit from rising interest rates, and beer is a consumer staple.

MR. BRICE agreed with DR. JENNINGS' insights regarding the near misses in performance. He suggested further conversation regarding the six to seven-year business cycle used for manager evaluation.

MS. ERCHINGER recommended releasing an information statement regarding the investment earnings assumption in anticipation of the response to the CalPERS change in investment earnings assumption. She thinks this will become a hot topic and it is prudent to get out in front while there is an opportunity to present the information. MS. ERCHINGER believes the portfolio has done really well meeting the targets.

FUTURE AGENDA ITEMS

None

ADJOURNMENT

There being no objection and no further business to come before the Board, the meeting was adjourned at 11:04 a.m. on December 4, 2015, on a motion made by MRS. HARBO and seconded by MS. RYAN.

Chair of the Board of Trustees
Alaska Retirement Management Board
ATTEST:

____
Corporate Secretary

ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT:	Retirement System Membership Activity as of December 31, 2015	ACTION:	
DATE:	February 18, 2016	INFORMATION:	**X**

BACKGROUND:

Information related to PERS, TRS, JRS, NGNMRS, SBS, and DCP membership activity as requested by the Board.

STATUS:

Membership information as of December 31, 2015.

MEMBERSHIP STATISTICS AS OF SEPTEMBER 30, 2015

	PERS						TRS					JRS	NG	SBS	DCP
	DB				DC	SYSTEM	DB			DC	SYSTEM				
	Tier I	Tier II	Tier III	Total	Tier IV	TOTAL	Tier I	Tier II	Total	Tier III	TOTAL				
Active Members	2,140	4,744	10,654	17,538	17,871	35,409	672	4,944	5,616	4,901	10,517	75	n/a	21,904	6,555
Terminated Members															
Entitled to Future Benefits	632	2,491	2,878	6,001	521	6,522	73	701	774	259	1,033	3	n/a	21,891	4,404
Other Terminated Members	1,272	2,372	8,354	11,998	8,698	20,696	324	1,810	2,134	1,650	3,784	-	n/a	-	-
Total Terminated Members	1,904	4,863	11,232	17,999	9,219	27,218	397	2,511	2,908	1,909	4,817	3	n/a	21,891	4,404
Retirees & Beneficiaries	23,654	6,343	2,490	32,487	11	32,498	10,668	1,765	12,433	-	12,433	110	660	n/a	n/a
Managed Accounts	n/a	n/a	n/a	n/a	5,908	5,908	n/a	n/a	n/a	1,608	1,608	n/a	n/a	1,109	1,201
Retirements - 1st QTR FY16	199	188	160	547	n/a	547	217	201	418	n/a	418	1	31	n/a	n/a
Full Disbursements - 1st QTR FY16	29	33	123	185	483	668	21	38	59	97	156	-	n/a	636	133
Partial Disbursements - 1st QTR FY16	n/a	n/a	n/a	n/a	50	50	n/a	n/a	n/a	12	12	n/a	n/a	672	489

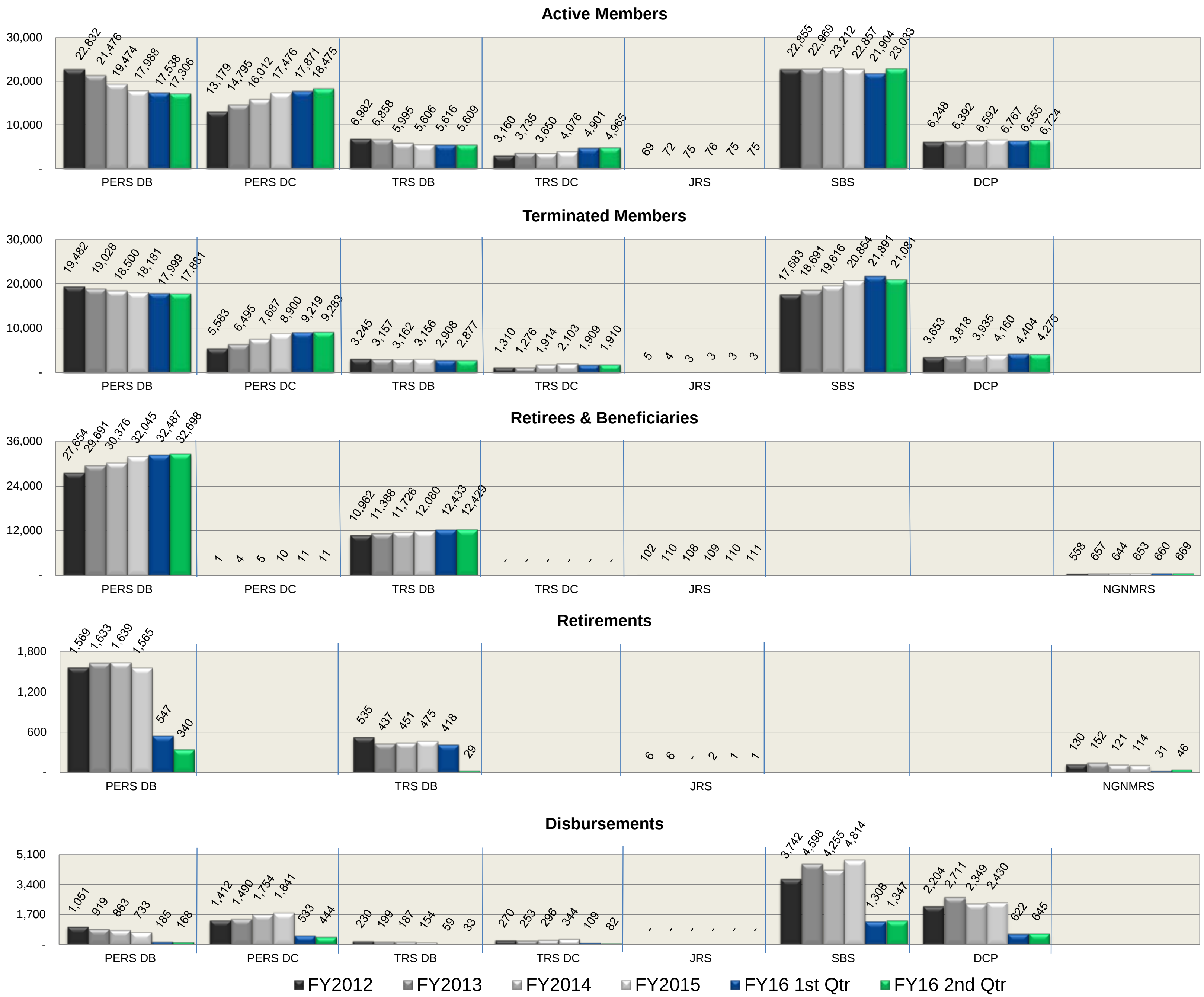
MEMBERSHIP STATISTICS AS OF DECEMBER 31, 2015

	PERS						TRS					JRS	NG	SBS	DCP
	DB				DC		DB			DC					
	Tier I	Tier II	Tier III	Total	Tier IV	TOTAL	Tier I	Tier II	Total	Tier III	TOTAL				
Active Members	2,074	4,673	10,559	17,306	18,475	35,781	671	4,938	5,609	4,965	10,574	75	n/a	23,033	6,724
Terminated Members															
Entitled to Future Benefits	603	2,470	2,893	5,966	524	6,490	65	697	762	262	1,024	3	n/a	21,081	4,275
Other Terminated Members	1,259	2,354	8,302	11,915	8,759	20,674	318	1,797	2,115	1,648	3,763	-	n/a	-	-
Total Terminated Members	1,862	4,824	11,195	17,881	9,283	27,164	383	2,494	2,877	1,910	4,787	3	n/a	21,081	4,275
Retirees & Beneficiaries	23,694	6,438	2,566	32,698	11	32,709	10,647	1,782	12,429	-	12,429	111	669	n/a	n/a
Managed Accounts	n/a	n/a	n/a	n/a	5,858	5,858	n/a	n/a	n/a	1,595	1,595	n/a	n/a	1,142	1,246
Retirements - 2nd QTR FY16	129	119	92	340	n/a	340	11	18	29	n/a	29	1	46	n/a	n/a
Full Disbursements - 2nd QTR FY16	28	43	97	168	400	568	13	20	33	67	100		n/a	567	125
Partial Disbursements - 2nd QTR FY16	n/a	n/a	n/a	n/a	44	44	n/a	n/a	n/a	15	15	n/a	n/a	780	520

Alaska Division of Retirement and Benefits

FY 2016 QUARTERLY REPORT OF MEMBERSHIP STATISTICS

Annual & Quarterly Trends as of December 31, 2015



LEGEND

Active Members - All active members at the time of the data pull,
except SBS & DCP, which are counts of contributors during the final quarter of each period.
Terminated Members - All members who have terminated without refunding their account,
except SBS & DCP, which are counts of members with balances at the end of the period less active members.
Retirees & Beneficiaries - All members who have retired from the plans, including beneficiaries eligible for benefits.
Managed Accounts - Individuals who have elected to participate in the managed accounts option with Great West.
Retirements - The number of retirement applications processed.
Full Disbursements - All types of disbursements that leave the member balance at zero.
Partial Disbursements - All types of disbursements that leave the member balance above zero. If more than one
partial disbursement is completed during the quarter for a member, they are counted only once for statistical purposes.

ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT:	Summary of Monthly Billings - Buck Consultants	ACTION:	
DATE:	February 18, 2015	INFORMATION:	X

BACKGROUND:

AS 37.10.220(a)(8) prescribes that the Alaska Retirement Management Board (Board) "coordinate with the retirement system administrator to have an annual actuarial valuation of each retirement system prepared to determine system assets, accrued liabilities, and funding ratios…."

As part of the oversight process, the Board has requested that the Division of Retirement & Benefits provide quarterly summary updates to review billings and services provided for actuarial valuations and other systems' request.

STATUS:

Attached are the summary totals for the quarter and six months ended December 31, 2015.

Buck Consultants
Billing Summary
For the Three Months Ended September 30, 2015

	PERS	TRS	JRS	NGNMRS	EPORS	AHF	RHF	SBS	DCP	TOTAL
Actuarial Valuations	$ 144,445	100,848	7,423	5,095	280	-	-	-	-	$ 258,091
ARMB Presentations	39,014	14,354	268	48	-	-	-	-	-	53,684
Audit Request	2,565	-	1,432	1,002	-	-	-	-	-	4,999
GASB 68 work for PERS and TRS	9,078	3,551	-	-	-	-	-	-	-	12,629
GASB 67 Plan Accounting Reports for the fiscal year ending June 30, 2014	10,880	7,612	5,935	6,232	-	-	-	-	-	30,659
Level percent verses level dollar methodology study for the September Board meeting	2,250	2,250	-	-	-	-	-	-	-	4,500
TOTAL	$ 208,232	128,615	15,058	12,377	280	-	-	-	-	$ 364,562
For the Three Months Ended September 30, 2014	$ 112,801	88,620	14,039	5,866	144	35	307	-	-	$ 221,812

For the Three Months Ended December 31, 2015

	PERS	TRS	JRS	NGNMRS	EPORS	AHF	RHF	SBS	DCP	TOTAL
Actuarial Valuations	$ 61,291	29,514	2,592	2,853	-	-	-	-	-	$ 96,250
ARMB Presentations	3,198	1,176	22	4	-	-	-	-	-	4,400
GASB 68 work for PERS and TRS	18,666	7,300	-	-	-	-	-	-	-	25,966
GASB 67 Plan Accounting Reports for the fiscal year ending June 30, 2014	12,398	7,101	6,804	5,697	-	-	-	-	-	32,000
DCR healthcare plan design discussions	6,305	6,305	-	-	-	-	-	-	-	12,610
Misc emails and phone calls	1,092	1,092	-	-	-	-	-	-	-	2,184
TOTAL	$ 102,950	52,488	9,418	8,554	-	-	-	-	-	$ 173,410
For the Three Months Ended December 31, 2014	$ 167,406	100,375	32,169	6,664	1,464	-	1,373	-	-	$ 309,451

Summary through the Six Months Ended December 31, 2015

	PERS	TRS	JRS	NGNMRS	EPORS	AHF	RHF	SBS	DCP	TOTAL
Actuarial Valuations	$ 205,736	130,362	10,015	7,948	280	-	-	-	-	$ 354,341
ARMB Presentations	42,212	15,530	290	52	-	-	-	-	-	58,084
Audit Request	2,565	-	1,432	1,002	-	-	-	-	-	4,999
GASB 68 work for PERS and TRS	27,744	10,851	-	-	-	-	-	-	-	38,595
GASB 67 Plan Accounting Reports for the fiscal year ending June 30, 2014	23,278	14,713	12,739	11,929	-	-	-	-	-	62,659
Level percent verses level dollar methodology study for the September Board meeting	2,250	2,250	-	-	-	-	-	-	-	4,500
DCR healthcare plan design discussions	6,305	6,305	-	-	-	-	-	-	-	12,610
Misc emails and phone calls	1,092	1,092	-	-	-	-	-	-	-	2,184
TOTAL	$ 311,182	181,103	24,476	20,931	280	-	-	-	-	$ 537,972
Summary through the Six Months Ended December 31, 2014	$ 280,207	188,995	46,208	12,530	1,608	35	1,680	-	-	$ 531,263

ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT:	Fiscal Year 2017 Health Reimbursement Arrangement amounts for employers	ACTION:	
DATE:	February 18, 2016	INFORMATION:	X

BACKGROUND:

AS 39.30.350 "Employer Contribution Fund" states that Teachers' and Public Employees' Retiree health reimbursement arrangement plan trust fund is an employer contribution fund. Employee contributions are not permitted.

AS 39.30.360 "Management and Investment of the Fund" states that "The Alaska Retirement Management Board is the fiduciary of the fund and has the same powers and duties under this section in regard to the fund as are provided under AS 37.10.220."

AS 39.30.370 "Contributions by Employers" states that "For each member of the plan, an employer shall contribute to the teachers' and public employees' retiree health reimbursement arrangement plan trust fund an amount equal to three percent of the average annual compensation of all employees of all employers in the TRS and PERS." The Division of Retirement & Benefits calculates the HRA amount annually and reports this to all affected employers for proper payroll reporting each fiscal year.

STATUS:

Attached is the memorandum from the Division of Retirement & Benefits for Fiscal Year 2017's Health Reimbursement Arrangement employer contribution per pay period. The amounts have been reported to employers.

Also attached is a summary spreadsheet for fiscal years 2008 - 2017.

MEMORANDUM

STATE OF ALASKA
DEPARTMENT OF ADMINISTRATION
Division of Retirement and Benefits

To: Kevin Worley
Chief Financial Officer

Date: January 11, 2016

From: Christina Maiquis
Accounting Supervisor

Subject: FY 2017 HRA Employer Contribution Amounts

Alaska Statute 39.30.370 "Contributions by Employers" relates to the employer contributions required to fund the Health Reimbursement Arrangement (HRA) Plan for Public Employees' Retirement System (PERS) and Teachers' Retirement System (TRS) Defined Contribution Retirement (DCR) Plan members. The statute states in part:

> *For each member of the plan, an employer shall contribute to the teachers' (TRS) and public employees' (PERS) retiree health reimbursement arrangement plan trust fund an amount equal to three percent of the average annual compensation of all employees of all employers in the teachers' retirement system and public employees' retirement system. The administrator shall maintain a record for each member to account for employer contributions on behalf of that member.*

In order to compute the dollar amount required to fund the PERS and TRS HRA Plan, a rate of 3.00% is applied to the average annual compensation of all employees of all employers in PERS and TRS. Contributions to a DCR members HRA account are required each pay period in which the employee is enrolled in the Defined Contribution Retirement (DCR) Plan, regardless of the compensation paid during the calendar year. By definition, the HRA employer contribution is a dollar amount.

The Fiscal Year 2017 HRA employer contribution amounts are shown below:

FY 2017 HRA Amounts

Annual	Quarterly	Monthly	Semi-monthly	Bi-weekly	Weekly	Hourly
$2,049.36	$512.34	$170.78	$85.39	$78.82	$39.41	$1.31

The attached document shows a comparative of HRA rates since Fiscal Year 2008.

Approved:

Kevin Worley, Chief Financial Officer

2/5/2016
Date

Attachment

Division of Retirement & Benefits
Health Reimbursement Arrangement (HRA)
Employer contribution amounts by fiscal year

Fiscal Year	Annual	Quarterly	Monthly	Semi-monthly	Bi-weekly	Weekly	Hourly
2008	1,531.27	382.82	127.61	63.80	58.89	-	0.98
2009	1,616.81	404.20	134.73	67.37	62.18	-	1.04
2010	1,699.71	424.93	141.64	70.82	65.37	-	1.09
2011	1,720.70	430.17	143.39	71.70	66.18	-	1.10
2012	1,778.09	444.52	148.17	74.09	68.39	-	1.14
2013	1,848.43	462.11	154.04	77.02	71.09	-	1.18
2014	1,896.60	474.15	158.05	79.03	72.95	-	1.22
2015	1,960.53	490.13	163.38	81.69	75.41	37.70	1.26
2016	2,004.52	501.13	167.04	83.52	77.10	38.55	1.28
2017	2,049.36	512.34	170.78	85.39	78.82	39.41	1.31

NOTE: For fiscal year 2007, HRA amounts were computed by employer rather than the HRA as a plan. Beginning fiscal year 2008, HRA amounts were computed and applied uniformly to all members and are reflected above.

Chief Investment Officer Report

1. Rebalanced PERS, TRS, and Judicial portfolios January 4.
2. Sold $150 million Russell 1000 Value Index Funds.
3. Sold $12 million MacKay Shields High Yield.
4. Sold $30 million from internally managed TIPS account.
5. Invested $39 million in Alternative Equity Yield strategy.
6. Invested $60 million in the internally managed Large Cap strategy.
7. Invested $30 million in Fidelity Real Estate High Income Fund.
8. Reduced real assets allocation $100 million by liquidating TIPs and public infrastructure.
9. Invested $100 million in internally managed Large Cap strategy.
10. Funded Columbia Threadneedle high yield account by transfer of $50 million cash and securities from MacKay Shields.
11. Funded Blue Glacier $6.5 million from cash.
12. Funded Blue Glacier $2.4 million from cash.
13. Funded Columbia Threadneedle high yield $150 million from cash.
14. Watch List
15. Allianz Global Investors.
16. Gross-Net Fee Exhibit
17. ____________________
18. ____________________

THE STATE of ALASKA

GOVERNOR BILL WALKER

Department of Revenue

ALASKA RETIREMENT MANAGEMENT BOARD

333 Willoughby Avenue, 11th Floor
PO Box 110405
Juneau, Alaska 99811-0405
Main: 907.465.3749
Fax: 907.465.2389

January 4, 2016

Ms. Traci Wright
State Street Global Services
IIS Public Funds
1200 Crown Colony Drive, CC5
Quincy, MA 02169

Dear Ms. Wright:

Please make the following transactions listed in the attached table on January 1, 2016 to bring the ARMB fund allocations closer to target.

If you have any questions, please call our office at (907) 465-4399.

Sincerely,

Gary M Bader

Gary M. Bader
Chief Investment Officer

cc: Gail Schubert, ARMB Chair
Pamela Leary, Director of Treasury Division
Scott Jones, State Comptroller
James McKnight, Senior Investment Compliance Officer
Bronze Ickes, Assistant Cash Manager
Bob Mitchell, Deputy Chief Investment Officer
Fixed Income Group

GMB/erh

EndDate	Pool	PlanNumber	PlanName	PerfFundGroup	Actual Balance	Actual %	Range	Target %	Target Balance	Actual % - Target %	Buy/Sell	Min	Max
1/4/2016	AY1A	AY21	Public Employers Retirement Trust Fund								-1,009,884.00		
1/4/2016	AY52	AY21	Public Employers Retirement Trust Fund								-159,510.00		
1/4/2016	AY5M	AY21	Public Employers Retirement Trust Fund								-128,260.00		
1/4/2016	AY63	AY21	Public Employers Retirement Trust Fund								-296,042.00		
1/4/2016	AY6N	AY21	Public Employers Retirement Trust Fund								-109,927.00		
1/4/2016	AY70	AY21	Public Employers Retirement Trust Fund								16,485,949.00		
1/4/2016	AY7A	AY21	Public Employers Retirement Trust Fund								184,307.00		
1/4/2016	AYPC	AY21	Public Employers Retirement Trust Fund								-298,279.00		
1/4/2016	AYPK	AY21	Public Employers Retirement Trust Fund								2,168,610.00		
1/4/2016	AYQC	AY21	Public Employers Retirement Trust Fund								-724,687.00		
1/4/2016	AYQK	AY21	Public Employers Retirement Trust Fund								-4,309,851.00		
1/4/2016	AYRC	AY21	Public Employers Retirement Trust Fund								-3,814,169.00		
1/4/2016	AYRK	AY21	Public Employers Retirement Trust Fund								-267,958.00		
1/4/2016	AYSC	AY21	Public Employers Retirement Trust Fund								-430,150.00		
1/4/2016	AYSK	AY21	Public Employers Retirement Trust Fund								-1,514,399.00		
1/4/2016	AYTC	AY21	Public Employers Retirement Trust Fund								-1,169,478.00		
1/4/2016	AYTK	AY21	Public Employers Retirement Trust Fund								-654,860.00		
1/4/2016	AYUK	AY21	Public Employers Retirement Trust Fund								-315,479.00		
1/4/2016	AYVC	AY21	Public Employers Retirement Trust Fund								-75,171.00		
1/4/2016	AYVK	AY21	Public Employers Retirement Trust Fund								-1,891,398.00		
1/4/2016	AYWK	AY21	Public Employers Retirement Trust Fund								-323,408.00		
1/4/2016	AYYK	AY21	Public Employers Retirement Trust Fund								-597,975.00		
1/4/2016	AYZC	AY21	Public Employers Retirement Trust Fund								-195,862.00		
1/4/2016	AYZK	AY21	Public Employers Retirement Trust Fund								-252,642.00		
1/4/2016	AYMK	AY21	Public Employers Retirement Trust Fund								-201,030.00		
1/4/2016	AYMC	AY21	Public Employers Retirement Trust Fund								-80.00		
1/4/2016	AYIC	AY21	Public Employers Retirement Trust Fund								-98,367.00		
1/4/2016	AY1A	AY22	Teachers Retirement Trust Fund								-1,616,595.00		
1/4/2016	AY52	AY22	Teachers Retirement Trust Fund								-241,477.00		
1/4/2016	AY5M	AY22	Teachers Retirement Trust Fund								-194,659.00		
1/4/2016	AY63	AY22	Teachers Retirement Trust Fund								-458,253.00		
1/4/2016	AY6N	AY22	Teachers Retirement Trust Fund								-166,419.00		
1/4/2016	AY70	AY22	Teachers Retirement Trust Fund								24,619,322.00		
1/4/2016	AY7A	AY22	Teachers Retirement Trust Fund								-191,590.00		
1/4/2016	AYPC	AY22	Teachers Retirement Trust Fund								-451,562.00		
1/4/2016	AYPK	AY22	Teachers Retirement Trust Fund								3,250,199.00		
1/4/2016	AYQC	AY22	Teachers Retirement Trust Fund								-1,089,320.00		
1/4/2016	AYQK	AY22	Teachers Retirement Trust Fund								-6,539,857.00		
1/4/2016	AYRC	AY22	Teachers Retirement Trust Fund								-5,784,845.00		
1/4/2016	AYRK	AY22	Teachers Retirement Trust Fund								-406,406.00		
1/4/2016	AYSC	AY22	Teachers Retirement Trust Fund								-652,395.00		
1/4/2016	AYSK	AY22	Teachers Retirement Trust Fund								-2,292,588.00		
1/4/2016	AYTC	AY22	Teachers Retirement Trust Fund								-1,770,424.00		
1/4/2016	AYTK	AY22	Teachers Retirement Trust Fund								-991,372.00		
1/4/2016	AYUK	AY22	Teachers Retirement Trust Fund								-477,590.00		
1/4/2016	AYVC	AY22	Teachers Retirement Trust Fund								-113,799.00		
1/4/2016	AYVK	AY22	Teachers Retirement Trust Fund								-1,924,161.00		
1/4/2016	AYWK	AY22	Teachers Retirement Trust Fund								-489,592.00		
1/4/2016	AYYK	AY22	Teachers Retirement Trust Fund								-883,159.00		
1/4/2016	AYZC	AY22	Teachers Retirement Trust Fund								-297,258.00		
1/4/2016	AYZK	AY22	Teachers Retirement Trust Fund								-382,464.00		
1/4/2016	AYMK	AY22	Teachers Retirement Trust Fund								-304,330.00		
1/4/2016	AYMC	AY22	Teachers Retirement Trust Fund								-118.00		
1/4/2016	AYIC	AY22	Teachers Retirement Trust Fund								-149,288.00		
1/4/2016	AY1A	AY23	Judicial Retirement Trust Fund								-4,076.00		
1/4/2016	AY52	AY23	Judicial Retirement Trust Fund								-830.00		
1/4/2016	AY5M	AY23	Judicial Retirement Trust Fund								-661.00		
1/4/2016	AY63	AY23	Judicial Retirement Trust Fund								-1,405.00		
1/4/2016	AY6N	AY23	Judicial Retirement Trust Fund								-572.00		
1/4/2016	AY70	AY23	Judicial Retirement Trust Fund								65,361.00		
1/4/2016	AY7A	AY23	Judicial Retirement Trust Fund								7,283.00		
1/4/2016	AYPC	AY23	Judicial Retirement Trust Fund								-1,554.00		
1/4/2016	AYPK	AY23	Judicial Retirement Trust Fund								35,585.00		
1/4/2016	AYQC	AY23	Judicial Retirement Trust Fund								-3,873.00		
1/4/2016	AYQK	AY23	Judicial Retirement Trust Fund								-22,219.00		
1/4/2016	AYRC	AY23	Judicial Retirement Trust Fund								-19,706.00		

OK [illegible] 1/4/16

THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Revenue
ALASKA RETIREMENT MANAGEMENT BOARD
333 Willoughby Avenue, 11th Floor
PO Box 110405
Juneau, Alaska 99811-0405
Main: 907.465.3749
Fax: 907.465.2389

January 7, 2016

Traci Wright
State Street Global Services
IIS Public Funds
1200 Crown Colony Drive, CC2
Quincy, MA 02169

Dear Ms. Wright,

The Alaska Retirement Management Board (ARMB) requests the following changes to be made on Wednesday, January 13, 2016. Please process the following cash transfer on custody and accounting using the applicable sending pool ratios:

SSgA Russell 1000 Value (AY4M)	< $150,000,000 >
Short Term Pool (AY70)	$150,000,000

In addition, please take this letter as direction to transfer $150,000,000 from the Large Cap Pool (AYQK) to the Short Term Pool (AY70) using percentage of ownership ratios on January 13, 2016.

If you have any questions, please do not hesitate to contact me at (907) 465-4399.

Sincerely,

Gary M. Bader

Gary M. Bader
Chief Investment Officer

Cc: Gail Schubert, ARMB Chair
Randall Hoffbeck, Commissioner
Pamela Leary, Director
Scott Jones, State Comptroller
James McKnight, Senior Investment Compliance Officer
Bob Mitchell, Deputy Chief Investment Officer
Shane Carson, State Investment Officer
Emily Howard, State Investment Officer

GMB/smh

THE STATE *of* ALASKA

GOVERNOR BILL WALKER

Department of Revenue

ALASKA RETIREMENT MANAGEMENT BOARD

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Juneau, Alaska 99811-0405
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Fax: 907.465.2389

January 7, 2016

Traci Wright
State Street Global Services
IIS Public Funds
1200 Crown Colony Drive, CC5
Quincy, MA 02169

Dear Ms. Wright:

The Alaska Retirement Management Board (ARMB) requests the following changes to be made on January 11, 2016:

MacKay Shields (AY9P)	$<12,000,000>
Short-term Fixed Income Pool (AY70)	$12,000,000

This transaction applies to the ARMB Defined Benefit Pension Plans (AY21-AY24), the ARMB Retirement Health Funds (AYW2-AYW4) and the ARMB Defined Contribution Plans (AY6G-AY6I, AYX2-AYX3, AYY2-AYY3). Please process the transfer using the applicable sending pool ratios.

If you have any questions please call me at (907) 465-4399.

Sincerely,

Gary M. Bader
Chief Investment Officer

cc: Gail Schubert, Chair ARMB
Pamela Leary, Director
Scott Jones, State Comptroller
James McKnight, Senior Investment Compliance Officer
Bob Mitchell, Deputy Chief Investment Officer
Kelli Barkov, Accounting Technician
Fixed Income Group

GMB/erh

THE STATE of ALASKA
GOVERNOR BILL WALKER

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Fax: 907.465.2389

READER'S FILE

January 7, 2016

Traci Wright
State Street Global Services
IIS Public Funds
1200 Crown Colony Drive, CC5
Quincy, MA 02169

Dear Ms. Wright:

The Alaska Retirement Management Board (ARMB) requests the following changes to be made on January 11, 2016:

TIPS – Internally Managed Account (AY6N)	<$30,000,000>
Short-term Fixed Income Pool (AY70)	$30,000,000

This transaction applies to the ARMB Defined Benefit Pension Plans (AY21-AY23), the ARMB Retirement Health Funds (AYW2-AYW4) and the ARMB Defined Contribution Plans (AY6G-AY6I, AYX2-AYX3, AYY2-AYY3). Please process the transfer using the applicable sending pool ratios.

If you have any questions please call me at (907) 465-4399.

Sincerely,

Gary M. Bader
Chief Investment Officer

cc: Gail Schubert, Chair ARMB
Pamela Leary, Director
Scott Jones, State Comptroller
James McKnight, Senior Investment Compliance Officer
Bob Mitchell, Deputy Chief Investment Officer
Kelli Barkov, Accounting Technician
Fixed Income Group

GMB/erh

THE STATE
of ALASKA
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Juneau, Alaska 99811-0405
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Fax: 907.465.2389

January 14, 2016

Traci Wright
State Street Global Services
IIS Public Funds
1200 Crown Colony Drive, CC2
Quincy, MA 02169

Dear Ms. Wright,

The Alaska Retirement Management Board (ARMB) requests the following changes to be made on Friday, January 15, 2016. Please process the following custody and accounting cash transfer using the applicable sending pool ratios:

Alternative Equity Transition Account (AYRZ)	< $39,028.75 >
ARMB Equity Yield (AY5E)	$39,028.75

If you have any questions, please do not hesitate to contact me at (907) 465-4399.

Sincerely,

for Gary M. Bader
Chief Investment Officer

Cc: Gail Schubert, ARMB Chair
Randall Hoffbeck, Commissioner
Pamela Leary, Director
Scott Jones, State Comptroller
James McKnight, Senior Investment Compliance Officer
Bob Mitchell, Deputy Chief Investment Officer
Shane Carson, State Investment Officer
Kelli Barkov, Accountant

GMB/smh

THE STATE of ALASKA

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January 14, 2016

Traci Wright
State Street Global Services
IIS Public Funds
1200 Crown Colony Drive, CC2
Quincy, MA 02169

Dear Ms. Wright,

The Alaska Retirement Management Board (ARMB) requests the following changes to be made on Friday, January 15, 2016. Please process the following custody and accounting cash transfer using the applicable sending pool ratios:

Large Cap Transition Account (AY30)	< $60,170.55 >
Internally Managed Large Cap (AYKY)	$60,170.55

If you have any questions, please do not hesitate to contact me at (907) 465-4399.

Sincerely,

For Gary M. Bader
Chief Investment Officer

Cc: Gail Schubert, ARMB Chair
Randall Hoffbeck, Commissioner
Pamela Leary, Director
Scott Jones, State Comptroller
James McKnight, Senior Investment Compliance Officer
Bob Mitchell, Deputy Chief Investment Officer
Shane Carson, State Investment Officer
Kelli Barkov, Accountant

GMB/smh

THE STATE of ALASKA

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ALASKA RETIREMENT MANAGEMENT BOARD

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Juneau, Alaska 99811-0405
Main: 907.465.3749
Fax: 907.465.2389

January 22, 2016 ***REVISED***

Traci Wright
State Street Corporation
IIS Public Funds
1200 Crown Colony Drive, CC5
Quincy, MA 02169

Dear Ms. Wright:

The Alaska Retirement Management Board (ARMB) requests the following changes to be made on Monday, February 1st, 2016. Please process the transfer using the applicable sending pool ratios.

Short-term Fixed Income Pool (AY70)	<$30,000,000>
Fidelity Real Estate High Income Fund (AYRP)	$30,000,000

Furthermore take this letter as your authorization to wire the following amounts listed to the corresponding accounts per the wire instructions below:

Wire out on behalf of AYRP	
Wire out from AYRP	$30,000,000

Bank Name:	**Deutsche Bank**
Bank ABA#:	**021-001-033**
Account Number:	**000159759**
Account Name:	**Fidelity Dart Depository**
OBI Field #:	**State of Alaska, Acct # 00701454464**

If you have any questions, please do not hesitate to contact me at (907) 465-4399.

Sincerely,

Gary M. Bader

Gary M. Bader
Chief Investment Officer

THE STATE of ALASKA

GOVERNOR BILL WALKER

Department of Revenue

ALASKA RETIREMENT MANAGEMENT BOARD

333 Willoughby Avenue, 11th Floor
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January 22, 2016

Traci Wright
State Street Global Services
IIS Public Funds
1200 Crown Colony Drive, CC2
Quincy, MA 02169

Dear Traci,

The Alaska Retirement Management Board (ARMB) requests the following changes to be made on Friday, January 29, 2016. Please process the following cash transfer using the applicable sending pool ratios:

Brookfield Global Infrastructure Securities (AYRE)	< \$25,000,000 >
Lazard Global Listed Infrastructure (AYRF)	< \$25,000,000 >
TIPS (AY6N)	< \$50,000,000 >
Short Term Pool (AY70)	\$100,000,000

If you have any questions, please do not hesitate to contact me at (907) 465-4399.

Sincerely,

Gary M. Bader

Gary M. Bader
Chief Investment Officer

Cc: Gail Schubert, ARMB Chair
Randall Hoffbeck, Commissioner
Pamela Leary, Director
Scott Jones, State Comptroller
James McKnight, Senior Investment Compliance Officer
Bob Mitchell, Deputy Chief Investment Officer
Emily Howard, State Investment Officer
Shane Carson, State Investment Officer

GMB/ss

THE STATE of ALASKA

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333 Willoughby Avenue, 11th Floor
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Fax: 907.465.2389

January 26, 2016

Traci Wright
State Street Global Services
IIS Public Funds
1200 Crown Colony Drive, CC2
Quincy, MA 02169

Dear Ms. Wright,

The Alaska Retirement Management Board (ARMB) requests the following changes to be made on Friday, January 29, 2016. Please process the following custody and accounting cash transfer using the applicable sending pool ratios:

Short Term Pool (AY70)	< $100,000,000 >
Internally Managed Large Cap (AYKY)	$100,000,000

In addition, please take this letter as direction to transfer $100,000,000 from the Short Term Pool (AY70) to the Large Cap Pool (AYQK) using percentage of ownership ratios on January 29, 2016.

If you have any questions, please do not hesitate to contact me at (907) 465-4399.

Sincerely,

For Gary M. Bader
Chief Investment Officer

Cc: Gail Schubert, ARMB Chair
Randall Hoffbeck, Commissioner
Pamela Leary, Director
Scott Jones, State Comptroller
James McKnight, Senior Investment Compliance Officer
Bob Mitchell, Deputy Chief Investment Officer
Shane Carson, State Investment Officer
Emily Howard, State Investment Officer
Mike Barnhill, State Investment Officer

GMB/smh

THE STATE of ALASKA

GOVERNOR BILL WALKER

Department of Revenue

ALASKA RETIREMENT MANAGEMENT BOARD

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Juneau, Alaska 99811-0405
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Fax: 907.465.2389

January 26, 2016 ***REVISED***

Traci Wright
State Street Global Services
IIS Public Funds
1200 Crown Colony Drive, CC5
Quincy, MA 02169

Dear Ms. Wright:

The Alaska Retirement Management Board (ARMB) requests the following changes to be made on February 1, 2016:

Columbia Threadneedle (AYRQ)	$50,000,000
Short-term Fixed Income Pool (AY70)	<$50,000,000>

The securities listed in the attachment will be transferred into AYRQ from AY9P on February 1, 2016 using the January 29, 2016 closing prices to calculate the market values. **The total market value of these securities will be deducted from the $50 million cash transfer.**

This transaction applies to the ARMB Defined Benefit Pension Plans (AY21-AY24), the ARMB Retirement Health Funds (AYW2-AYW4) and the ARMB Defined Contribution Plans (AY6G-AY6I, AYX2-AYX3, AYY2-AYY3). Please use a pro-rata split based on ownership in AY70 pertaining to all the funds referenced above. If you have any questions please call me at (907) 465-4399.

Sincerely,

for Gary M. Bader
Chief Investment Officer

cc: Gail Schubert, Chair ARMB
Pamela Leary, Director
Scott Jones, State Comptroller
James McKnight, Senior Investment Compliance Officer
Bob Mitchell, Deputy Chief Investment Officer
Kelli Barkov, Accounting Technician
Fixed Income Group

GMB/erh

From Fund	To Fund	Asset ID	Security Name	Shares/Par Value
AY9P	AYRQ	228227BD5	CROWN CASTLE INTERNATIONAL CORP	$ 1,295,000.00
AY9P	AYRQ	451734AC1	IHS INC	$ 1,000,000.00
AY9P	AYRQ	92769XAF2	VIRGIN MEDIA SECURED FIN	$ 940,000.00
AY9P	AYRQ	404119BN8	HCA INC REG	$ 880,000.00
AY9P	AYRQ	30706VAA3	FAMILY TREE ESCROW LLC	$ 750,000.00
AY9P	AYRQ	29444UAQ9	EQUINIX INC	$ 745,000.00
AY9P	AYRQ	144577AH6	CARRIZO OIL & GAS INC	$ 745,000.00
AY9P	AYRQ	398905AK5	GROUP 1 AUTOMOTIVE INC	$ 725,000.00
AY9P	AYRQ	35906AAU2	FRONTIER COMMUNICATIONS CORP	$ 715,000.00
AY9P	AYRQ	74819RAP1	QUEBECOR MEDIA INC	$ 680,000.00
AY9P	AYRQ	87612BAU6	TARGA RESOURCES PARTNERS 144A	$ 670,000.00
AY9P	AYRQ	20605PAC5	CONCHO RESOURCES INC	$ 660,000.00
AY9P	AYRQ	553331AA7	MPH ACQUISITION HOLDINGS LLC	$ 640,000.00
AY9P	AYRQ	87264AAL9	T-MOBILE USA INC	$ 585,000.00
AY9P	AYRQ	74978QAB1	RSP PERMIAN INC	$ 570,000.00
AY9P	AYRQ	1248EPBG7	CCO HOLDINGS LLC/CAP CORP	$ 565,000.00
AY9P	AYRQ	65409QBB7	NIELSEN FINANCE	$ 535,000.00
AY9P	AYRQ	25389MAD1	DIGITALGLOBE INC	$ 530,000.00
AY9P	AYRQ	156700AZ9	CENTURYLINK INC	$ 500,000.00
AY9P	AYRQ	12505BAC4	CB RICHARD ELLIS SERVICES INC	$ 495,000.00
AY9P	AYRQ	12505BAA8	CBRE SERVICES INC	$ 485,000.00
AY9P	AYRQ	87264AAG0	T-MOBILE USA INC REG	$ 465,000.00
AY9P	AYRQ	131347CC8	CALPINE CORP 144A	$ 445,000.00
AY9P	AYRQ	25470XAJ4	DISH DBS CORP	$ 435,000.00
AY9P	AYRQ	29444UAN6	EQUINIX INC	$ 415,000.00
AY9P	AYRQ	404121AE5	HCA INC	$ 400,000.00
AY9P	AYRQ	21244WAA9	CONVATEC HEALTHCARE 144A	$ 400,000.00
AY9P	AYRQ	85207UAH8	SPRINT CORP	$ 385,000.00
AY9P	AYRQ	91831AAC5	VRX ESCROW CORP	$ 360,000.00
AY9P	AYRQ	29273EAA6	ENDO FINANCE LLC / ENDO FINCO INC	$ 360,000.00
AY9P	AYRQ	018581AE8	ALLIANCE DATA SYSTEMS CORP 144A	$ 350,000.00
AY9P	AYRQ	29084TAC8	EMDEON INC	$ 345,000.00
AY9P	AYRQ	84762LAQ8	SPECTRUM BRANDS INC	$ 325,000.00
AY9P	AYRQ	404119BR9	HCA INC	$ 325,000.00
AY9P	AYRQ	852061AK6	SPRINT NEXTEL CORPORATION	$ 320,000.00
AY9P	AYRQ	00772BAQ4	AERCAP IRELAND CAPITAL LTD/AERCAP	$ 290,000.00
AY9P	AYRQ	989207AC9	ZEBRA TECHNOLOGIES CORPORATION	$ 285,000.00
AY9P	AYRQ	432891AD1	HILTON WORLDWIDE FINANCE / CORP	$ 285,000.00
AY9P	AYRQ	404119BQ1	HCA INC	$ 270,000.00
AY9P	AYRQ	043436AN4	ASBURY AUTOMOTIVE GROUP INC	$ 270,000.00
AY9P	AYRQ	073685AA7	BEACON ROOFING SUPPLY INC	$ 262,000.00
AY9P	AYRQ	55354GAB6	MSCI INC	$ 240,000.00
AY9P	AYRQ	806261AM5	SCHAEFFLER FINANCE BV 144A	$ 230,000.00
AY9P	AYRQ	893647AY3	TRANSDIGM INC	$ 220,000.00
AY9P	AYRQ	63607TAA9	NATIONAL FINANCIAL PARTNERS CORP	$ 220,000.00
AY9P	AYRQ	398435AC1	GRIFOLS WORLDWIDE OPERATIONS LTD	$ 215,000.00
AY9P	AYRQ	269246BM5	E*TRADE FINANCIAL CORP	$ 150,000.00
AY9P	AYRQ	1248EPAZ6	CHARTER CCO HLDGS LLC/CAP CORP REG	$ 115,000.00
AY9P	AYRQ	532716AR8	LIMITED BRANDS INC REG	$ 110,000.00
AY9P	AYRQ	421924BK6	HEALTHSOUTH CORP REG	$ 70,000.00

THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Revenue
ALASKA RETIREMENT MANAGEMENT BOARD

333 Willoughby Avenue, 11th Floor
PO Box 110405
Juneau, Alaska 99811-0405
Main: 907.465.3749
Fax: 907.465.2389

January 28, 2016

Traci Wright
State Street Global Services
ITS Public Funds
1200 Crown Colony Drive, CC5
Quincy, MA 02169

Dear Traci: RE: Capital Contribution Blue Glacier Fund, L.P. – Class C-2

This letter is your authorization to transfer **$6,506,975.00** on **Tuesday February 2, 2016** from account AY70 to account AY9F using the currently applicable absolute return ratios and then wire transfer the full amount as soon as possible using the following instructions:

Bank Name: The Bank of New York Mellon
ABA Number: 021-000-018
Account Name: Blue Glacier Fund, L.P. (Class C-2)
Account Number: 890-1302-112
Reference: Investor – Capital Contribution – Tuesday February 2, 2016
Reference Details: Alaska Retirement Management Board on behalf of the State of Alaska Retirement and Benefits Plans Trust

Please provide the Fed Confirmation number for this transaction to Sarah Baulch of Bank of New York Mellon via e-mail at Sarah.Baulch@bnymellon.com.

Sincerely,

for Gary M. Bader
Chief Investment Officer

GMB/sv

cc: Scott Jones, Comptroller
Bob Mitchell, Deputy Chief Investment Officer
Zachary Hanna, Investment Officer
Sarah Baulch, Bank of New York Mellon
Travis Keith, Crestline Investors, Inc.

THE STATE
of ALASKA
GOVERNOR BILL WALKER

Department of Revenue

ALASKA RETIREMENT MANAGEMENT BOARD

333 Willoughby Avenue, 11th Floor
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Juneau, Alaska 99811-0405
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Fax: 907.465.2389

February 1, 2016

Traci Wright
State Street Global Services
IIS Public Funds
1200 Crown Colony Drive, CC5
Quincy, MA 02169

RE: Capital Contribution – Crestline Specialty Lending (US), L.P.

Dear Traci:

This letter is your authorization to transfer **$2,382,896.00** on **Thursday, February 11, 2016,** from account AY70 to account AYLX using the currently applicable absolute return ratios and then wire transfer the full amount as soon as possible using the following instructions:

Bank Name: The Northern Trust International Banking Corporation
ABA Number: 026001122
Account Number: 13591320010
Account Name: Crestline Specialty Lending (US) LP
Reference: Alaska Retirement Management Board as Trustee for the State of Alaska Retirement and Benefit Plans.

Sincerely,

Gary M. Bader

Gary M. Bader
Chief Investment Officer

GMB/sv

cc: Scott Jones, Comptroller
Bob Mitchell, Investment Officer
Zachary Hanna, Investment Officer
David Mabry, Crestline Investors, Inc.
Travis Keith, Crestline Investors, Inc.

THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Revenue
ALASKA RETIREMENT MANAGEMENT BOARD
333 Willoughby Avenue, 11th Floor
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Juneau, Alaska 99811-0405
Main: 907.465.3749
Fax: 907.465.2389

February 1, 2016

Traci Wright
State Street Global Services
IIS Public Funds
1200 Crown Colony Drive, CC5
Quincy, MA 02169

Dear Ms. Wright:

The Alaska Retirement Management Board (ARMB) requests the following changes to be made on February 2, 2016:

Columbia Threadneedle (AYRQ)	$150,000,000
Short-term Fixed Income Pool (AY70)	<$150,000,000>

This transaction applies to the ARMB Defined Benefit Pension Plans (AY21-AY24), the ARMB Retirement Health Funds (AYW2-AYW4) and the ARMB Defined Contribution Plans (AY6G-AY6I, AYX2-AYX3, AYY2-AYY3). Please use a pro-rata split based on ownership in AY70 pertaining to all the funds referenced above. If you have any questions please call me at (907) 465-4399.

Sincerely,

Gary M. Bader

Gary M. Bader
Chief Investment Officer

cc: Gail Schubert, Chair ARMB
Pamela Leary, Director
Scott Jones, State Comptroller
James McKnight, Senior Investment Compliance Officer
Bob Mitchell, Deputy Chief Investment Officer
Kelli Barkov, Accounting Technician
Fixed Income Group

GMB/erh

Alaska Retirement Management Board
Manager Watch List - February 2016

Manager & Mandate	Reason for Watch	Board Approved	Actions Taken by Staff/Expected Final Disposition
Capital Group Int'l Equity	Performance	Yes Sept 2015	Formal Notificaiton; continue monitoring
Coventry Real Estate	Performance	Yes 4/23/2009	Formal Notification. Reviewed 6/22/12; Continue Monitoring
Everest Capital	Performance	Yes 2/12/2015	Format Notification
Lehman Real Estate	Performance	Yes 4/23/2009	Formal Notification. Reviewed 6/22/12; Continue Monitoring
MacKay Shields	Performance	Yes June 2015	Formal Notificaiton; continue monitoring

[redacted]

[redacted]

Allianz Global Investors

Allianz Global Investors

January 28, 2015

Mr. Gary Bader
Chief Investment Officer
Alaska Retirement Management Board
333 Willoughby Avenue
Juneau, AK 99811-0405

Dear Gary,

I am writing to inform you of changes to the US Equities leadership team at Allianz Global Investors.

Scott Migliori, CIO Equity US, has decided to retire from the firm to pursue opportunities outside the investment industry, effective June 30, 2016. As part of a thoughtful succession plan, we had previously identified and groomed other senior investment leaders to assume Scott's responsibilities. In that regard, effective immediately, Jeff Parker, Deputy CIO Equity US and US Director of Research, has been named Co-CIO Equity US. Over the next five months, Jeff will work closely with Scott in the CIO function and will assume the role of CIO Equity US upon Scott's departure.

Additionally, Karen Hiatt, Senior Portfolio Manager of Focused and Select Large-Cap Growth, and Ray Edelman, Lead Portfolio Manager for Large-Cap Core Growth, will serve as co-managers for all Large-Cap Growth strategies. Karen and Ray will work closely with Scott in the coming months to transition portfolio management and client service responsibilities for the Select and Focused Growth strategies. Upon Scott's departure, Karen will assume lead portfolio management responsibility for Focused Growth and Ray will assume lead portfolio management responsibility for Select Growth.

We are thankful to Scott for his contributions to the firm and wish him all the best in his future endeavors. Scott has skillfully managed his portfolio management, CIO and client-facing roles through some very difficult and challenging market conditions and we are grateful for his years of service with AllianzGI.

As always, please feel free to contact me directly at (415) 954-5477 with any questions you may have.

Sincerely,

Melody McDonald

CC: Mr. Shane Carson

PERS Performance – 3rd Quarter 2015 & Trailing Year

Relative Returns for Quarter ended September 30, 2015

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return*	Actual Net Return	Target Return	Total Relative Net Return
Domestic Equity	27%	26%	(7.54%)	(7.59%)	(7.25%)	(0.34%)
Fixed Income	12%	12%	(0.79%)	(0.84%)	0.57%	(1.41%)
Real Assets	18%	17%	(1.84%)	(1.86%)	1.04%	(2.90%)
Global Equity ex US	25%	25%	(12.02%)	(12.09%)	(12.10%)	0.01%
Private Equity	8%	9%	2.97%	2.91%	(9.53%)	12.44%
Absolute Return	6%	5%	(3.97%)	(3.97%)	1.24%	(5.21%)
Alternative Equity	4%	3%	(4.24%)	(4.29%)	(5.11%)	0.82%
Cash Equivalents	2%	3%	0.08%	0.08%	0.01%	0.07%
Total			**(5.60%)**	**(5.64%)**	**(5.61%)**	**(0.03%)**

Relative Returns for One Year ended September 30, 2015

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return*	Actual Net Return	Target Return	Total Relative Net Return
Domestic Equity	27%	26%	0.41%	0.20%	(0.49%)	0.69%
Fixed Income	12%	12%	(0.38%)	(0.56%)	1.57%	(2.13%)
Real Assets	17%	17%	0.97%	0.87%	8.25%	(7.38%)
Global Equity ex US	25%	25%	(10.03%)	(10.33%)	(11.78%)	1.45%
Private Equity	8%	9%	10.81%	10.55%	(2.59%)	13.14%
Absolute Return	5%	5%	0.90%	0.90%	5.02%	(4.12%)
Alternative Equity	4%	3%	(3.17%)	(3.36%)	(1.56%)	(1.80%)
Cash Equivalents	2%	3%	0.30%	0.30%	0.02%	0.28%
Total			**(1.48%)**	**(1.66%)**	**(1.53%)**	**(0.13%)**

* "Actual Return" includes impact of fees for Absolute Return strategies, partnership-level fees for Private Equity Fund-of-Funds, all private Real Asset investments, and any commingled vehicle that reports on a net of fee basis (i.e. mutual funds)..

ALASKA RETIREMENT MANAGEMENT BOARD
FINANCIAL REPORT

As of December 31, 2015

ALASKA RETIREMENT MANAGEMENT BOARD
Schedule of Investment Income and Changes in Invested Assets by Fund
For the Six Months Ending December 31, 2015

	Beginning Invested Assets	Investment Income (1)	Net Contributions (Withdrawals)	Ending Invested Assets	% Change in Invested Assets	% Change due to Investment Income (2)
Public Employees' Retirement System (PERS)						
Defined Benefit Plans:						
Retirement Trust	$ 8,586,489,509	$ (249,485,281)	$ (118,366,848)	$ 8,218,637,380	-4.28%	-2.93%
Retirement Health Care Trust	7,012,198,154	(203,933,062)	(87,802,036)	6,720,463,056	-4.16%	-2.93%
Total Defined Benefit Plans	15,598,687,663	(453,418,343)	(206,168,884)	14,939,100,436	-4.23%	-2.93%
Defined Contribution Plans:						
Participant Directed Retirement	582,368,666	(19,168,186)	41,378,723	604,579,203	3.81%	-3.18%
Health Reimbursement Arrangement	191,992,905	(5,706,399)	15,679,569	201,966,075	5.19%	-2.86%
Retiree Medical Plan	43,611,892	(1,322,220)	7,720,297	50,009,969	14.67%	-2.79%
Defined Benefit Occupational Death and Disability:						
Public Employees	12,857,318	(380,597)	811,863	13,288,584	3.35%	-2.87%
Police and Firefighters	6,187,308	(184,952)	467,911	6,470,267	4.57%	-2.88%
Total Defined Contribution Plans	837,018,089	(26,762,354)	66,058,363	876,314,098	4.69%	-3.08%
Total PERS	**16,435,705,752**	**(480,180,697)**	**(140,110,521)**	**15,815,414,534**	-3.77%	-2.93%
Teachers' Retirement System (TRS)						
Defined Benefit Plans:						
Retirement Trust	5,242,445,334	(151,012,712)	(104,004,821)	4,987,427,801	-4.86%	-2.91%
Retirement Health Care Trust	2,606,131,168	(75,064,863)	(13,402,888)	2,517,663,417	-3.39%	-2.89%
Total Defined Benefit Plans	7,848,576,502	(226,077,575)	(117,407,709)	7,505,091,218	-4.38%	-2.90%
Defined Contribution Plans:						
Participant Directed Retirement	250,086,268	(8,073,273)	9,921,207	251,934,202	0.74%	-3.17%
Health Reimbursement Arrangement	59,380,498	(1,757,977)	3,293,463	60,915,984	2.59%	-2.88%
Retiree Medical Plan	17,463,072	(526,399)	2,191,228	19,127,901	9.53%	-2.84%
Defined Benefit Occupational Death and Disability	3,164,542	(92,435)	(17,665)	3,054,442	-3.48%	-2.93%
Total Defined Contribution Plans	330,094,380	(10,450,084)	15,388,233	335,032,529	1.50%	-3.09%
Total TRS	**8,178,670,882**	**(236,527,659)**	**(102,019,476)**	**7,840,123,747**	-4.14%	-2.91%
Judicial Retirement System (JRS)						
Defined Benefit Plan Retirement Trust	143,835,542	(4,054,345)	2,935,286	142,716,483	-0.78%	-2.79%
Defined Benefit Retirement Health Care Trust	27,224,906	(796,851)	(126,109)	26,301,946	-3.39%	-2.93%
Total JRS	**171,060,448**	**(4,851,196)**	**2,809,177**	**169,018,429**	-1.19%	-2.81%
National Guard/Naval Militia Retirement System (MRS)						
Defined Benefit Plan Retirement Trust	36,944,780	(933,514)	(372,260)	35,639,006	-3.53%	-2.54%
Other Participant Directed Plans						
Supplemental Annuity Plan	3,394,333,691	(48,292,242)	(14,756,587)	3,331,284,862	-1.86%	-1.43%
Deferred Compensation Plan	806,278,563	(12,256,537)	(1,784,427)	792,237,599	-1.74%	-1.52%
Total All Funds	**29,022,994,116**	**(783,041,845)**	**(256,234,094)**	**27,983,718,177**		
Total Non-Participant Directed	23,989,926,928	(695,251,607)	(290,993,010)	23,003,682,311	-4.11%	-2.92%
Total Participant Directed	5,033,067,188	(87,790,238)	34,758,916	4,980,035,866	-1.05%	-1.74%
Total All Funds	**$ 29,022,994,116**	**$ (783,041,845)**	**$ (256,234,094)**	**$ 27,983,718,177**	**-3.58%**	**-2.71%**

Notes:

(1) Includes interest, dividends, securities lending, expenses, realized and unrealized gains/losses

(2) Income divided by beginning assets plus half of net contributions/(withdrawals). Actual returns are calculated by Callan and Associates and can be found at: http://www.revenue.state.ak.us/treasury/programs/programs/other/armb/investmentresults.aspx

ALASKA RETIREMENT MANAGEMENT BOARD
Schedule of Investment Income and Changes in Invested Assets by Fund
For the Month Ended December 31, 2015

	Beginning Invested Assets	Investment Income (1)	Net Contributions (Withdrawals)	Ending Invested Assets	% Change in Invested Assets	% Change due to Investment Income (2)
Public Employees' Retirement System (PERS)						
Defined Benefit Plans:						
Retirement Trust	$ 8,326,798,090	$ (76,589,071)	$ (31,571,639)	$ 8,218,637,380	-1.30%	-0.92%
Retirement Health Care Trust	6,794,411,789	(60,944,090)	(13,004,643)	6,720,463,056	-1.09%	-0.90%
Total Defined Benefit Plans	15,121,209,879	(137,533,161)	(44,576,282)	14,939,100,436	-1.20%	-0.91%
Defined Contribution Plans:						
Participant Directed Retirement	605,524,418	(11,359,316)	10,414,101	604,579,203	-0.16%	-1.86%
Health Reimbursement Arrangement	200,288,715	(1,795,479)	3,472,839	201,966,075	0.84%	-0.89%
Retiree Medical Plan	48,774,739	(437,161)	1,672,391	50,009,969	2.53%	-0.88%
Defined Benefit Occupational Death and Disability:						
Public Employees	13,224,438	(118,601)	182,747	13,288,584	0.49%	-0.89%
Police and Firefighters	6,438,608	(57,763)	89,422	6,470,267	0.49%	-0.89%
Total Defined Contribution Plans	874,250,918	(13,768,320)	15,831,500	876,314,098	0.24%	-1.56%
Total PERS	**15,995,460,797**	**(151,301,481)**	**(28,744,782)**	**15,815,414,534**	-1.13%	-0.95%
Teachers' Retirement System (TRS)						
Defined Benefit Plans:						
Retirement Trust	5,066,096,710	(46,598,000)	(32,070,909)	4,987,427,801	-1.55%	-0.92%
Retirement Health Care Trust	2,547,144,361	(22,845,483)	(6,635,461)	2,517,663,417	-1.16%	-0.90%
Total Defined Benefit Plans	7,613,241,071	(69,443,483)	(38,706,370)	7,505,091,218	-1.42%	-0.91%
Defined Contribution Plans:						
Participant Directed Retirement	253,705,992	(4,739,228)	2,967,438	251,934,202	-0.70%	-1.86%
Health Reimbursement Arrangement	60,618,735	(543,383)	840,632	60,915,984	0.49%	-0.89%
Retiree Medical Plan	18,754,037	(168,059)	541,923	19,127,901	1.99%	-0.88%
Defined Benefit Occupational Death and Disability	3,088,004	(27,688)	(5,874)	3,054,442	-1.09%	-0.90%
Total Defined Contribution Plans	336,166,768	(5,478,358)	4,344,119	335,032,529	-0.34%	-1.62%
Total TRS	**7,949,407,839**	**(74,921,841)**	**(34,362,251)**	**7,840,123,747**	-1.37%	-0.94%
Judicial Retirement System (JRS)						
Defined Benefit Plan Retirement Trust	144,758,691	(1,330,003)	(712,205)	142,716,483	-1.41%	-0.92%
Defined Benefit Retirement Health Care Trust	26,545,126	(237,946)	(5,234)	26,301,946	-0.92%	-0.90%
Total JRS	**171,303,817**	**(1,567,949)**	**(717,439)**	**169,018,429**	-1.33%	-0.92%
National Guard/Naval Militia Retirement System (MRS)						
Defined Benefit Plan Retirement Trust	36,332,016	(422,114)	(270,896)	35,639,006	-1.91%	-1.17%
Other Participant Directed Plans						
Supplemental Annuity Plan	3,368,513,946	(39,662,345)	2,433,261	3,331,284,862	-1.11%	-1.18%
Deferred Compensation Plan	802,908,276	(10,600,877)	(69,800)	792,237,599	-1.33%	-1.32%
Total All Funds	**28,323,926,691**	**(278,476,607)**	**(61,731,907)**	**27,983,718,177**		
Total Non-Participant Directed	23,293,274,059	(212,114,841)	(77,476,907)	23,003,682,311	-1.24%	-0.91%
Total Participant Directed	5,030,652,632	(66,361,766)	15,745,000	4,980,035,866	-1.01%	-1.32%
Total All Funds	**$ 28,323,926,691**	**$ (278,476,607)**	**$ (61,731,907)**	**$ 27,983,718,177**	**-1.20%**	**-0.98%**

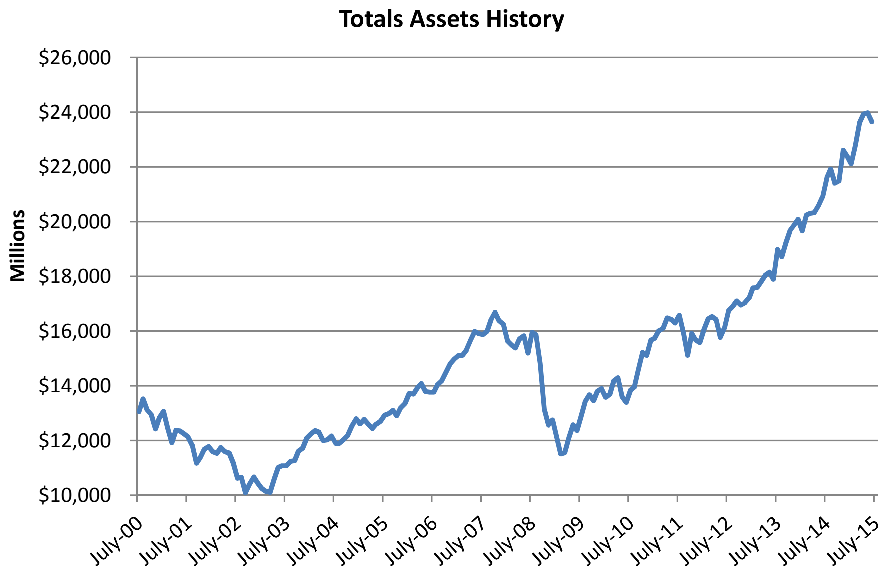
Notes:

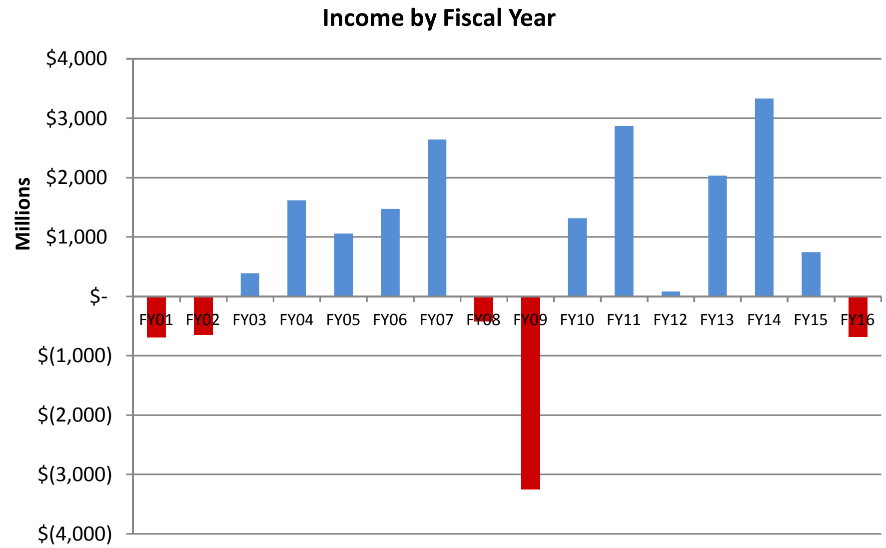
(1) Includes interest, dividends, securities lending, expenses, realized and unrealized gains/losses

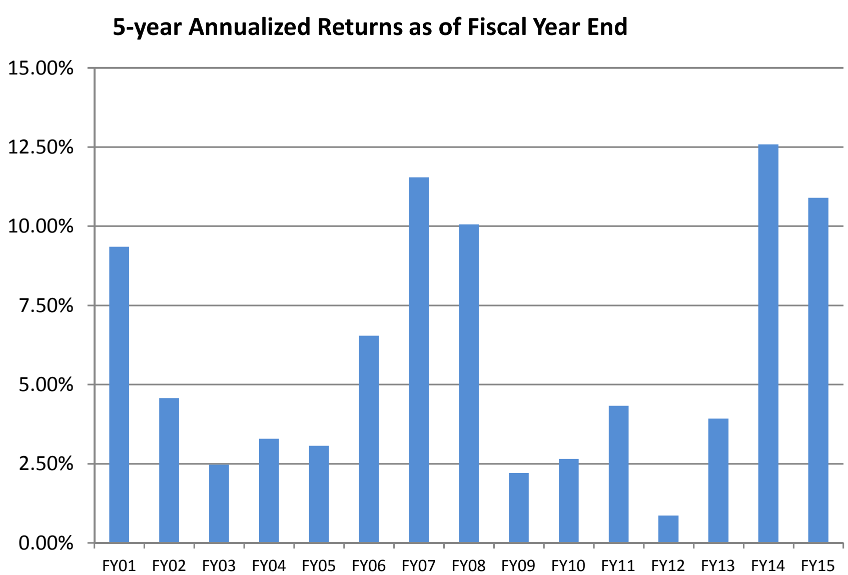
(2) Income divided by beginning assets plus half of net contributions/(withdrawals). Actual returns are calculated by Callan and Associates and can be found at: http://www.revenue.state.ak.us/treasury/programs/programs/other/armb/investmentresults.aspx

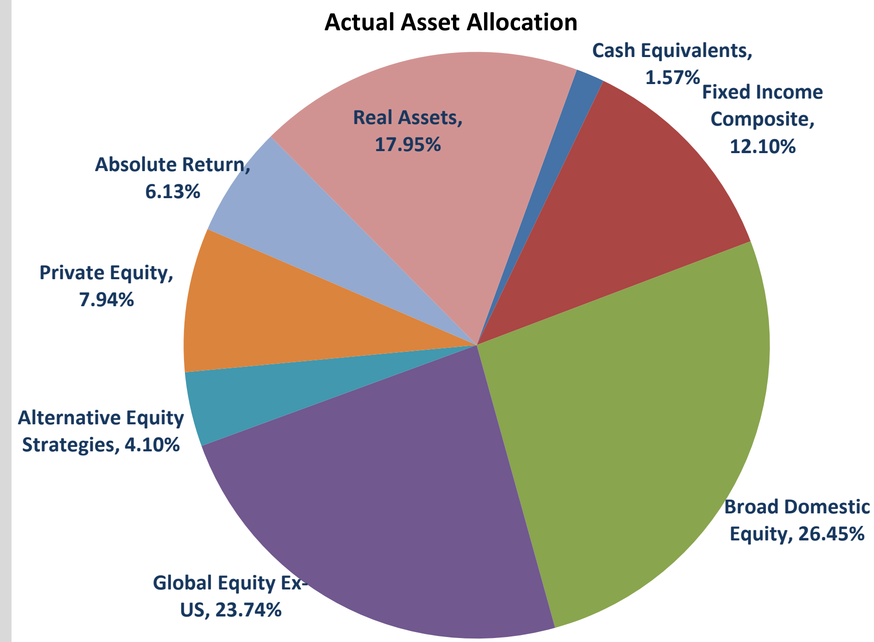
Total Defined Benefit Assets

As of December 31, 2015



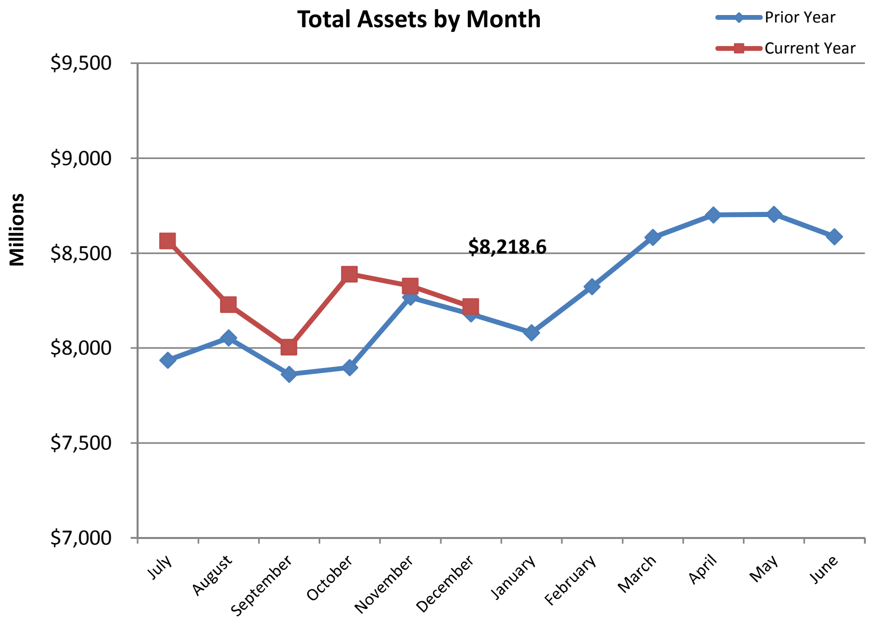


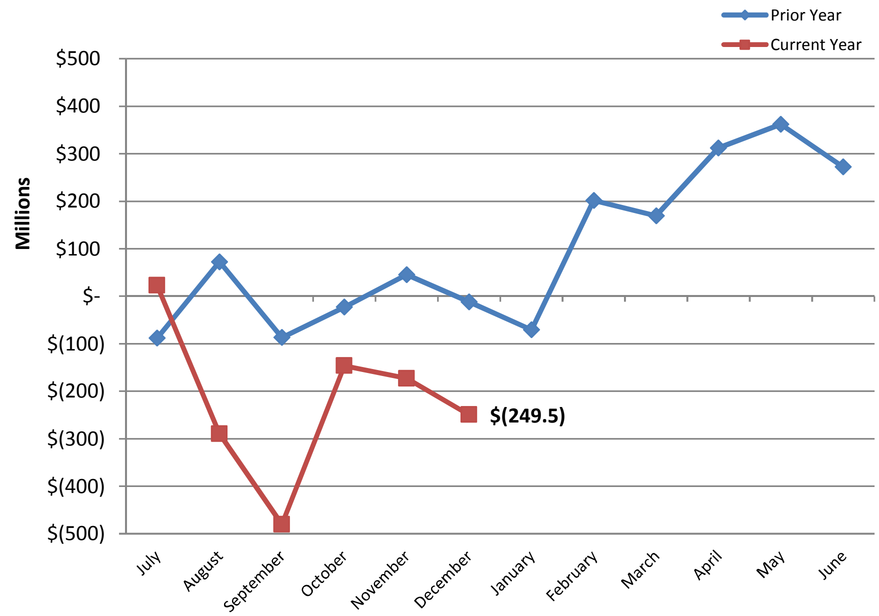


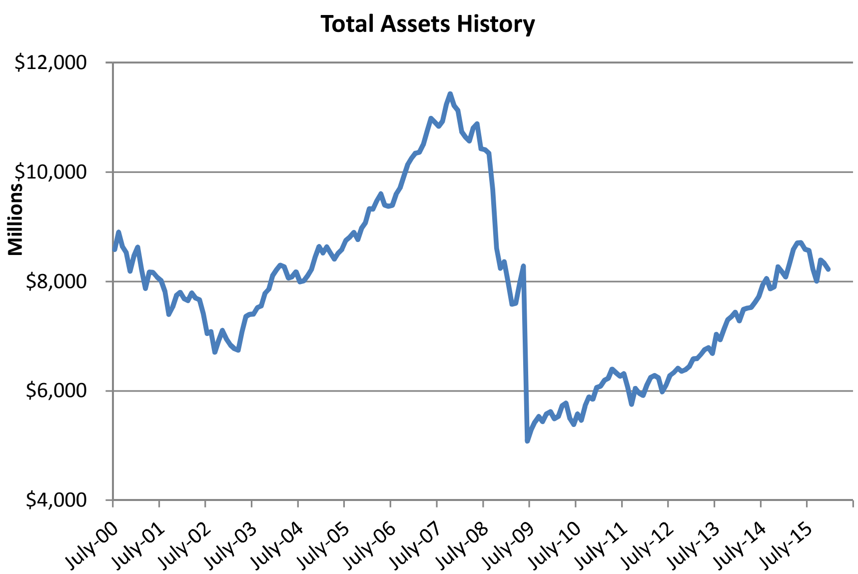


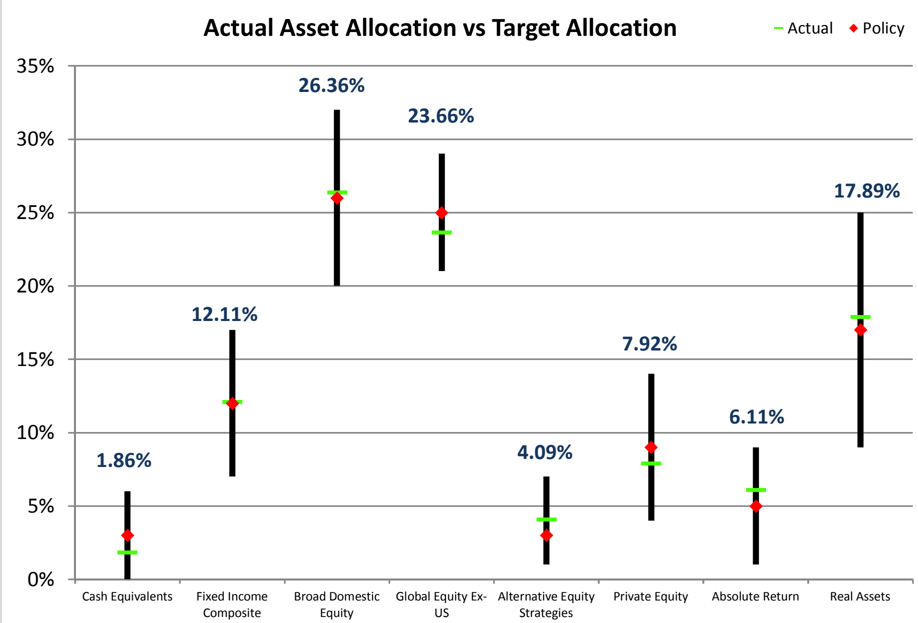
Public Employees' Retirement Pension Trust Fund

For the Six Months Ending December 31, 2015



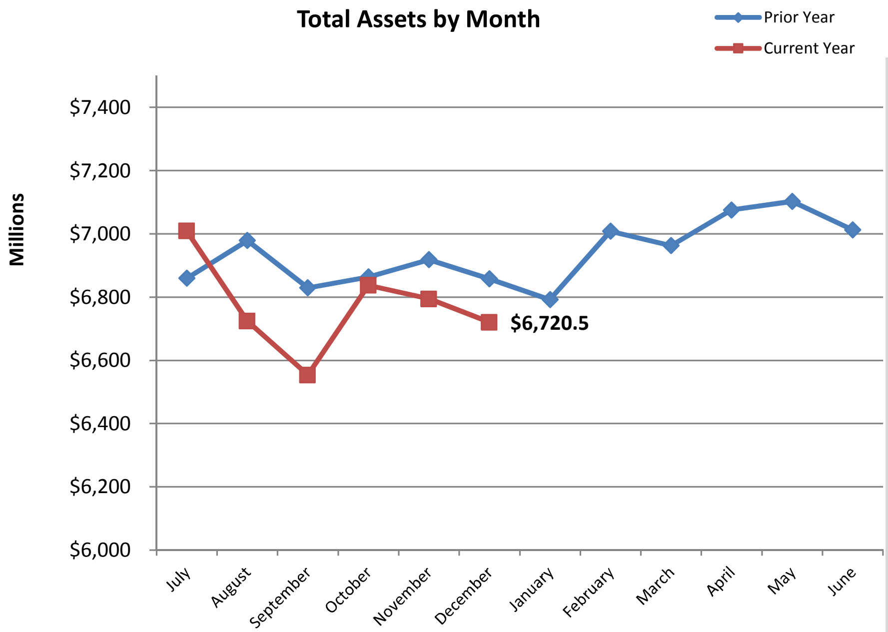


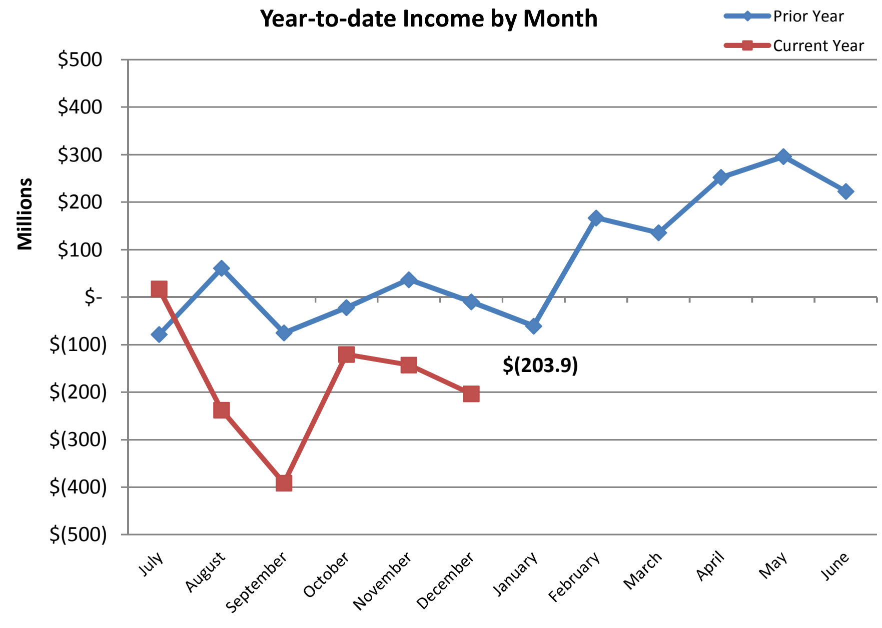


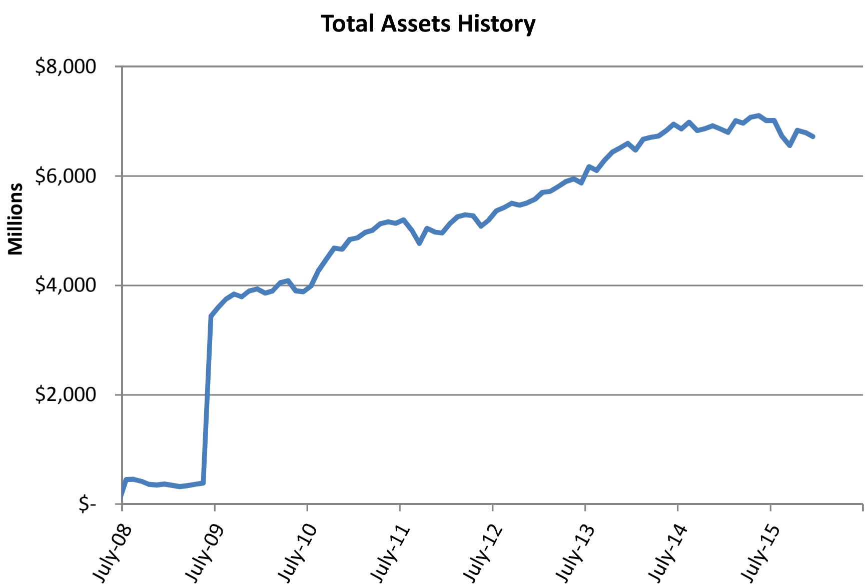


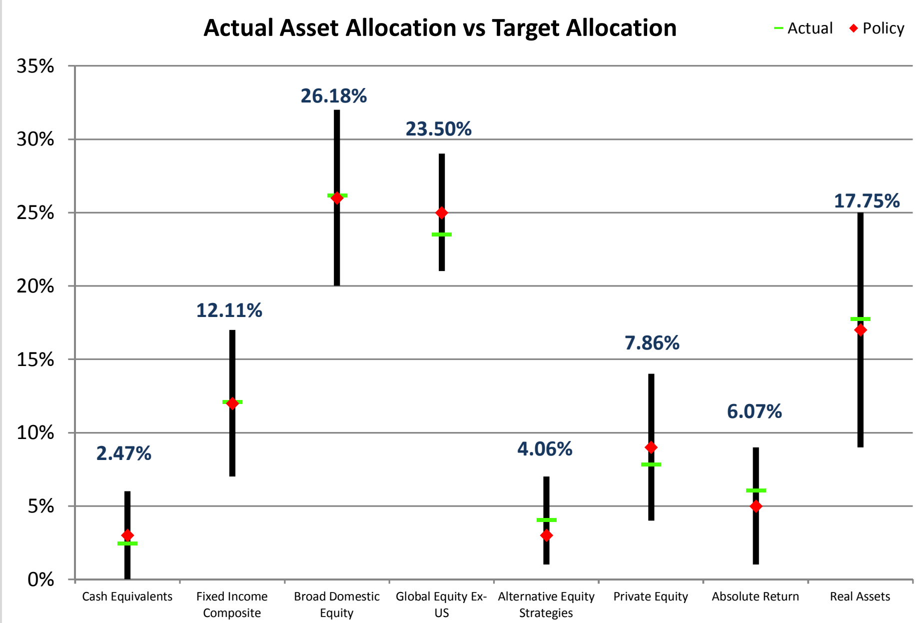
Public Employees' Retirement Health Care Trust Fund

For the Six Months Ending December 31, 2015



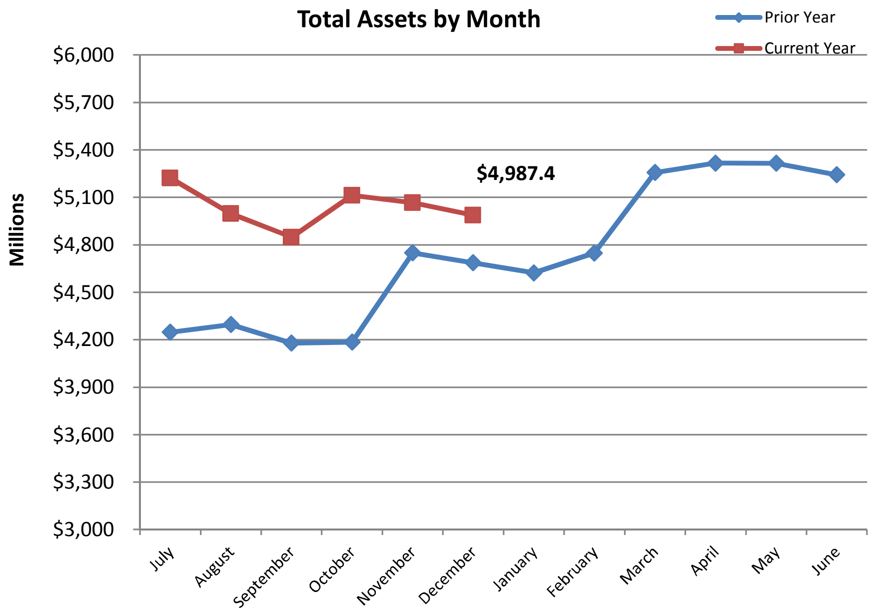


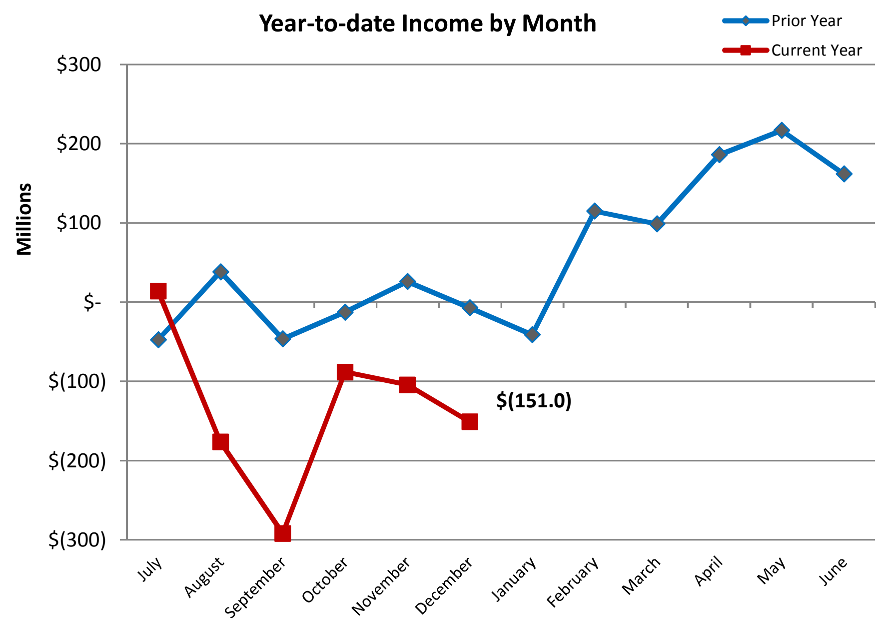


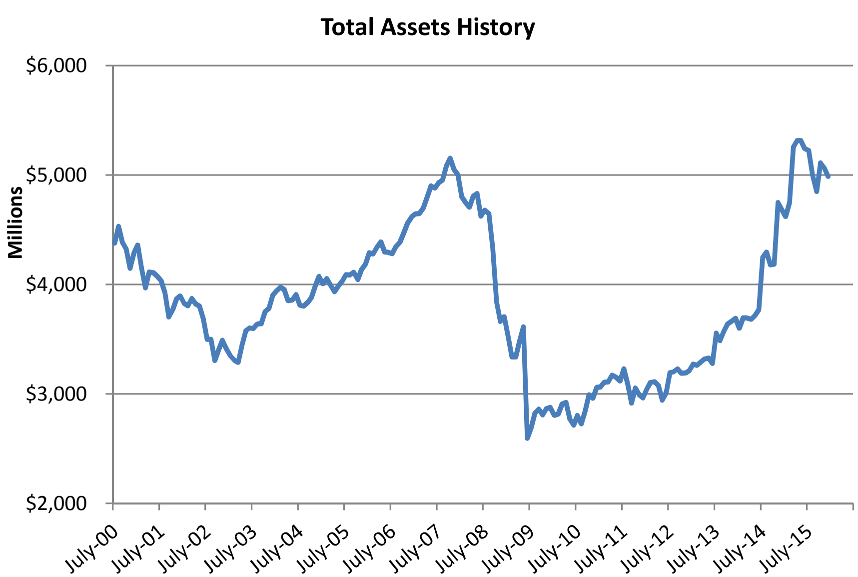


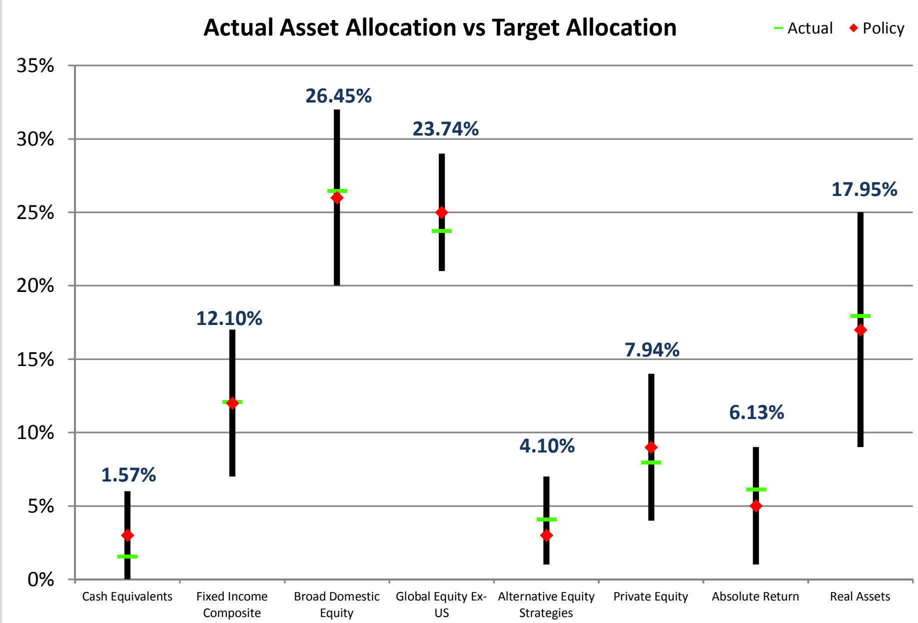
Teachers' Retirement Pension Trust Fund

For the Six Months Ending December 31, 2015



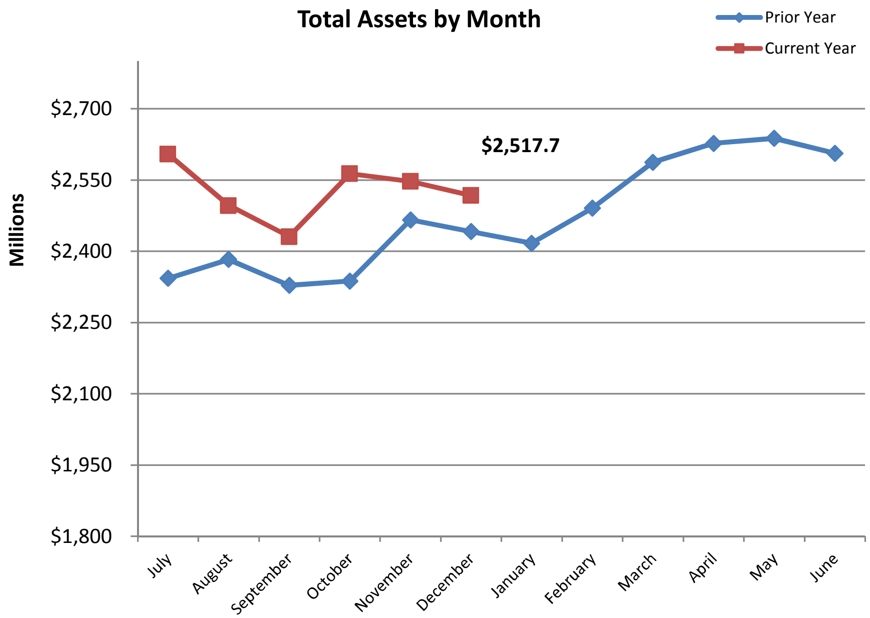


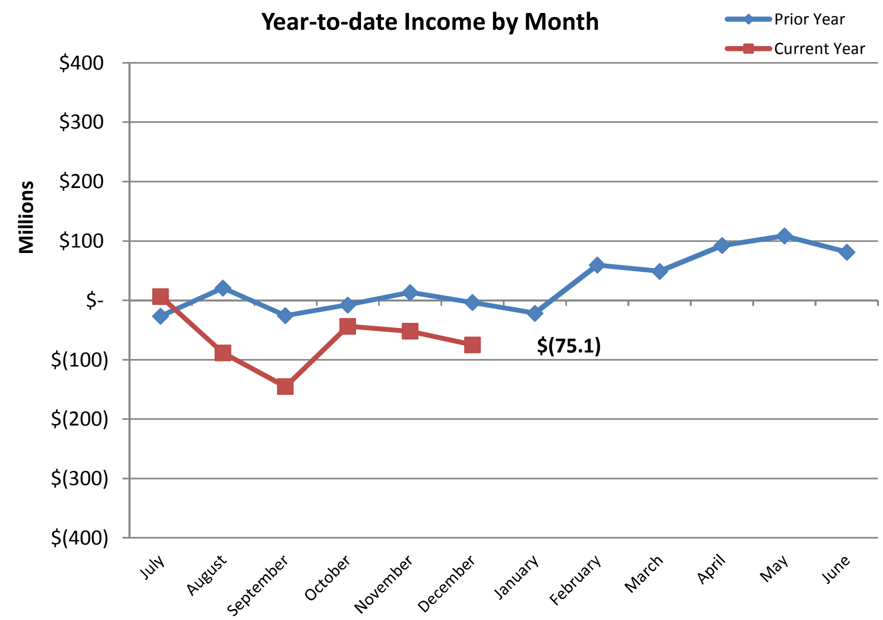


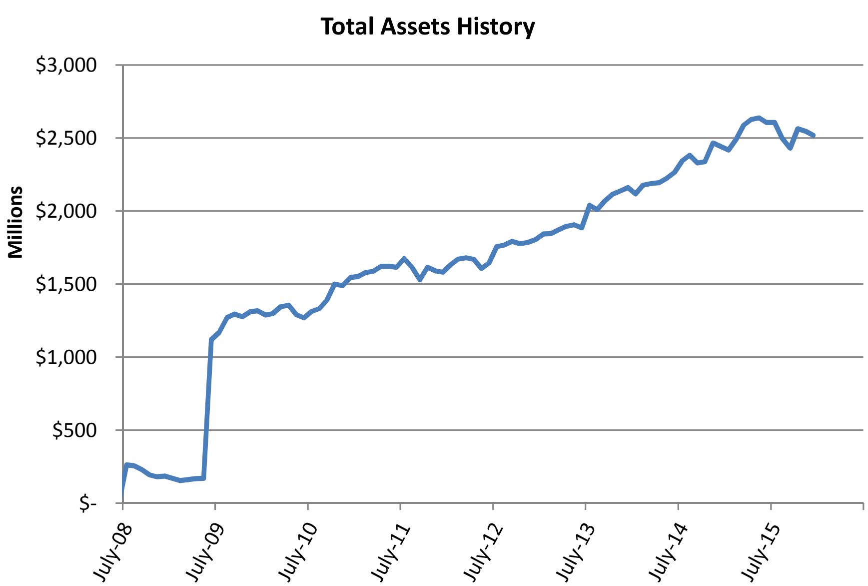


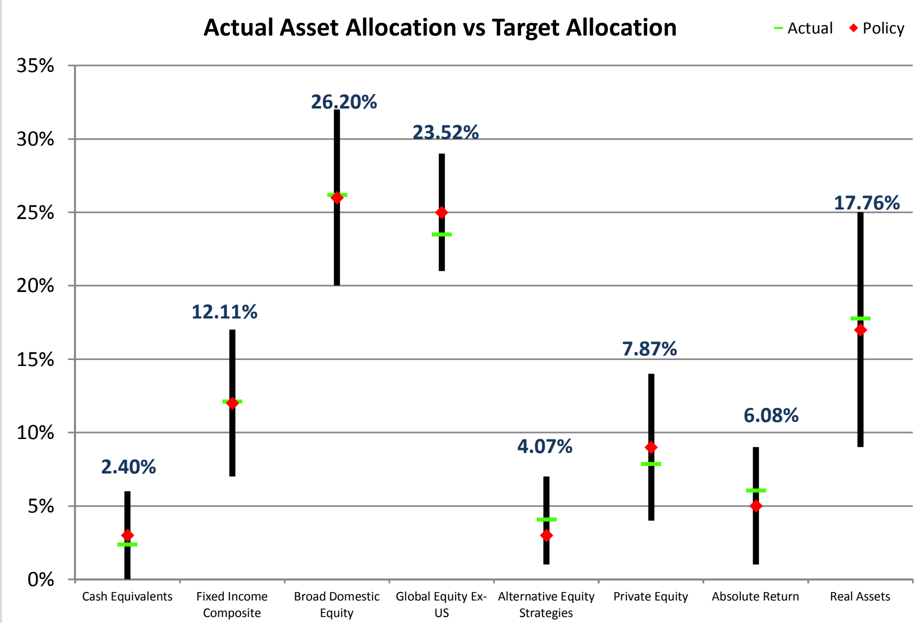
Teachers' Retirement Health Care Trust Fund

For the Six Months Ending December 31, 2015



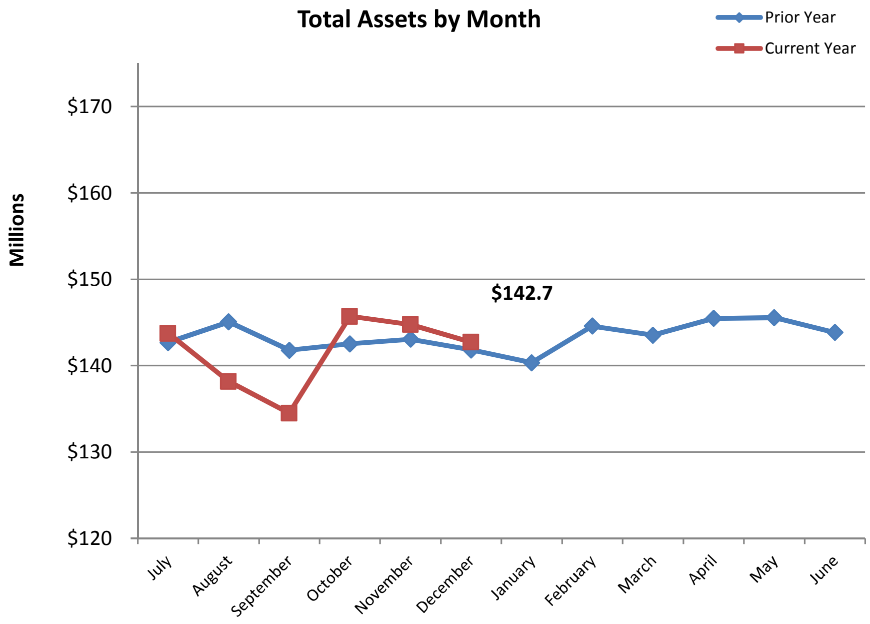


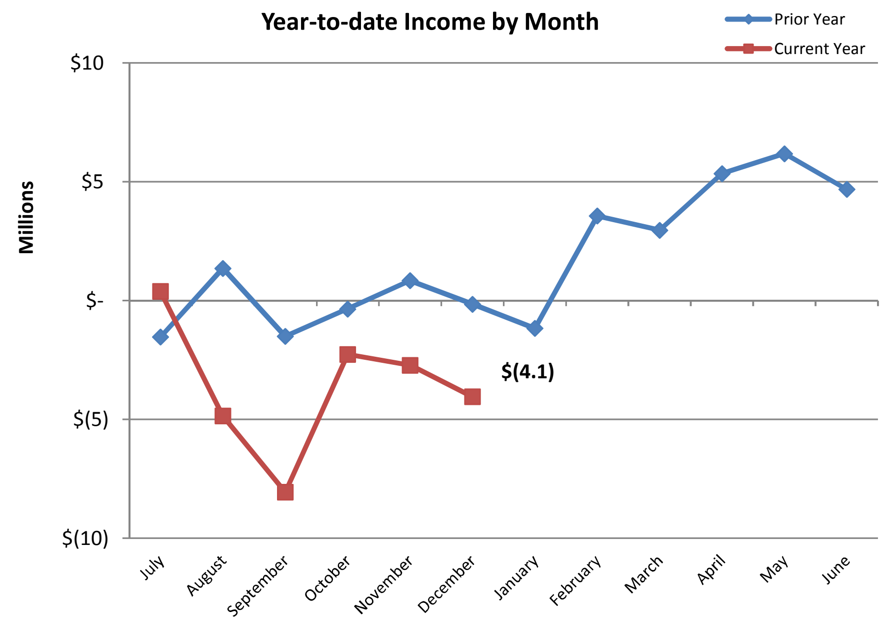


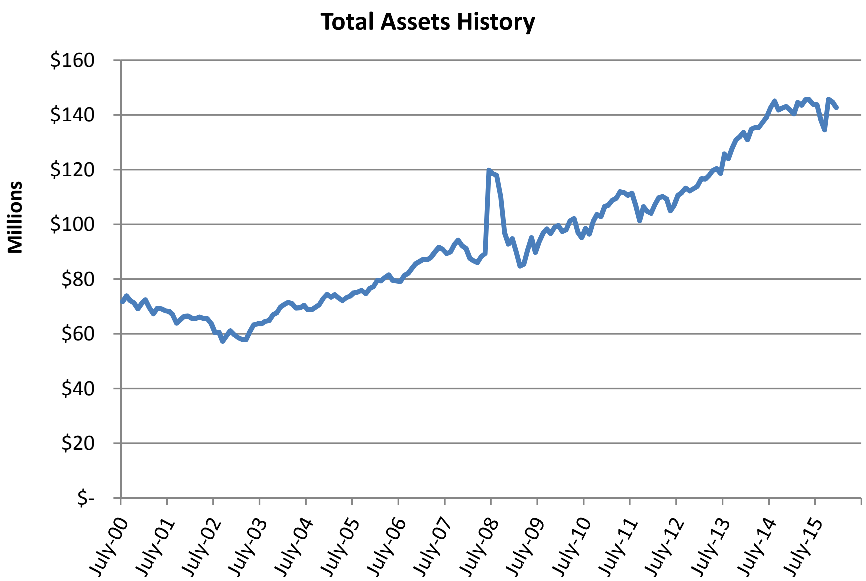


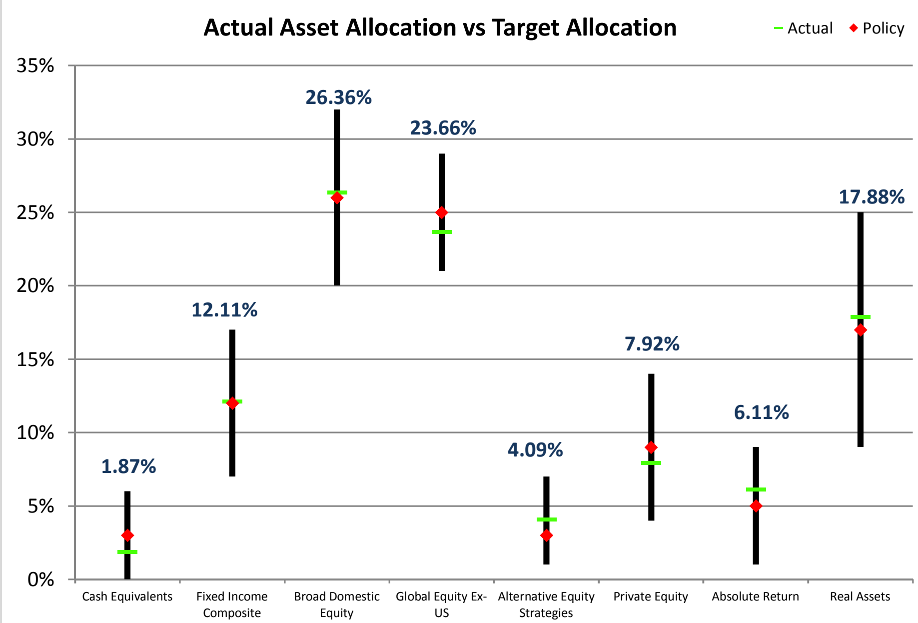
Judicial Retirement Pension Trust Fund

For the Six Months Ending December 31, 2015



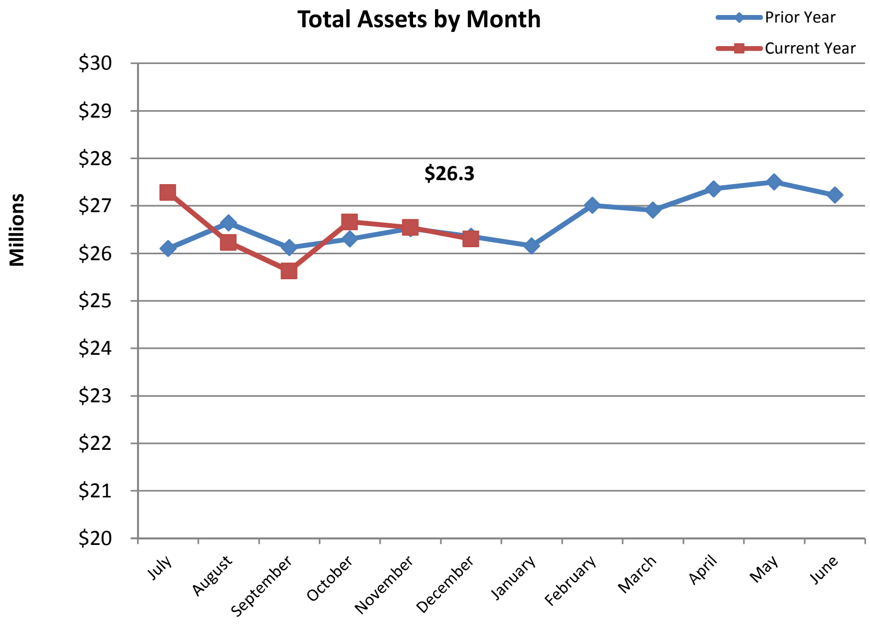


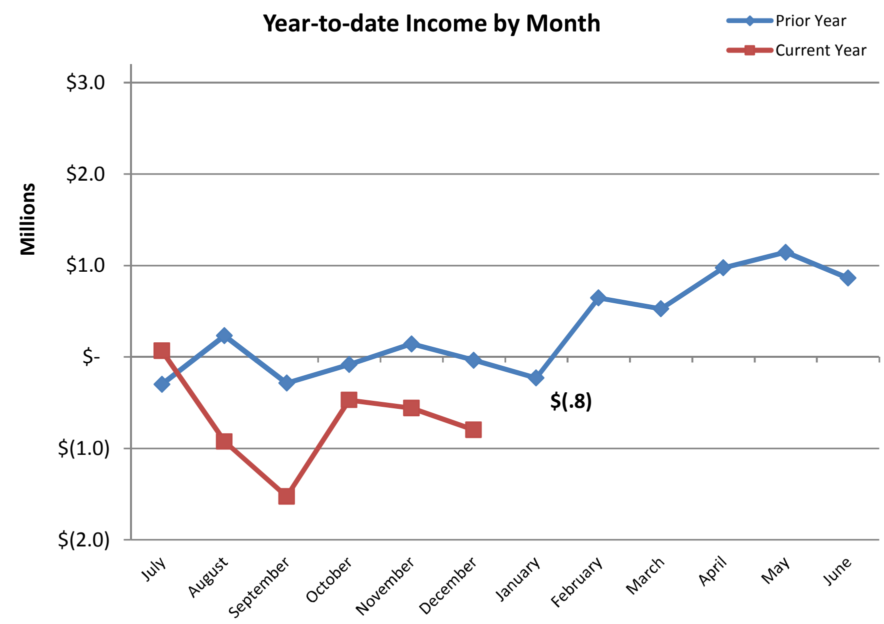


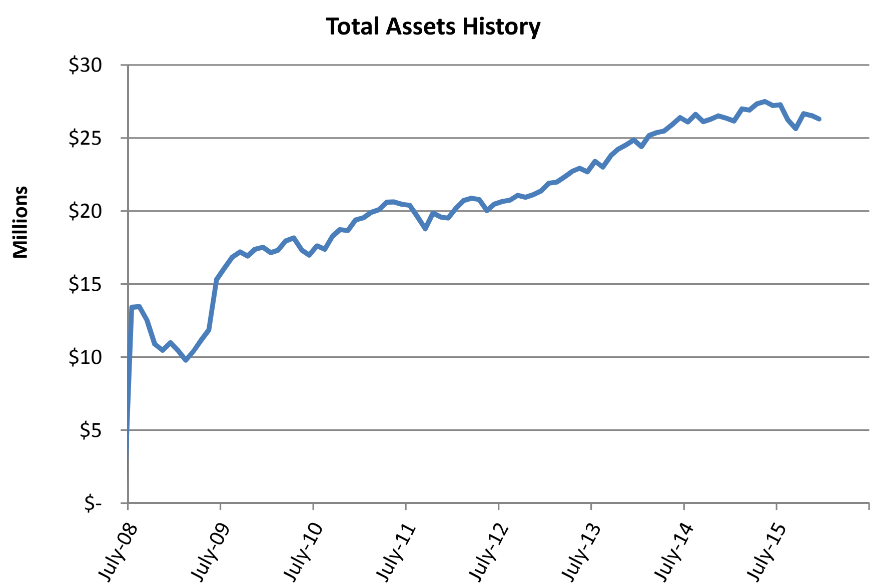


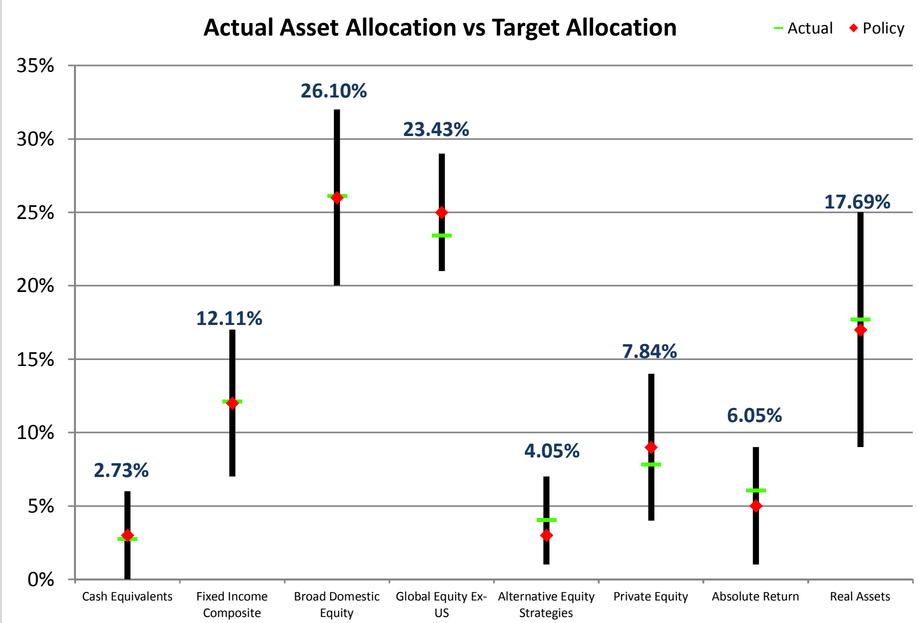
Judicial Retirement Health Care Trust Fund

For the Six Months Ending December 31, 2015



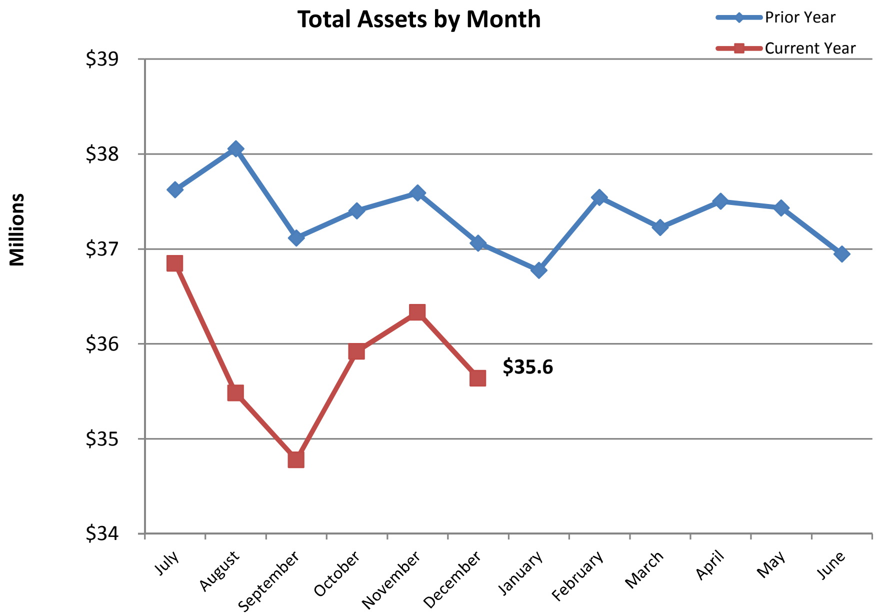


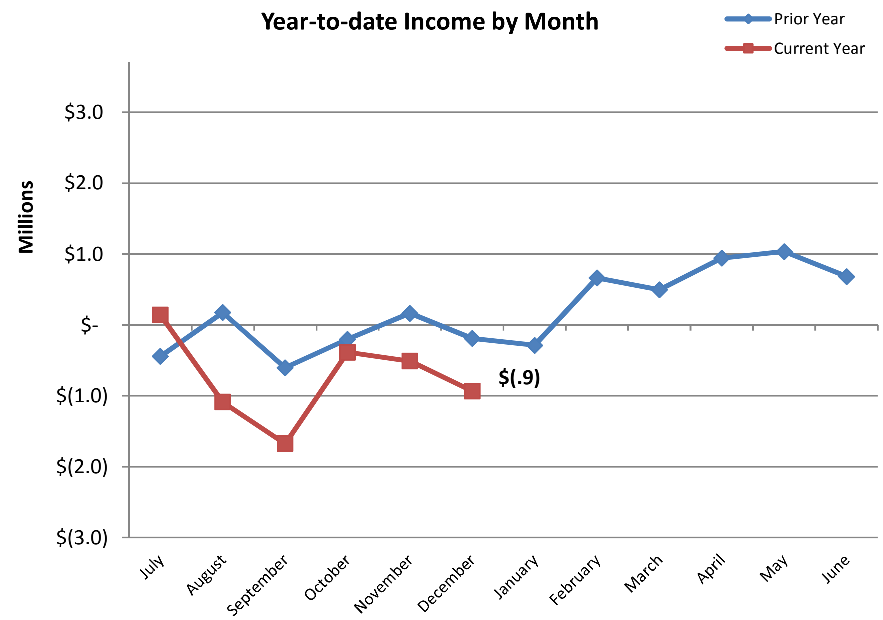


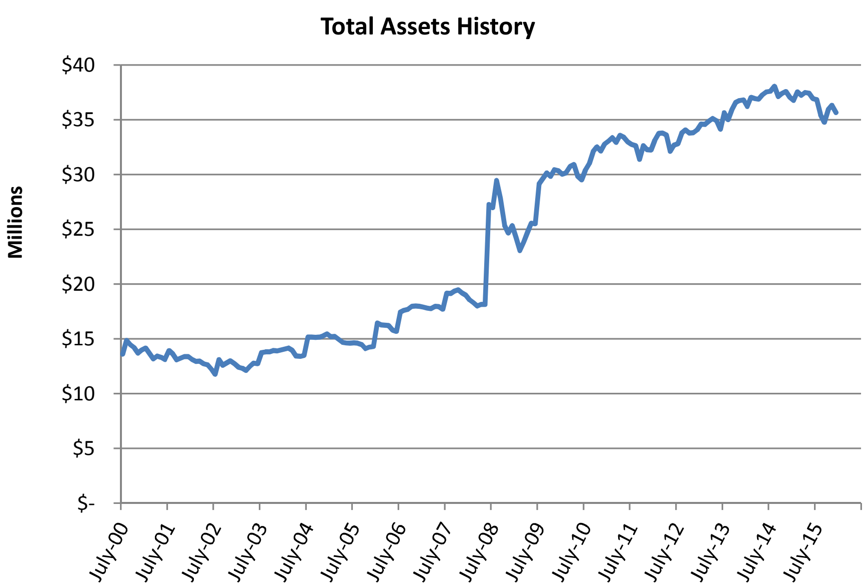


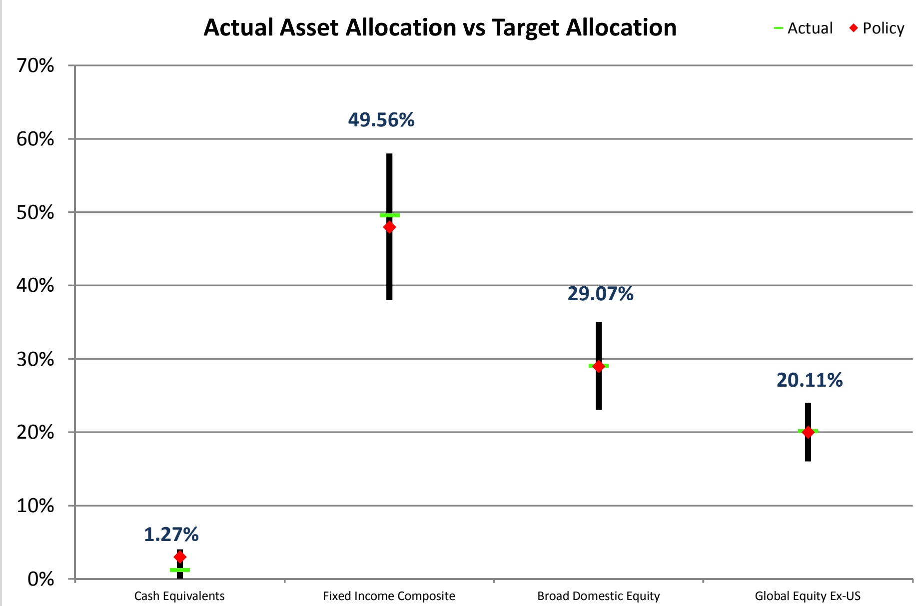
Military Retirement Trust Fund

For the Six Months Ending December 31, 2015









ALASKA RETIREMENT MANAGEMENT BOARD

Reporting of Funds by Manager

All Non-Participant Directed Plans

Alaska Retirement Management Board
All Non-Participant Directed Plans by Manager
Schedule of Investment Income and Changes in Invested Assets
For The Month Ended December 31, 2015

	Beginning Invested Assets	Investment Income	Net Contributions and (Withdrawals)	Ending Invested Assets	% increase (decrease)
Cash					
Short-Term Fixed Income Pool	$ 682,841,421	$ 132,724	$ (204,308,615)	$ 478,665,530	-29.90%
Total Cash	682,841,421	132,724	(204,308,615)	478,665,530	-29.90%
Fixed Income					
US Treasury Fixed Income	1,341,332,213	(2,552,049)	-	1,338,780,164	-0.19%
Taxable Municipal Bond Pool					
Western Asset Management	119,389,492	305,040	-	119,694,532	0.26%
Guggenheim Partners	115,968,675	280,270	-	116,248,945	0.24%
	235,358,167	585,310	-	235,943,477	0.25%
Tactical Fixed Income Pool					
Pyramis Global Advisors	120,293,104	(1,797,096)	-	118,496,008	-1.49%
International Fixed Income Pool					
Mondrian Investment Partners	369,935,633	(379,542)	-	369,556,091	-0.10%
High Yield Pool					
MacKay Shields, LLC	350,332,051	(11,446,027)	(41,687,990)	297,198,034	-15.17%
Pyramis Global Advisors High Yield CMBS	55,221,833	(725,905)	30,000,000	84,495,928	53.01%
Columbia Threadneedle	-	-	-	-	-
Eaton Vance High Yield	-	(648,169)	200,000,000	199,351,831	100.00%
	405,553,884	(12,820,101)	188,312,010	581,045,793	
Emerging Debt Pool					
Lazard Emerging Income	156,505,093	(1,998,068)	-	154,507,025	-1.28%
Total Fixed Income	2,628,978,094	(18,961,546)	188,312,010	2,798,328,558	6.44%

Alaska Retirement Management Board
All Non-Participant Directed Plans by Manager
Schedule of Investment Income and Changes in Invested Assets
For The Month Ended December 31, 2015

Domestic Equities					
Small Cap Pool					
Passively Managed					
SSgA Russell 2000 Growth	18,981,832	(908,231)	-	18,073,601	-4.78%
SSgA Russell 2000 Value	31,069,250	(1,625,322)	-	29,443,928	-5.23%
Total Passive	50,051,082	(2,533,553)	-	47,517,529	-5.06%
Actively Managed					
Barrow, Haney, Mewhinney & Strauss	87,225,274	(5,309,241)	-	81,916,033	-6.09%
DePrince, Race & Zollo Inc.- Micro Cap	74,686,703	(4,150,142)	-	70,536,561	-5.56%
Frontier Capital Mgmt. Co.	89,974,929	(5,185,851)	-	84,789,078	-5.76%
Jennison Associates, LLC	86,544,093	(2,875,707)	-	83,668,386	-3.32%
Lord Abbett Small Cap Growth Fund	81,701,761	(3,819,458)	-	77,882,303	-4.67%
Lord Abbett & Co.- Micro Cap	85,754,735	(3,398,092)	-	82,356,643	-3.96%
Luther King Capital Management	84,036,796	(5,559,000)	-	78,477,796	-6.61%
SSgA Futures Small Cap	11,678,088	(541,378)	-	11,136,710	-4.64%
Transition Account	38,905	12	-	38,917	0.03%
Sycamore Capital	98,893,628	(5,632,906)	-	93,260,722	-5.70%
SSgA Volatility-Russell 2000	77,077,616	(900,333)	-	76,177,283	-1.17%
Zebra Capital Management	74,773,016	(3,359,991)	-	71,413,025	-4.49%
Total Active	852,385,544	(40,732,087)	-	811,653,457	-4.78%
Total Small Cap	902,436,626	(43,265,640)	-	859,170,986	-4.79%
Large Cap Pool					
Passively Managed					
SSgA Russell 1000 Growth	1,215,129,210	(16,172,818)	(83,000,000)	1,115,956,392	-8.16%
SSgA Russell 1000 Value	1,421,147,562	(28,154,330)	(83,000,000)	1,309,993,232	-7.82%
SSgA Russell 200	803,242,890	(11,535,041)	-	791,707,849	-1.44%
Total Passive	3,439,519,662	(55,862,189)	(166,000,000)	3,217,657,473	-6.45%
Actively Managed					
Allianz Global Investors	377,582,775	(5,101,451)	(25,000,000)	347,481,324	-7.97%
Barrow, Haney, Mewhinney & Strauss	353,790,200	(6,397,640)	-	347,392,560	-1.81%
Lazard Freres	392,469,980	(8,527,782)	-	383,942,198	-2.17%
McKinley Capital Mgmt.	378,217,734	(3,682,228)	(25,000,000)	349,535,506	-7.58%
Quantitative Management Assoc.	338,692,661	(10,079,181)	-	328,613,480	-2.98%
SSgA Futures large cap	14,666,323	(289,595)	-	14,376,728	-1.97%
Transition Account	271	(668,382)	683,624	15,513	5624.35%
SSgA Volatility-Russell 1000	101,186,320	136,318	-	101,322,638	0.13%
Internally Managed Large Cap.	-	1,498,637	99,316,376	100,815,013	100.00%
Total Active	1,956,606,264	(33,111,304)	50,000,000	1,973,494,960	0.86%
Total Large Cap	5,396,125,926	(88,973,493)	(116,000,000)	5,191,152,433	-3.80%
Total Domestic Equity	6,298,562,552	(132,239,133)	(116,000,000)	6,050,323,419	-3.94%

Alaska Retirement Management Board
All Non-Participant Directed Plans by Manager
Schedule of Investment Income and Changes in Invested Assets
For The Month Ended December 31, 2015

Alternative Equity Strategies					
Alternative Equity Strategy Pool					
Relational Investors, LLC	24,192,615	(728,419)	(22,384,196)	1,080,000	-95.54%
Analytic Buy Write Account	293,372,435	(1,652,529)	-	291,719,906	-0.56%
Allianz Global Investors Buy-Write Account	-	-	-	-	-
Quantitative Management Associates MPS	198,583,916	(2,130,678)	-	196,453,238	-1.07%
ARMB Equity Yield Strategy	140,510,641	(882,864)	117,105,402	256,733,179	82.71%
Alternative Equity Strategies Transition Account	-	(1,814,090)	1,869,787	55,697	100.00%
Total Alternative Equity Strategy Pool	656,659,607	(7,208,580)	96,590,993	746,042,020	13.61%
Convertible Bond Pool					
Advent Capital	194,767,111	(3,718,996)	-	191,048,115	-1.91%
Total Alternative Equity Strategies	851,426,718	(10,927,576)	96,590,993	937,090,135	10.06%
Global Equities Ex US					
Small Cap Pool					
Mondrian Investment Partners	151,255,023	1,318,061	-	152,573,084	0.87%
Schroder Investment Management	166,972,731	2,812,938	-	169,785,669	1.68%
Total Small Cap	318,227,754	4,130,999	-	322,358,753	1.30%
Large Cap Pool					
Blackrock ACWI Ex-US IMI	505,687,189	(8,159,712)	-	497,527,477	-1.61%
Brandes Investment Partners	1,046,895,594	(13,834,641)	(300,000,000)	733,060,953	-29.98%
Cap Guardian Trust Co	754,580,002	(15,724,825)	-	738,855,177	-2.08%
Lazard Freres	385,606,049	(7,799,923)	-	377,806,126	-2.02%
McKinley Capital Management	496,799,596	(1,416,967)	-	495,382,629	-0.29%
SSgA Futures International	-	-	-	-	-
Allianz Global Investors	227,094,272	(6,688,928)	100,000,000	320,405,344	41.09%
Arrow Street Capital	195,901,559	(4,874,261)	100,000,000	291,027,298	48.56%
Baillie Gifford Overseas Limited	268,810,947	(5,773,928)	100,000,000	363,037,019	35.05%
State Street Global Advisors	784,100,701	(12,690,658)	-	771,410,043	-1.62%
Total Large Cap	4,665,475,909	(76,963,843)	-	4,588,512,066	-1.65%
Emerging Markets Equity Pool					
Lazard Asset Management	318,234,303	(14,247,962)	-	303,986,341	-4.48%
Eaton Vance	218,576,969	(5,084,760)	-	213,492,209	-2.33%
Total Emerging Markets Pool	536,811,272	(19,332,722)	-	517,478,550	-3.60%
Frontier Market Pool					
Everest Capital Frontier Markets Equity	82,378	12,881	-	95,259	15.64%
Total Global Equities	5,520,597,313	(92,152,685)	-	5,428,444,628	-1.67%

Alaska Retirement Management Board
All Non-Participant Directed Plans by Manager
Schedule of Investment Income and Changes in Invested Assets
For The Month Ended December 31, 2015

Private Equity Pool					
Abbott Capital	770,954,405	(331,606)	(9,741,695)	760,881,104	-1.31%
Angelo, Gordon & Co.	4,756,800	-	(772,810)	3,983,990	-16.25%
Blum Capital Partners-Strategic	40,961	-	-	40,961	-
Lexington Partners	41,277,790	1,905,816	(1,475,628)	41,707,978	1.04%
Merit Capital Partners	15,550,628	-	(175,008)	15,375,620	-1.13%
NB SOF III	18,049,621	289,452	1,946,575	20,285,648	12.39%
Resolute Fund III	5,483,000	-	66,542	5,549,542	1.21%
Glendon Opportunities	20,901,465	-	2,000,000	22,901,465	9.57%
New Mountain Partners IV	7,969,080	-	2,342,493	10,311,573	29.39%
KKR Lending Partners II	33,859,730	-	-	33,859,730	-
NGP XI	3,040,024	-	2,278,408	5,318,432	74.95%
Lexington Capital Partners VIII	6,725,636	250,781	959,338	7,935,755	17.99%
Onex Partnership III	21,863,665	857,291	(139,063)	22,581,893	3.29%
Pathway Capital Management LLC	827,738,047	1,842,725	(12,473,577)	817,107,195	-1.28%
Warburg Pincus Prvt Eqty XI	26,220,069	176,939	2,212,110	28,609,118	9.11%
Warburg Pincus X	18,520,013	(5)	(2,160,682)	16,359,326	-11.67%
Warburg Pincus Prvt Eqty XII	-	-	1,007,500	1,007,500	100.00%
Total Private Equity	1,822,950,934	4,991,393	(14,125,497)	1,813,816,830	-0.50%
Absolute Return Pool					
Global Asset Management (USA) Inc.	359,835,331	3,992,630	-	363,827,961	1.11%
Prisma Capital Partners	438,896,584	2,293,737	-	441,190,321	0.52%
Crestline Investors, Inc.	270,791,883	1,469,140	2,996,762	275,257,785	1.65%
Allianz Global Investors	217,099,042	1,961,354	-	219,060,396	0.90%
Crestline Specialty Fund	8,448,877	-	(2,798,668)	5,650,209	-33.12%
KKR Apex equity Fund	95,672,298	41,212	-	95,713,510	0.04%
Total Absolute Return Investments	1,390,744,015	9,758,073	198,094	1,400,700,182	0.72%

Alaska Retirement Management Board
All Non-Participant Directed Plans by Manager
Schedule of Investment Income and Changes in Invested Assets
For The Month Ended December 31, 2015

Real Assets					
Farmland Pool					
UBS Agrivest, LLC	533,321,666	9,381,572	(4,135,172)	538,568,066	0.98%
Hancock Agricultural Investment Group	247,290,672	-	(1,520,000)	245,770,672	-0.61%
Total Farmland Pool	780,612,338	9,381,572	(5,655,172)	784,338,738	0.48%
Timber Pool					
Timberland Invt Resource LLC	272,867,619	3,595,340	-	276,462,959	1.32%
Hancock Natural Resource Group	101,386,449	-	-	101,386,449	-
Total Timber Pool	374,254,068	3,595,340	-	377,849,408	0.96%
Energy Pool					
EIG Energy Fund XV	31,955,732	267,393	-	32,223,125	0.84%
EIG Energy Fund XD	6,317,623	(9,693)	-	6,307,930	-0.15%
EIG Energy Fund XIV-A	31,065,207	348,997	-	31,414,204	1.12%
EIG Energy Fund XVI	19,911,712	172,689	-	20,084,401	0.87%
Total Energy Pool	89,250,274	779,386	-	90,029,660	0.87%
REIT Pool					
REIT Trans Account	-	-	-	-	-
REIT Holdings	352,246,136	5,011,079	-	357,257,215	1.42%
Total REIT Pool	352,246,136	5,011,079	-	357,257,215	1.42%
Treasury Inflation Proof Securities					
TIPS Internally Managed Account	132,691,703	(1,027,882)	-	131,663,821	-0.77%
Master Limited Partnerships					
Advisory Research MLP	192,674,080	(15,477,641)	-	177,196,439	-8.03%
Tortoise Capital Advisors	213,223,538	(3,070,050)	-	210,153,488	-1.44%
Total Master Limited Partnerships	405,897,618	(18,547,691)	-	387,349,927	-4.57%
Infrastructure Private Pool					
IFM Global Infrastructuer Fund-Private	207,567,754	(2,646,046)	-	204,921,708	-1.27%
JP Morgan Infrastructure Fund-Private	97,714,643	(43,916)	-	97,670,727	-0.04%
Total Infrastructure Private Pool	305,282,397	(2,689,962)	-	302,592,435	-0.88%
Infrastructure Public Pool					
Brookfield Investment Mgmt.-Public	114,449,117	(4,893,854)	-	109,555,263	-4.28%
Lazard Asset Mgmt.-Public	131,080,490	140,402	-	131,220,892	0.11%
Total Infrastructure Public Pool	245,529,607	(4,753,452)	-	240,776,155	-1.94%

Alaska Retirement Management Board
All Non-Participant Directed Plans by Manager
Schedule of Investment Income and Changes in Invested Assets
For The Month Ended December 31, 2015

Real Estate					
Core Commingled Accounts					
JP Morgan	230,250,874	3,508,144	-	233,759,018	1.52%
UBS Trumbull Property Fund	94,016,428	-	-	94,016,428	-
Total Core Commingled	324,267,302	3,508,144	-	327,775,446	1.08%
Core Separate Accounts					
LaSalle Investment Management	203,329,545	3,361,408	273,731	206,964,684	1.79%
Sentinel Separate Account	208,521,909	4,425,636	(604,779)	212,342,766	1.83%
UBS Realty	434,487,436	18,692,842	(1,205,172)	451,975,106	4.02%
Total Core Separate	846,338,890	26,479,886	(1,536,220)	871,282,556	2.95%
Non-Core Commingled Accounts					
Almanac Realty Securities IV	48,434	7,118	-	55,552	14.70%
Almanac Realty Securities V	15,206,197	119,923	-	15,326,120	0.79%
Almanac Realty Securities VII	11,469,513	12,539	(514,848)	10,967,204	-4.38%
BlackRock Diamond Property Fund	16,040,878	-	(8,001,307)	8,039,571	-49.88%
Colony Investors VIII, L.P.	18,270,230	(3,386,700)	-	14,883,530	-18.54%
Cornerstone Apartment Venture III	178,246	(130,076)	-	48,170	-72.98%
Coventry	13,180,811	(111,199)	(3,268,080)	9,801,532	-25.64%
ING Clarion Development Ventures II	-	12,649	(12,649)	-	-
ING Clarion Development Ventures III	11,581,430	1,168,773	(977,386)	11,772,817	1.65%
ING Clarion Development Ventures IIII	12,007,350	(51,567)	980,000	12,935,783	7.73%
KKR Real Estate Partners Americas LP.	40,264,999	411,399	675,899	41,352,297	2.70%
LaSalle Medical Office Fund II	390,691	(162,822)	-	227,869	-41.68%
Lowe Hospitality Partners	854,597	15,938	-	870,535	1.86%
Silverpeak Legacy Pension Partners II, L.P.	48,758,422	6,200,633	(6,738,609)	48,220,446	-1.10%
Silverpeak Legacy Pension Partners III, L.P.	7,113,427	175,780	-	7,289,207	2.47%
Tishman Speyer Real Estate Venture VI	37,740,597	1,121,397	(3,095,520)	35,766,474	-5.23%
Tishman Speyer Real Estate Venture VII	7,696,857	143,704	-	7,840,561	1.87%
Total Non-Core Commingled	240,802,679	5,547,489	(20,952,500)	225,397,668	-6.40%
Total Real Estate	1,411,408,871	35,535,519	(22,488,720)	1,424,455,670	0.92%
Total Real Assets	4,097,173,012	27,283,909	(28,143,892)	4,096,313,029	-0.02%
Total Assets	$ 23,293,274,059	$ (212,114,841)	$ (77,476,907)	$ 23,003,682,311	-1.24%

ALASKA RETIREMENT MANAGEMENT BOARD

Reporting of Funds by Manager

Participant Directed Plans

Supplemental Annuity Plan
Schedule of Investment Income and Changes in Invested Assets
for the Month Ended
December 31, 2015

	Beginning Invested Assets	Investment Income	Net Contributions (Withdrawals)	Transfers In (Out)	Ending Invested Assets	% Change in Invested Assets	% Change due to Investment Income (2)
Participant Options							
T. Rowe Price							
Stable Value Fund	$ 359,981,983	$ 672,593	$ (1,696,538)	$ (1,960,187)	$ 356,997,851	-0.83%	0.19%
Small Cap Stock Fund	127,387,973	(5,416,928)	291,263	878,622	123,140,930	-3.33%	-4.23%
Alaska Balanced Trust	1,152,917,389	(10,592,939)	(3,483,597)	(977,527)	1,137,863,326	-1.31%	-0.92%
Long Term Balanced Fund	534,644,922	(7,581,264)	2,154,255	(3,930,634)	525,287,279	-1.75%	-1.42%
AK Target Date 2010 Trust	9,279,280	(100,912)	(85,248)	(107,578)	8,985,542	-3.17%	-1.10%
AK Target Date 2015 Trust	91,356,879	(1,184,367)	12,254	(437,216)	89,747,550	-1.76%	-1.30%
AK Target Date 2020 Trust	70,391,237	(1,049,132)	223,446	364,552	69,930,103	-0.66%	-1.48%
AK Target Date 2025 Trust	47,068,383	(786,053)	536,900	(179,492)	46,639,738	-0.91%	-1.66%
AK Target Date 2030 Trust	32,909,225	(603,642)	490,892	881,015	33,677,490	2.33%	-1.80%
AK Target Date 2035 Trust	30,255,176	(588,563)	534,913	423,878	30,625,404	1.22%	-1.91%
AK Target Date 2040 Trust	31,053,048	(636,465)	616,820	156,123	31,189,526	0.44%	-2.02%
AK Target Date 2045 Trust	32,958,798	(676,086)	748,628	2,144	33,033,484	0.23%	-2.03%
AK Target Date 2050 Trust	36,254,054	(742,492)	1,015,616	(2,703)	36,524,475	0.75%	-2.02%
AK Target Date 2055 Trust	27,532,157	(565,555)	817,038	(387,027)	27,396,613	-0.49%	-2.04%
AK Target Date 2060 Trust	737	489	-	(504)	722	-2.04%	100.82%
Total Investments with T. Rowe Price	2,583,991,241	(29,851,316)	2,176,642	(5,276,534)	2,551,040,033		
State Street Global Advisors							
State Street Treasury Money Market Fund - Inst.	37,741,642	449	(7,548)	562,440	38,296,983	1.47%	0.00%
S&P 500 Stock Index Fund Series A	340,349,698	(5,323,897)	427,067	1,166,104	336,618,972	-1.10%	-1.56%
Russell 3000 Index	68,536,356	(1,429,139)	187,629	3,567,724	70,862,570	3.39%	-2.03%
US Real Estate Investment Trust Index	38,058,149	866,329	123,076	1,985,714	41,033,268	7.82%	2.21%
World Equity Ex-US Index	31,007,796	(745,372)	183,781	(587,983)	29,858,222	-3.71%	-2.42%
Long US Treasury Bond Index	14,557,226	6,669	(53,336)	71,035	14,581,594	0.17%	0.05%
US Treasury Inflation Protected Securities Index	16,033,306	(132,789)	(113,621)	1,763,667	17,550,563	9.46%	-0.79%
World Government Bond Ex-US Index	8,915,221	128,201	25,701	(1,003,365)	8,065,758	-9.53%	1.52%
Global Balanced Fund	56,331,565	(678,714)	(143,517)	(1,691,681)	53,817,653	-4.46%	-1.22%
Total Investments with SSGA	611,530,959	(7,308,263)	629,232	5,833,655	610,685,583		
BlackRock							
Government/Credit Bond Fund	50,587,919	(209,073)	(153,041)	(3,364,644)	46,861,161	-7.37%	-0.43%
Intermediate Bond Fund	17,430,480	(42,052)	(198,825)	4,692,914	21,882,517	25.54%	-0.21%
Total Investments with Barclays Global Investors	68,018,399	(251,125)	(351,866)	1,328,270	68,743,678		
Brandes/Allianz (3)							
AK International Equity Fund	63,451,109	(1,621,863)	9,140	(1,396,771)	60,441,615	-4.74%	-2.58%
RCM							
Sustainable Core Opportunities Fund	41,522,238	(629,778)	(29,887)	(488,620)	40,373,953	-2.77%	-1.53%
Total All Funds	$ 3,368,513,946	$ (39,662,345)	$ 2,433,261	$ -	$ 3,331,284,862	-1.11%	-1.18%

Notes: Source data provided by the record keeper, Great West Life. (1) Represents net contributions in transit to/from the record keeper.
(2) Income divided by beginning assets plus half of net contributions/(withdrawals). Actual returns are calculated by Callan and Associates.
(3) This investment is comprised of two funds, Brandes International Equity Fund and Allianz NFJ International Fund
effective March 30, 2015.

Supplemental Annuity Plan
Schedule of Invested Assets with
Schedule of Investment Income and Changes in Invested Assets
By Month Through the Month Ended
December 31, 2015
$ (Thousands)

Invested Assets (at fair value)	July	August	September	October	November	December
Investments with T. Rowe Price						
Stable Value Fund	$ 346,173	$ 349,359	$ 353,495	$ 358,781	$ 359,982	$ 356,998
Small Cap Stock Fund	134,022	124,649	118,122	124,929	127,388	123,141
Alaska Balanced Trust	1,175,887	1,148,636	1,135,435	1,157,835	1,152,917	1,137,863
Long Term Balanced Fund	543,965	521,768	513,749	536,244	534,645	525,287
AK Target Date 2010 Trust	9,263	9,073	9,163	9,182	9,279	8,986
AK Target Date 2015 Trust	96,167	92,443	90,970	92,548	91,357	89,748
AK Target Date 2020 Trust	69,848	67,574	66,283	70,567	70,391	69,930
AK Target Date 2025 Trust	46,272	44,542	43,606	46,763	47,068	46,640
AK Target Date 2030 Trust	34,476	31,731	31,350	32,457	32,909	33,677
AK Target Date 2035 Trust	29,802	27,945	27,613	29,693	30,255	30,625
AK Target Date 2040 Trust	30,048	28,735	28,633	30,673	31,053	31,190
AK Target Date 2045 Trust	32,463	30,614	30,292	32,414	32,959	33,033
AK Target Date 2050 Trust	34,657	33,343	33,473	35,770	36,254	36,524
AK Target Date 2055 Trust	26,703	24,989	25,569	27,109	27,532	27,397
AK Target Date 2060 Trust	-	-	-	-	1	1
State Street Global Advisors						
State Street Treasury Money Market Fund - Inst.	38,582	39,465	39,088	38,296	37,742	38,297
S&P 500 Stock Index Fund Series A	346,334	324,294	316,038	339,138	340,350	336,619
Russell 3000 Index	66,039	61,815	60,645	65,986	68,536	70,863
US Real Estate Investment Trust Index	36,332	33,999	34,429	38,592	38,058	41,033
World Equity Ex-US Index	30,072	28,858	28,932	32,272	31,008	29,858
Long US Treasury Bond Index	13,012	16,355	15,263	15,291	14,557	14,582
US Treasury Inflation Protected Securities Index	14,943	14,809	14,871	14,898	16,033	17,551
World Government Bond Ex-US Index	10,659	10,877	10,754	10,066	8,915	8,066
Global Balanced Fund	59,906	56,837	55,119	57,365	56,332	53,818
Investments with BlackRock						
Government/Credit Bond Fund	53,260	53,143	53,599	53,271	50,588	46,861
Intermediate Bond Fund	12,158	12,343	12,939	13,610	17,430	21,883
Investments with Brandes/Allianz Institutional						
AK International Equity Fund	76,997	68,179	62,209	65,935	63,451	60,442
Investments with RCM						
Sustainable Core Opportunities Fund	41,359	37,985	37,652	41,233	41,522	40,374
Total Invested Assets	**$ 3,409,401**	**$ 3,294,359**	**$ 3,249,291**	**$ 3,370,916**	**$ 3,368,514**	**$ 3,331,285**
Change in Invested Assets						
Beginning Assets	$ 3,394,334	$ 3,409,401	$ 3,294,359	$ 3,249,291	$ 3,370,916	$ 3,368,514
Investment Earnings	26,325	(115,035)	(47,085)	127,585	(420)	(39,662)
Net Contributions (Withdrawals)	(11,258)	(7)	2,016	(5,960)	(1,982)	2,433
Ending Invested Assets	**$ 3,409,401**	**$ 3,294,359**	**$ 3,249,291**	**$ 3,370,916**	**$ 3,368,514**	**$ 3,331,285**

Source data provided by the record keeper, Great West Life.

Deferred Compensation Plan
Schedule of Invested Assets and Changes in Invested Assets
for the Month Ended
December 31, 2015

	Beginning Invested Assets	Investment Income	Net Contributions (Withdrawals)	Transfers In (Out)	Ending Invested Assets	% Change in Invested Assets	% Change due to Investment Income (1)
Participant Options							
T. Rowe Price							
Interest Income Fund	$ 179,926,683	$ 384,907	$ (787,163)	$ 1,022,107	$ 180,546,534	0.34%	0.21%
Small Cap Stock Fund	91,500,315	(3,865,600)	27,219	(448,858)	87,213,076	-4.69%	-4.23%
Alaska Balanced Trust	18,051,400	(167,944)	75,048	920,939	18,879,443	4.59%	-0.91%
Long Term Balanced Fund	51,047,055	(714,455)	73,918	(1,103,399)	49,303,119	-3.42%	-1.41%
AK Target Date 2010 Trust	3,116,128	(34,357)	10,761	(16,118)	3,076,414	-1.27%	-1.10%
AK Target Date 2015 Trust	10,286,980	(132,579)	27,688	26,654	10,208,743	-0.76%	-1.29%
AK Target Date 2020 Trust	16,451,513	(244,096)	135,050	91,220	16,433,687	-0.11%	-1.47%
AK Target Date 2025 Trust	9,093,932	(149,785)	129,649	57,577	9,131,373	0.41%	-1.63%
AK Target Date 2030 Trust	6,074,515	(106,541)	93,100	105,132	6,166,206	1.51%	-1.73%
AK Target Date 2035 Trust	3,709,911	(70,915)	76,677	(24,874)	3,690,799	-0.52%	-1.90%
AK Target Date 2040 Trust	3,927,302	(79,657)	61,271	68,939	3,977,855	1.29%	-2.00%
AK Target Date 2045 Trust	2,763,548	(55,399)	59,538	(21,768)	2,745,919	-0.64%	-1.99%
AK Target Date 2050 Trust	1,783,598	(35,657)	33,591	(5,501)	1,776,031	-0.42%	-1.98%
AK Target Date 2055 Trust	3,186,030	(57,194)	43,302	(208,158)	2,963,980	-6.97%	-1.84%
AK Target Date 2060 Trust	28,093	(558)	1,096	2,408	31,039	10.49%	-1.87%
Total Investments with T. Rowe Price	400,947,003	(5,329,830)	60,745	466,300	396,144,218		
State Street Global Advisors							
State Street Treasury Money Market Fund - Inst.	12,047,113	142	5,706	34,920	12,087,881	0.34%	0.00%
Russell 3000 Index	26,081,058	(540,341)	84,306	1,062,707	26,687,730	2.33%	-2.03%
US Real Estate Investment Trust Index	13,735,532	301,595	22,178	242,434	14,301,739	4.12%	2.17%
World Equity Ex-US Index	10,475,238	(246,185)	56,034	(334,944)	9,950,143	-5.01%	-2.38%
Long US Treasury Bond Index	4,586,281	(4,474)	20,058	129,446	4,731,311	3.16%	-0.10%
US Treasury Inflation Protected Securities Index	7,489,978	(61,430)	(17,459)	717,761	8,128,850	8.53%	-0.78%
World Government Bond Ex-US Index	3,621,744	52,424	(1,219)	(272,717)	3,400,232	-6.12%	1.50%
Global Balanced Fund	38,671,012	(464,711)	(133,755)	(375,512)	37,697,034	-2.52%	-1.21%
Total Investments with SSGA	116,707,956	(962,980)	35,849	1,204,095	116,984,920		
BlackRock							
S&P 500 Index Fund	183,513,681	(2,885,027)	2,789	(538,268)	180,093,175	-1.86%	-1.57%
Government/Credit Bond Fund	29,438,580	(125,661)	(16,994)	(1,118,314)	28,177,611	-4.28%	-0.44%
Intermediate Bond Fund	15,841,920	(33,576)	(42,259)	1,233,505	16,999,590	7.31%	-0.20%
Total Investments with Barclays Global Investors	228,794,181	(3,044,264)	(56,464)	(423,077)	225,270,376		
Brandes/Allianz (2)							
AK International Equity Fund	38,717,845	(991,930)	(123,741)	(688,391)	36,913,783	-4.66%	-2.59%
RCM							
Sustainable Core Opportunities Fund	17,741,291	(271,873)	13,811	(558,927)	16,924,302	-4.61%	-1.56%
Total All Funds	$ 802,908,276	$ (10,600,877)	$ (69,800)	$ -	$ 792,237,599	-1.33%	-1.32%

Notes: Source data provided by the record keeper, Great West Life.
(1) Income divided by beginning assets plus half of net contributions/(withdrawals). Actual returns are calculated by Callan and Associates.
(2) This investment is comprised of two funds, 50% Brandes International equity Fund and 50% Allianz NFJ International Fund effective March 30, 2015.

Deferred Compensation Plan
Schedule of Invested Assets with
Schedule of Investment Income and Changes in Invested Assets
By Month Through the Month Ended
December 31, 2015
$ (Thousands)

Invested Assets (at fair value)	**July**	**August**	**September**	**October**	**November**	**December**
Investments with T. Rowe Price						
Interest Income Fund						
Cash and cash equivalents	$ 9,454	$ 7,141	$ 7,495	$ 7,607	$ 6,820	$ 6,877
Synthetic Investment Contracts	170,674	171,907	172,294	172,712	173,106	173,670
Small Cap Stock Fund	95,872	89,472	85,029	89,696	91,500	87,213
Alaska Balanced Trust	16,896	17,514	17,525	17,781	18,051	18,879
Long Term Balanced Fund	51,174	49,279	48,483	51,599	51,047	49,303
AK Target Date 2010 Trust	3,137	3,055	3,156	3,017	3,116	3,076
AK Target Date 2015 Trust	11,155	10,564	10,372	10,206	10,287	10,209
AK Target Date 2020 Trust	16,856	16,146	15,477	16,371	16,452	16,434
AK Target Date 2025 Trust	8,868	8,443	8,321	8,936	9,094	9,131
AK Target Date 2030 Trust	6,016	6,035	5,712	5,882	6,075	6,166
AK Target Date 2035 Trust	3,684	3,483	3,456	3,711	3,710	3,691
AK Target Date 2040 Trust	3,954	3,729	3,537	3,814	3,927	3,978
AK Target Date 2045 Trust	2,593	2,428	2,459	2,650	2,764	2,746
AK Target Date 2050 Trust	1,787	1,602	1,595	1,719	1,784	1,776
AK Target Date 2055 Trust	3,089	2,637	2,938	2,742	3,186	2,964
AK Target Date 2060 Trust	-	-	-	-	28	31
State Street Global Advisors						
State Street Treasury Money Market Fund - Inst.	12,621	12,541	11,627	12,012	12,047	12,088
Russell 3000 Index	24,500	23,382	23,103	25,385	26,081	26,688
US Real Estate Investment Trust Index	12,682	12,099	12,273	13,387	13,736	14,302
World Equity Ex-US Index	10,720	10,172	10,062	11,104	10,475	9,950
Long US Treasury Bond Index	4,426	4,997	4,958	4,806	4,586	4,731
US Treasury Inflation Protected Securities Index	7,286	7,210	7,149	7,090	7,490	8,129
World Government Bond Ex-US Index	3,813	3,887	4,271	3,751	3,622	3,400
Global Balanced Fund	40,816	39,218	37,958	39,392	38,671	37,697
Investments with BlackRock						
S&P 500 Index Fund	183,818	172,869	168,239	181,818	183,514	180,093
Government/Credit Bond Fund	30,447	30,169	30,318	29,953	29,439	28,178
Intermediate Bond Fund	14,747	14,658	15,195	14,786	15,842	17,000
Investments with Brandes/Allianz						
AK International Equity Fund	44,643	40,645	37,578	39,902	38,718	36,914
Investments with RCM						
Sustainable Opportunities Fund	17,575	16,336	16,263	17,607	17,741	16,924
Total Invested Assets	**$ 813,302**	**$ 781,618**	**$ 766,840**	**$ 799,437**	**$ 802,908**	**$ 792,238**
Change in Invested Assets						
Beginning Assets	$ 806,279	$ 813,302	$ 781,618	$ 766,840	$ 799,437	$ 802,908
Investment Earnings	6,564	(30,580)	(14,275)	34,927	1,708	(10,601)
Net Contributions (Withdrawals)	460	(1,105)	(502)	(2,331)	1,764	(70)
Ending Invested Assets	**$ 813,302**	**$ 781,618**	**$ 766,840**	**$ 799,437**	**$ 802,908**	**$ 792,238**

Source data provided by the record keeper, Great West Life.

Defined Contribution Retirement - Participant Directed PERS
Schedule of Investment Income and Changes in Invested Assets
for the Month Ended
December 31, 2015

Participant Options	Beginning Invested Assets	Investment Income	Net Contributions (Withdrawals)	Transfers In (Out)	Ending Invested Assets	% Change in Invested Assets	% Change due to Investment Income (2)
T. Rowe Price							
Alaska Money Market	$ 5,983,086	$ 741	$ (15,730)	$ 729,888	$ 6,697,985	11.95%	0.01%
Small Cap Stock Fund	52,413,288	(2,226,420)	433,395	533,021	51,153,284	-2.40%	-4.21%
Alaska Balanced Trust	8,248,665	(80,735)	13,876	2,158,273	10,340,079	25.35%	-0.86%
Long Term Balanced Fund	20,062,625	(277,387)	99,975	(3,929,030)	15,956,183	-20.47%	-1.53%
AK Target Date 2010 Trust	1,841,672	(20,540)	35,730	-	1,856,862	0.82%	-1.10%
AK Target Date 2015 Trust	8,426,672	(110,194)	168,762	12,595	8,497,835	0.84%	-1.29%
AK Target Date 2020 Trust	18,485,666	(277,059)	503,637	(27,067)	18,685,177	1.08%	-1.48%
AK Target Date 2025 Trust	27,094,333	(451,841)	676,101	(2,252)	27,316,341	0.82%	-1.65%
AK Target Date 2030 Trust	28,146,324	(509,684)	761,716	6,619	28,404,975	0.92%	-1.79%
AK Target Date 2035 Trust	32,400,385	(629,126)	902,303	(75,539)	32,598,023	0.61%	-1.92%
AK Target Date 2040 Trust	39,383,181	(802,390)	885,404	(52,760)	39,413,435	0.08%	-2.02%
AK Target Date 2045 Trust	48,539,553	(988,650)	1,324,719	(146,298)	48,729,324	0.39%	-2.01%
AK Target Date 2050 Trust	56,794,300	(1,156,149)	1,497,864	(25,519)	57,110,496	0.56%	-2.01%
AK Target Date 2055 Trust	34,177,715	(699,672)	1,311,703	9,589	34,799,335	1.82%	-2.01%
AK Target Date 2060 Trust	-	-	19	-	19	100.00%	0.00%
Total Investments with T. Rowe Price	381,997,465	(8,229,106)	8,599,474	(808,480)	381,559,353		
State Street Global Advisors							
Money Market	2,387,129	27	28,045	14,080	2,429,281	1.77%	0.00%
S&P 500 Stock Index Fund Series A	33,395,033	(531,858)	329,927	1,540,857	34,733,959	4.01%	-1.55%
Russell 3000 Index	43,463,876	(897,519)	408,200	1,651,821	44,626,378	2.67%	-2.02%
US Real Estate Investment Trust Index	10,933,653	259,171	106,760	1,227,784	12,527,368	14.58%	2.23%
World Equity Ex-US Index	38,175,760	(917,682)	344,727	(72,444)	37,530,361	-1.69%	-2.40%
Long US Treasury Bond Index	836,057	(99)	17,580	43,052	896,590	7.24%	-0.01%
US Treasury Inflation Protected Securities Index	4,913,108	(40,744)	23,207	1,263,721	6,159,292	25.36%	-0.73%
World Government Bond Ex-US Index	5,967,662	88,012	17,319	(804,739)	5,268,254	-11.72%	1.58%
Global Balanced Fund	15,928,220	(188,667)	92,861	(3,729,378)	12,103,036	-24.02%	-1.34%
Total Investments with SSGA	156,000,498	(2,229,359)	1,368,626	1,134,754	156,274,519		
BlackRock							
Government/Credit Bond Fund	35,039,777	(145,491)	130,470	(2,437,983)	32,586,773	-7.00%	-0.43%
Intermediate Bond Fund	2,381,094	(7,670)	28,725	2,124,902	4,527,051	90.12%	-0.22%
Total Investments with Barclays Global Investors	37,420,871	(153,161)	159,195	(313,081)	37,113,824		
Brandes/Allianz (3)							
AK International Equity Fund	27,164,441	(702,828)	251,762	30,418	26,743,793	-1.55%	-2.57%
RCM							
Sustainable Core Opportunities Fund	2,941,143	(44,862)	35,044	(43,611)	2,887,714	-1.82%	-1.53%
Total All Funds	$ 605,524,418	$ (11,359,316)	$ 10,414,101	$ -	$ 604,579,203	-0.16%	-1.86%

Notes:Source data provided by the record keeper, Great West Life. (1) Represents net contributions in transit to/from the record keeper.
(2) Income divided by beginning assets plus half of net contributions/(withdrawals). Actual returns are calculated by Callan and Associates.
(3) This investment is comprised of two funds, 50% Brandes International Equity Fund and 50% Allianz NFJ International Fund effective March 30, 2015.

Defined Contribution Retirement - Participant Directed PERS
Schedule of Invested Assets with
Schedule of Investment Income and Changes in Invested Assets
By Month Through the Month Ended
December 31, 2015
$ (Thousands)

Invested Assets (at fair value)	**July**	**August**	**September**	**October**	**November**	**December**
Investments with T. Rowe Price						
Alaska Money Market	$ 5,125	$ 5,333	$ 5,576	$ 5,716	$ 5,983	$ 6,698
Small Cap Stock Fund	51,481	48,845	46,819	50,381	52,413	51,153
Alaska Balanced Trust	4,701	5,597	6,316	7,005	8,249	10,340
Long Term Balanced Fund	22,448	21,960	21,382	22,409	20,063	15,956
AK Target Date 2010 Trust	1,876	1,843	1,794	1,886	1,842	1,857
AK Target Date 2015 Trust	8,400	8,148	8,052	8,349	8,427	8,498
AK Target Date 2020 Trust	17,681	17,143	17,023	18,164	18,486	18,685
AK Target Date 2025 Trust	25,673	24,995	24,955	26,700	27,094	27,316
AK Target Date 2030 Trust	26,831	26,015	25,788	27,738	28,146	28,405
AK Target Date 2035 Trust	30,667	29,618	29,414	31,666	32,400	32,598
AK Target Date 2040 Trust	37,548	36,001	35,630	38,665	39,383	39,413
AK Target Date 2045 Trust	46,210	44,386	43,873	47,619	48,540	48,729
AK Target Date 2050 Trust	53,982	52,187	51,687	55,732	56,794	57,110
AK Target Date 2055 Trust	30,995	30,295	30,360	33,199	34,178	34,799
AK Target Date 2060 Trust						0
State Street Global Advisors						
Money Market	1,757	1,986	2,310	2,287	2,387	2,429
S&P 500 Stock Index Fund Series A	36,123	32,482	30,367	32,066	33,395	34,734
Russell 3000 Index	37,400	36,807	37,866	42,071	43,464	44,626
US Real Estate Investment Trust Index	9,872	9,347	9,608	10,195	10,934	12,527
World Equity Ex-US Index	30,991	31,994	34,048	38,477	38,176	37,530
Long US Treasury Bond Index	753	821	750	868	836	897
US Treasury Inflation Protected Securities Index	4,131	4,171	4,117	4,102	4,913	6,159
World Government Bond Ex-US Index	7,856	7,433	6,893	6,678	5,968	5,268
Global Balanced Fund	21,814	19,800	18,011	18,184	15,928	12,103
Investments with BlackRock						
Government/Credit Bond Fund	37,763	37,388	36,886	36,728	35,040	32,587
Intermediate Bond Fund	626	885	1,025	1,079	2,381	4,527
Investments with Brandes/Allianz						
International Equity Fund	34,231	29,679	26,160	27,340	27,164	26,744
Investments with RCM						
Sustainable Opportunities Fund	2,885	2,766	2,662	2,887	2,941	2,888
Total Invested Assets	**$ 589,820**	**$ 567,923**	**$ 559,374**	**$ 598,190**	**$ 605,524**	**$ 604,579**
Change in Invested Assets						
Beginning Assets	$ 582,369	$ 589,820	$ 567,923	$ 559,374	$ 598,190	$ 605,524
Investment Earnings	4,591	(30,149)	(14,791)	32,874	(334)	(11,359)
Net Contributions (Withdrawals)	2,860	8,252	6,242	5,942	7,668	10,414
Ending Invested Assets	**$ 589,820**	**$ 567,923**	**$ 559,374**	**$ 598,190**	**$ 605,524**	**$ 604,579**

Source data provided by the record keeper, Great West Life.

Defined Contribution Retirement - Participant Directed TRS
Schedule of Investment Income and Changes in Invested Assets
for the Month Ended
December 31, 2015

Participant Options	Beginning Invested Assets	Investment Income	Net Contributions (Withdrawals)	Transfers In (Out)	Ending Invested Assets	% Change in Invested Assets	% Change due to Investment Income (2)
T. Rowe Price							
Alaska Money Market	$ 1,865,254	$ 236	$ (18,710)	$ 297,527	$ 2,144,307	14.96%	0.01%
Small Cap Stock Fund	21,539,146	(914,737)	89,586	473,678	21,187,673	-1.63%	-4.19%
Alaska Balanced Trust	4,011,899	(39,016)	20,976	1,016,198	5,010,057	24.88%	-0.86%
Long Term Balanced Fund	10,633,072	(145,591)	31,265	(2,422,471)	8,096,275	-23.86%	-1.54%
AK Target Date 2010 Trust	332,927	(3,618)	1,218	(5,117)	325,410	-2.26%	-1.09%
AK Target Date 2015 Trust	2,361,813	(30,233)	(50,348)	(4,266)	2,276,966	-3.59%	-1.30%
AK Target Date 2020 Trust	5,684,123	(84,469)	100,032	15	5,699,701	0.27%	-1.47%
AK Target Date 2025 Trust	8,672,316	(143,703)	194,319	(388)	8,722,544	0.58%	-1.64%
AK Target Date 2030 Trust	9,280,943	(166,955)	234,685	-	9,348,673	0.73%	-1.78%
AK Target Date 2035 Trust	14,208,591	(271,943)	301,591	(130,061)	14,108,178	-0.71%	-1.90%
AK Target Date 2040 Trust	15,139,458	(305,002)	281,951	-	15,116,407	-0.15%	-2.00%
AK Target Date 2045 Trust	24,834,415	(499,686)	391,166	(10,711)	24,715,184	-0.48%	-2.00%
AK Target Date 2050 Trust	34,138,044	(688,972)	629,763	13,889	34,092,724	-0.13%	-2.00%
AK Target Date 2055 Trust	9,381,041	(188,262)	387,449	(18,996)	9,561,232	1.92%	-1.97%
AK Target Date 2060 Trust	-	(22)	-	3,423	3,401	100.00%	-1.29%
Total Investments with T. Rowe Price	162,083,042	(3,481,973)	2,594,943	(787,280)	160,408,732		
State Street Global Advisors							
Money Market	303,770	3	3,688	(51,406)	256,055	-15.71%	0.00%
S&P 500 Stock Index Fund Series A	12,003,910	(191,322)	92,910	1,080,669	12,986,167	8.18%	-1.52%
Russell 3000 Index	17,509,514	(361,559)	69,557	1,061,037	18,278,549	4.39%	-2.00%
US Real Estate Investment Trust Index	4,205,531	99,543	22,669	510,985	4,838,728	15.06%	2.23%
World Equity Ex-US Index	15,438,226	(370,437)	64,281	322,027	15,454,097	0.10%	-2.37%
Long US Treasury Bond Index	187,119	(152)	2,009	8,250	197,226	5.40%	-0.08%
US Treasury Inflation Protected Securities Index	1,945,333	(16,089)	10,497	502,200	2,441,941	25.53%	-0.73%
World Government Bond Ex-US Index	2,737,350	40,203	7,906	(368,802)	2,416,657	-11.72%	1.57%
Global Balanced Fund	8,360,321	(97,901)	29,886	(2,154,218)	6,138,088	-26.58%	-1.34%
Total Investments with SSGA	62,691,074	(897,711)	303,403	910,742	63,007,508		
BlackRock							
Government/Credit Bond Fund	16,478,908	(68,036)	53,492	(1,312,095)	15,152,269	-8.05%	-0.43%
Intermediate Bond Fund	730,569	(2,695)	6,199	882,407	1,616,480	121.26%	-0.23%
Total Investments with Barclays Global Investors	17,209,477	(70,731)	59,691	(429,688)	16,768,749		
Brandes/Allianz Institutional (3)							
AK International Equity Fund	10,564,056	(271,223)	2,131	293,395	10,588,359	0.23%	-2.53%
RCM							
Sustainable Core Opportunities Fund	1,158,343	(17,590)	7,270	12,831	1,160,854	0.22%	-1.51%
Total All Funds	$ 253,705,992	$ (4,739,228)	$ 2,967,438	$ -	$ 251,934,202	-0.70%	-1.86%

Notes: Source data provided by the record keeper, Great West Life. (1) Represents net contributions in transit to/from the record keeper.
(2) Income divided by beginning assets plus half of net contributions/(withdrawals). Actual returns are calculated by Callan and Associates.
(3) This investment option is comprised of two funds, 50% Brandes International equity Fund and 50% Allianz NFJ International Fund effective March 30, 2015.

Defined Contribution Retirement - Participant Directed TRS
Schedule of Invested Assets with
Schedule of Investment Income and Changes in Invested Assets
By Month Through the Month Ended
December 31, 2015
$ (Thousands)

Invested Assets (at fair value)	July	August	September	October	November	December
Investments with T. Rowe Price						
Alaska Money Market	$ 1,691	$ 1,690	$ 1,656	$ 1,681	$ 1,865	$ 2,144
Small Cap Stock Fund	21,277	19,928	19,044	20,572	21,539	21,188
Alaska Balanced Trust	2,159	2,764	3,252	3,608	4,012	5,010
Long Term Balanced Fund	11,012	11,042	11,135	11,922	10,633	8,096
AK Target Date 2010 Trust	388	303	300	325	333	325
AK Target Date 2015 Trust	2,316	2,207	2,174	2,316	2,362	2,277
AK Target Date 2020 Trust	5,500	5,252	5,209	5,575	5,684	5,700
AK Target Date 2025 Trust	8,424	7,978	7,890	8,471	8,672	8,723
AK Target Date 2030 Trust	8,968	8,487	8,300	9,049	9,281	9,349
AK Target Date 2035 Trust	13,706	12,986	12,794	13,923	14,209	14,108
AK Target Date 2040 Trust	14,850	13,918	13,643	14,874	15,139	15,116
AK Target Date 2045 Trust	24,442	23,028	22,553	24,510	24,834	24,715
AK Target Date 2050 Trust	33,920	31,700	30,932	33,567	34,138	34,093
AK Target Date 2055 Trust	8,737	8,207	8,063	8,975	9,381	9,561
AK Target Date 2060 Trust						3
State Street Global Advisors						
Money Market	233	300	241	251	304	256
S&P 500 Stock Index Fund Series A	12,971	11,501	10,569	11,181	12,004	12,986
Russell 3000 Index	15,454	14,924	15,180	16,786	17,510	18,279
US Real Estate Investment Trust Index	3,950	3,661	3,817	3,983	4,206	4,839
World Equity Ex-US Index	11,754	12,277	13,320	15,317	15,438	15,454
Long US Treasury Bond Index	182	191	194	200	187	197
US Treasury Inflation Protected Securities Index	1,678	1,641	1,614	1,615	1,945	2,442
World Government Bond Ex-US Index	3,798	3,573	3,281	3,110	2,737	2,417
Global Balanced Fund	10,909	9,998	9,252	9,472	8,360	6,138
Investments with BlackRock						
Government/Credit Bond Fund	18,405	17,999	17,671	17,372	16,479	15,152
Intermediate Bond Fund	119	170	212	175	731	1,616
Investments with Brandes/Allianz						
AK International Equity Fund	14,223	11,976	10,240	10,540	10,564	10,588
Investments with RCM						
Sustainable Opportunities Fund	1,131	1,036	1,022	1,139	1,158	1,161
Total Invested Assets	**$ 252,196**	**$ 238,736**	**$ 233,558**	**$ 250,509**	**$ 253,706**	**$ 251,934**

Change in Invested Assets	July	August	September	October	November	December
Beginning Assets	$ 250,086	$ 252,196	$ 238,736	$ 233,558	$ 250,509	$ 253,706
Investment Earnings	1,987	(12,676)	(6,144)	13,643	(144)	(4,739)
Net Contributions (Withdrawals)	123	(785)	966	3,308	3,342	2,967
Ending Invested Assets	**$ 252,196**	**$ 238,736**	**$ 233,558**	**$ 250,509**	**$ 253,706**	**$ 251,934**

Source data provided by the record keeper, Great West Life.

ALASKA RETIREMENT MANAGEMENT BOARD

FINANCIAL REPORT
(Supplement to the Treasury Division Report)

As of December 31, 2015

Prepared by the Division of Retirement & Benefits

ALASKA RETIREMENT MANAGEMENT BOARD
SCHEDULE OF NON-INVESTMENT CHANGES BY FUND
(Supplement to the Treasury Division Report)
For the Six Months Ending December 31, 2015

	Contributions				**Expenditures**				**Net**
	Contributions EE and ER	State of Alaska	Other	Total Contributions	Benefits	Refunds & Disbursements	Administrative & Investment	Total Expenditures	**Contributions/ (Withdrawals)**
Public Employees' Retirement System (PERS)									
Defined Benefit Plans:									
Retirement Trust	$ 159,841,201	$ 88,586,485	$ 9,643	$ 248,437,329	$ (363,954,373)	$ (4,739,061)	$ 1,889,257	$ (366,804,177)	$ (118,366,848)
Retirement Health Care Trust	78,059,720	37,934,279	15,154,059	131,148,058	(198,394,289)	-	(20,555,805)	(218,950,094)	(87,802,036)
Total Defined Benefit Plans	237,900,921	126,520,764	15,163,702	379,585,387	(562,348,662)	(4,739,061)	(18,666,548)	(585,754,271)	(206,168,884)
Defined Contribution Plans:									
Participant Directed Retirement	59,501,996	-	11	59,502,007	-	(16,868,547)	(1,254,737)	(18,123,284)	41,378,723
Health Reimbursement Arrangement [a]	15,718,962	-	-	15,718,962	-	-	(39,393)	(39,393)	15,679,569
Retiree Medical Plan [a]	7,738,039	-	-	7,738,039	-	-	(17,742)	(17,742)	7,720,297
Occupational Death and Disability: [a]									
Public Employees	889,739	-	-	889,739	(64,302)	-	(13,574)	(77,876)	811,863
Police and Firefighters	591,548	-	-	591,548	(107,656)	-	(15,981)	(123,637)	467,911
Total Defined Contribution Plans	84,440,284	-	11	84,440,295	(171,958)	(16,868,547)	(1,341,427)	(18,381,932)	66,058,363
Total PERS	**322,341,205**	**126,520,764**	**15,163,713**	**464,025,682**	**(562,520,620)**	**(21,607,608)**	**(20,007,975)**	**(604,136,203)**	**(140,110,521)**
Teachers' Retirement System (TRS)									
Defined Benefit Plans:									
Retirement Trust	28,958,547	90,589,614	2,693	119,550,854	(218,165,726)	(1,265,417)	(4,124,532)	(223,555,675)	(104,004,821)
Retirement Health Care Trust	10,661,336	39,518,713	4,830,551	55,010,600	(60,464,785)	-	(7,948,703)	(68,413,488)	(13,402,888)
Total Defined Benefit Plans	39,619,883	130,108,327	4,833,244	174,561,454	(278,630,511)	(1,265,417)	(12,073,235)	(291,969,163)	(117,407,709)
Defined Contribution Plans:									
Participant Directed Retirement	16,069,355	-	131	16,069,486	-	(5,668,217)	(480,062)	(6,148,279)	9,921,207
Health Reimbursement Arrangement [a]	3,306,225	-	-	3,306,225	-	-	(12,762)	(12,762)	3,293,463
Retiree Medical Plan [a]	2,205,637	-	-	2,205,637	-	-	(14,409)	(14,409)	2,191,228
Occupational Death and Disability [a]	-	-	-	-	-	-	(17,665)	(17,665)	(17,665)
Total Defined Contribution Plans	21,581,217	-	131	21,581,348	-	(5,668,217)	(524,898)	(6,193,115)	15,388,233
Total TRS	**61,201,100**	**130,108,327**	**4,833,375**	**196,142,802**	**(278,630,511)**	**(6,933,634)**	**(12,598,133)**	**(298,162,278)**	**(102,019,476)**
Judicial Retirement System (JRS)									
Defined Benefit Plan Retirement Trust	2,813,858	5,890,788	-	8,704,646	(5,611,536)	-	(157,824)	(5,769,360)	2,935,286
Defined Benefit Retirement Health Care Trust	1,001,260	-	49,357	1,050,617	(1,070,860)	-	(105,866)	(1,176,726)	(126,109)
Total JRS	**3,815,118**	**5,890,788**	**49,357**	**9,755,263**	**(6,682,396)**	**-**	**(263,690)**	**(6,946,086)**	**2,809,177**
National Guard/Naval Militia Retirement System (NGNMRS)									
Defined Benefit Plan Retirement Trust [a]	734,500	-	-	734,500	(939,458)	-	(167,302)	(1,106,760)	(372,260)
Other Participant Directed Plans									
Supplemental Annuity Plan	82,725,409	-	200,499	82,925,908	(1,468,410)	(94,572,310)	(1,641,775)	(97,682,495)	(14,756,587)
Deferred Compensation Plan	21,136,293	-	77,158	21,213,451	-	(22,491,622)	(506,256)	(22,997,878)	(1,784,427)
Total All Funds	**491,953,625**	**262,519,879**	**20,324,102**	**774,797,606**	**(850,241,395)**	**(145,605,174)**	**(35,185,131)**	**(1,031,031,700)**	**(256,234,094)**
Total Non-Participant Directed	312,520,572	262,519,879	20,046,303	595,086,754	(848,772,985)	(6,004,478)	(31,302,301)	(886,079,764)	(290,993,010)
Total Participant Directed	179,433,053	-	277,799	179,710,852	(1,468,410)	(139,600,696)	(3,882,830)	(144,951,936)	34,758,916
Total All Funds	**$ 491,953,625**	**$ 262,519,879**	**$ 20,324,102**	**$ 774,797,606**	**$ (850,241,395)**	**$ (145,605,174)**	**$ (35,185,131)**	**$ (1,031,031,700)**	**$ (256,234,094)**

(a) Employer only contributions.

ALASKA RETIREMENT MANAGEMENT BOARD
SCHEDULE OF NON-INVESTMENT CHANGES BY FUND
(Supplement to the Treasury Division Report)
For the Month Ended December 31, 2015

	Contributions				Expenditures				Net
	Contributions EE and ER	State of Alaska	Other	Total Contributions	Benefits	Refunds & Disbursements	Administrative & Investment	Total Expenditures	Contributions/ (Withdrawals)
Public Employees' Retirement System (PERS)									
Defined Benefit Plans:									
Retirement Trust	$ 34,344,797	$ -	$ 3,198	$ 34,347,995	$ (60,955,551)	$ (555,401)	$ (4,408,682)	$ (65,919,634)	$ (31,571,639)
Retirement Health Care Trust	17,583,579	-	8,185,508	25,769,087	(33,908,423)	-	(4,865,307)	(38,773,730)	(13,004,643)
Total Defined Benefit Plans	51,928,376	-	8,188,706	60,117,082	(94,863,974)	(555,401)	(9,273,989)	(104,693,364)	(44,576,282)
Defined Contribution Plans:									
Participant Directed Retirement	13,022,492	-	-	13,022,492	-	(2,258,138)	(350,253)	(2,608,391)	10,414,101
Health Reimbursement Arrangement (a)	3,475,648	-	-	3,475,648	-	-	(2,809)	(2,809)	3,472,839
Retiree Medical Plan (a)	1,681,071	-	-	1,681,071	-	-	(8,680)	(8,680)	1,672,391
Occupational Death and Disability: (a)									
Public Employees	197,308	-	-	197,308	(9,372)	-	(5,189)	(14,561)	182,747
Police and Firefighters	112,653	-	-	112,653	(17,942)	-	(5,289)	(23,231)	89,422
Total Defined Contribution Plans	18,489,172	-	-	18,489,172	(27,314)	(2,258,138)	(372,220)	(2,657,672)	15,831,500
Total PERS	**70,417,548**	**-**	**8,188,706**	**78,606,254**	**(94,891,288)**	**(2,813,539)**	**(9,646,209)**	**(107,351,036)**	**(28,744,782)**
Teachers' Retirement System (TRS)									
Defined Benefit Plans:									
Retirement Trust	6,715,053	-	-	6,715,053	(36,183,545)	(49,694)	(2,552,723)	(38,785,962)	(32,070,909)
Retirement Health Care Trust	2,848,061	-	2,605,587	5,453,648	(10,245,290)	-	(1,843,819)	(12,089,109)	(6,635,461)
Total Defined Benefit Plans	9,563,114	-	2,605,587	12,168,701	(46,428,835)	(49,694)	(4,396,542)	(50,875,071)	(38,706,370)
Defined Contribution Plans:									
Participant Directed Retirement	4,052,054	-	-	4,052,054	-	(938,434)	(146,182)	(1,084,616)	2,967,438
Health Reimbursement Arrangement (a)	841,329	-	-	841,329	-	-	(697)	(697)	840,632
Retiree Medical Plan (a)	551,220	-	-	551,220	-	-	(9,297)	(9,297)	541,923
Occupational Death and Disability (a)	-	-	-	-	-	-	(5,874)	(5,874)	(5,874)
Total Defined Contribution Plans	5,444,603	-	-	5,444,603	-	(938,434)	(162,050)	(1,100,484)	4,344,119
Total TRS	**15,007,717**	**-**	**2,605,587**	**17,613,304**	**(46,428,835)**	**(988,128)**	**(4,558,592)**	**(51,975,555)**	**(34,362,251)**
Judicial Retirement System (JRS)									
Defined Benefit Plan Retirement Trust	313,552	-	-	313,552	(943,075)	-	(82,682)	(1,025,757)	(712,205)
Defined Benefit Retirement Health Care Trust	282,079	-	26,947	309,026	(294,891)	-	(19,369)	(314,260)	(5,234)
Total JRS	**595,631**	**-**	**26,947**	**622,578**	**(1,237,966)**	**-**	**(102,051)**	**(1,340,017)**	**(717,439)**
National Guard/Naval Militia Retirement System (NGNMRS)									
Defined Benefit Plan Retirement Trust (a)	-	-	-	-	(223,279)	-	(47,617)	(270,896)	(270,896)
Other Participant Directed Plans									
Supplemental Annuity Plan	18,159,438	-	-	18,159,438	(501,509)	(15,012,312)	(212,356)	(15,726,177)	2,433,261
Deferred Compensation Plan	3,455,300	-	-	3,455,300	-	(3,462,398)	(62,702)	(3,525,100)	(69,800)
Total All Funds	**107,635,634**	**-**	**10,821,240**	**118,456,874**	**(143,282,877)**	**(22,276,377)**	**-**	**(180,188,781)**	**(61,731,907)**
Total Non-Participant Directed	68,946,350	-	10,821,240	79,767,590	(142,781,368)	(605,095)	(13,858,034)	(157,244,497)	(77,476,907)
Total Participant Directed	38,689,284	-	-	38,689,284	(501,509)	(21,671,282)	(771,493)	(22,944,284)	15,745,000
Total All Funds	**$ 107,635,634**	**$ -**	**$ 10,821,240**	**$ 118,456,874**	**$ (143,282,877)**	**$ (22,276,377)**	**$ (14,629,527)**	**$ (180,188,781)**	**$ (61,731,907)**

(a) Employer only contributions.

Notes for the DRB Supplement to the Treasury Report
December 2015

This report is the DRB supplement to the Financial Report presented by the Treasury Division, and expands their "Net Contributions (Withdrawals)" column into contributions and expenditures. It shows contributions received from both employers and employees, contributions from the State of Alaska, and other non-investment income. It also breaks out expenditures into benefits, refunds & disbursements, and administrative & investment expenditures. The net amount of total contributions and total expenditures, presented as "Net Contributions (Withdrawals)", agrees with the same column in the Treasury Division Report. Page one shows the year-to-date totals for the first six months of Fiscal Year 2016, while page two shows only the month of December 2015. Page three shows participant directed disbursements by plan and by type for the first six months of Fiscal Year 2016.

Highlights – On page one, for the **six months** ending December 31, 2015:

- PERS DB Pension – Averaging employer and employee contributions of $26.6 million per month; benefit payments of approximately $60.7 million per month; refunds average $790 thousand with HIGH of $1.4 million in July 2015 and LOW of $429 thousand in October 2015. During the month of August, Treasury made FY15 true-up adjustments to investment expenditures, which decreased by $12.7 million.

- PERS DB Healthcare – Averaging employer contributions of $13.0 million per month; other income from Rx rebates and similar of $15.2 million; benefit payments of approximately $33.1 million per month; and average Administrative and Investment expenditures of $3.4 million per month (DOR and DRB). During month of August, Treasury made FY15 true-up adjustments to investment expenditures, which increased by $11.3 million.

- PERS DC Pension – Averaging employer and employee contributions of $9.9 million per month; participant disbursements average $2.8 million per month; and average Administrative and Investment expenditures of $209 thousand per month (DOR and DRB).

- PERS DC Health – For HRA, RMP, and OD&D, only employer contributions on behalf of participating employees; currently eleven (11) benefits are being paid from the Occupational Death & Disability plans; 5 are for Public Employees and 6 are for Police and Firefighters.

- TRS DB - Averaging employer and employee contributions of $4.8 million per month; benefit payments of approximately $36.4 million per month; refunds average $211 thousand with HIGH of $431 thousand in September 2015 and LOW of $50 thousand in December 2015; and average Administrative and Investment expenditures of $687 thousand per month (DOR and DRB).

- TRS DB Healthcare – Averaging employer contributions of $1.8 million per month; other income from Rx rebates and similar of $4.8 million; benefit payments of approximately $10.0 million per month; and average Administrative and Investment expenditures of $1.3 million per month (DOR and DRB).

- TRS DC Pension – Averaging employer and employee contributions of $2.7 million per month; participant disbursements average $945 thousand per month; and average Administrative and investment expenditures of $80 thousand per month (DOR and DRB).

- TRS DC Health – For HRA, RMP, and OD&D, only employer contributions on behalf of participating employees; currently no benefits paid from any category; and minor Administrative and Investment expenditures for each category (DOR and DRB).

- JRS Pension – Averaging employer and employee contributions of $469 thousand per month; benefit payments of approximately $935 thousand per month; and average Administrative and Investment expenditures of $26 thousand per month (DOR and DRB).

- JRS Healthcare – Averaging employer contributions of $167 thousand per month; other income from Rx rebates and similar of $49 thousand; benefit payments of approximately $178 thousand per month; average Administrative and Investment expenditures of $18 thousand per month (DOR and DRB).

- NGNMRS – Annual contribution from DMVA in the amount of $734,500 was received in November; combination of lump-sum and monthly benefit payments of $157 thousand per month with a HIGH of $223 thousand in December 2015 and LOW of $100 thousand in September 2015; and average Administrative and Investment expenditures of $28 thousand per month (DOR and DRB).

- SBS – Average employer and employee contributions and transfers in of $13.8 million per month; benefit payments associated with providing cafeteria plan are approximately $245 thousand per month. Participant disbursements average of $15.8 million per month with HIGH of $19.4 million in July 2015 and LOW of $13.6 million in October 2015; average Administrative and Investment expenditures of $274 thousand per month (DOR and DRB).

- Deferred Compensation – Average member-only contributions and transfers in of $3.5 million per month; participant disbursements average of $3.7 million per month; average Administrative and Investment expenditures of $84 thousand per month (DOR and DRB).

Highlights – On page two, activity for the **one month** ending December 31, 2016 only:

- PERS DB Pension – nothing significant to report
- PERS DB Healthcare – received Medicare retiree drug subsidies of $3.3 million and Aetna pharmacy rebates of $4.9 million
- PERS DC Pension – the highest contributions were reported in the month of December
- PERS DC Health – nothing significant to report
- TRS DB Pension – nothing significant to report
- TRS DB Healthcare – received Medicare retiree drug subsidies of $1.0 million and Aetna pharmacy rebates of $1.6 million
- TRS DC Pension – nothing significant to report
- TRS DC Health – nothing significant to report
- JRS Pension – nothing significant to report
- JRS Healthcare – received Medicare retiree drug subsidies of $10 thousand and Aetna pharmacy rebates of $16 thousand
- NGNMRS – nothing significant to report
- SBS – nothing significant to report
- Deferred Compensation – nothing significant to report

If you have any questions or comments, please let me know.

Futures

Gary Bader, CIO

February 18, 2016

SECTION 1

What Are Futures?

In the United States, trading futures began in the mid-19th century with the establishment of central grain markets where farmers could sell their products either for immediate delivery, also called the spot or cash market, or for forward delivery. These forward contracts were private contracts between buyers and sellers and became the forerunner of today's exchange-traded futures contracts.

Both forward contracts and futures contracts are legal agreements to buy or sell an asset on a specific date or during a specific month. Where forward contracts are negotiated directly between a buyer and a seller and settlement terms may vary from contract to contract, a futures contract is facilitated through a futures exchange and is standardized according to quality, quantity, delivery time and place. The only remaining variable is price, which is discovered through an auction-like process that occurs on the Exchange trading floor or via CME Globex, CME Group's electronic trading platform.

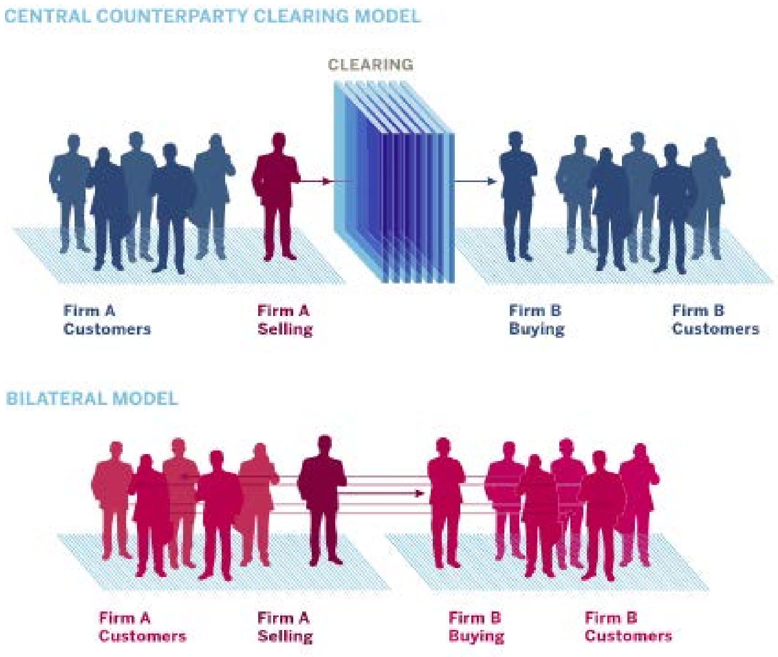
Leverage

- Leverage on futures contracts is created through the use of performance bonds, often referred to as margin. This is an amount of money deposited by both the buyer and seller of a futures contract to ensure their performance of the contract terms.
- The performance bond may represent only a fraction of the total contract value, often 3 to 12%, making futures a highly leveraged trading vehicle.
- Therefore, futures contracts represent a large contract value that can be controlled with a relatively small amount of capital. This provides the trader with greater flexibility and capital efficiency.

Maximizing Capital Efficiency

- The leverage available in futures trading allows you to utilize your capital more efficiently. For example, if you have $200,000 and you want to speculate on the direction of the S&P 500, for the purposes of this illustration you have three choices:
  - **Buy $200,000 of stock using available capital.** This can be done by purchasing an Exchange-Traded Fund (ETF), which for this example would be SPY. SPY seeks to replicate, net of expenses, the S&P 500 Index.
  - **Buy the same (ETF-SPY) stock on margin, taking advantage of the 2:1 leverage in equities.** This allows you to control the same portfolio of stocks (ETF-SPY) by utilizing $100,000 of available capital.
  - **Buy futures on margin, taking advantage of the approximately 10:1 leverage available with E-Mini S&P 500 contracts.** This allows you to control the same portfolio of stocks by leveraging $20,000 of available capital.

Clearing: Exchange versus OTC Forward contracts



How Does a Trade Work: Contract Size

- By definition, each futures contract has a standardized size that does not change. For example, the E-mini S&P 500 futures contract is always $50 times the price of the S&P 500 index. Specifications for all products traded through the CME Group can be found at **cmegroup.com**.

How Does a Trade Work: Contract Value

- Contract value, also known as a contract's notional value, is calculated by multiplying the size of the contract by the current price. For example, the E-mini S&P 500 contract is $50 times the price of the index. If the index is trading at $1,425, the value of one E-mini contract would be $71,250.

How Does a Trade Work: Tick Size

- The minimum price change in a futures contract is measured in ticks. A tick is the smallest amount that the price of a particular contract can fluctuate. Tick size varies from contract to contract. A tick in the E-mini S&P 500 futures contract is equal to one-quarter of an index point. Since the index point is valued at $50 in the E-mini, one tick is equivalent to $12.50.

How Does a Trade Work: Mark-to-Market

- Futures contracts follow a practice known as mark-to-market. At the end of each trading day, the Exchange sets a settlement price based on the day's closing price range for each contract. Each trading account is credited or debited based on that day's profits or losses and checked to ensure that the trading account maintains the appropriate margin for all open positions.

How Does a Trade Work: Margin Call

- If you add to a position or sustain a loss and your account no longer meets the performance requirements, you will receive a margin or a performance bond call from your broker. The margin call will require that you either add money to the account or reduce your positions until the minimum performance bond requirements are satisfied. Brokerage firms may suspend trading privileges or close accounts that are unable to meet their minimum performance bond requirements.

How Does a Trade Work: An Example

- A trader arranges through a **prime broker** to purchase $10-million in notional value of Russell 2000 e-mini futures on the Intercontinental Exchange (ICE). The Russell 2000 index is at 1,162.80. As the ICE has determined that each contract will trade with a value of 100 times the Russell 2000 index, the size of each contract is $116,280. The trader decides to place an order for 86 contracts.
- Once filled, the trader who is now long the future will deliver an **initial margin** in cash or securities as a performance bond. The amount of initial margin the ICE currently requires is $5,400 per Russell 2000 e-mini contract. Buyer wires $464,400 to their prime broker ($5,400 x 86).
- From the inception until the expiration of the futures contracts, market gains will accrue to the trader who is long the future while market losses will accrue to the benefit of the counterparty who is short the future. If in this example the Russell 2000 rose by ten points, the value of each contract would increase by $1,000 (this because the **size** or value of each contract is 100 times the index). The trader who is long the future receives a wire of a daily **margin variation of $86,000**, ($1,000 increase in each contract for each of the 86 contracts in position) through their prime broker. The counterparty who is short the future sends a wire of $86,000.

How Does a Trade Work: An Example (2)

- At the **expiration** of the contract, initial margin and the sum of all undistributed variation margin due is returned to the trader who is long the future. This trader can also exit his exposure prior to expiration by selling **offsetting positions**.
- A **profit** (or loss) on the trade would equal the ending less the beginning value of the index, multiplied by 100 (the ICE sized the contract at 100 times the index) further multiplied by the number of contracts – reduced of course by any commissions on the trades. If the Russell 2000 rose by 20 points over the life of the contract, then the profit on this trade would be about $172,000 (20 points x $100 x 86 contracts).

Opportunities: Cash Equitization

- Cash Equitization began in July of 2006.
- External equity managers may keep a percentage of assets in cash (3% for domestic equity managers, and 5% for small-cap and international equity managers).
- The Equitization program purchases S&P 500 and Russell 2000 exposure (long only) through equity index futures contracts.
- Through September of 2015, net gains from this program have totaled roughly $15.2 million.

Opportunities: Portable Alpha, Rebalancing, and Transition Management

- Staff are proposing to create a new futures overlay for Portable Alpha to capture excess returns of successful managers without impacting the sector weights of the asset allocation.
- Staff are also looking into opportunities to improve **transition management** using futures.

Savings from Bringing Cash Equitization In-House

- J.P. Morgan Markets buys and sells futures contracts as Prime Broker. This relationship continues going forward.
- State Street Global Advisors (SSGA) currently provides operational support for the cash equitization program.
- Fees to SSGA averaged roughly $23-thousand for this operational support in each of the past four fiscal years.
- These fees are a function of the total notional value of futures contracts; exposures averaged $20-30 million during this period. An increase in the use of futures would result in higher fees.
- Operations can be brought in-house without an increase in staffing. Staff would interact directly with J.P. Morgan Markets.

New Uses, Same Tools

- Staff requests approval to bring cash equitization operations in-house.
- Staff also requests approval to go long and short futures for:
  - Transition Management;
  - Portfolio Rebalancing;
  - And to support other portfolio strategies such as Portable Alpha (covered in-depth in a separate presentation).

Mondrian Investment Partners Limited

Mandate: **International Fixed Income** **Hired:** **1997**

Firm Information	Investment Approach	Total ARMB Mandate
Mondrian Investment Partners Limited (Mondrian) is a 100% employee-owned business comprised of approximately 50 investment professionals and 167 employees in London and Philadelphia. As of 12/31/2015, the firm's total assets under management were $57 billion. Key Executives: David Wakefield, CIO Global Fixed Income & Currency Todd Rittenhouse, Sr. Vice President Client Services	Mondrian focuses on fixed income markets that offer high income in real (inflation adjusted) terms, measured by the market's Prospective Real Yield (PRY). The PRY for a country equals the country's 10 year government bond yield minus Mondrian's inflation forecast for that country. High PRY markets are over-weighted. The company's inflation forecast is the key to its process. The inflation forecast is determined by the firm's Global Fixed Income Investment Committee. The methodology relies on a quantitative framework that incorporates country-specific macro variables with a qualitative overlay. The company also hedges currency exposure when currency valuations reach extreme levels, based on its analysis of purchasing power parity (PPP). PPP fair value is the exchange rate at which a basket of goods and services costs the same in two different countries. **Benchmark:** Benchmark: Citi WGBI Non-US Index through 3/31/11; between 4/1/11 and 12/31/12, 70% Citi WGBI Non-US Index and 30% JP Morgan GBI Emerging Markets Broad Diversified Index; thereafter, 70% Citi WGBI Non-US Index and 30% JP Morgan GBI Emerging Markets Global Diversified Index.	**Assets Under Management:** 9/30/15 $370,895,013

Concerns: None

9/30/2015 Performance

	Last Quarter	1-Year	3-Years Annualized	5-Years Annualized
Manager (gross)	-3.95%	-11.75%	-6.84%	-2.63%
Fee	0.04%	0.14%	0.16%	0.16%
Manager (net)	-3.99%	-11.89%	-7.00%	-2.79%
Benchmark	-1.97%	-10.88%	-5.76%	-2.08%

February 18, 2016

MONDRIAN
INVESTMENT PARTNERS LIMITED

PRESENTATION TO:

ALASKA RETIREMENT MANAGEMENT BOARD

MONDRIAN INTERNATIONAL DEBT OPPORTUNITIES PORTFOLIO MANAGEMENT

Mondrian represented by:

Matt Day
Senior Portfolio Manager
Mondrian Investment Partners Limited

E. Todd Rittenhouse
Senior Vice President, Client Services
Mondrian Investment Partners (U.S.), Inc.

Mondrian Investment Partners Limited
Fifth Floor
10 Gresham Street
London EC2V 7JD
Telephone 020 7477 7000

Mondrian Investment Partners (U.S.), Inc.
Two Commerce Square
2001 Market Street, Suite 3810
Philadelphia, PA 19103
Telephone (215) 825-4500

Matt Day, FIA

SENIOR PORTFOLIO MANAGER
MONDRIAN INVESTMENT PARTNERS LIMITED LONDON

Mr. Day joined the Mondrian Global Fixed Income & Currency Team in 2007. Prior to this, he worked at Buck Consultants in their investment and actuarial divisions, specialising in the development of stochastic asset and liability models for UK pension schemes. At Mondrian, Mr. Day has a quantitative research focus and is responsible for the continuing development of the company's proprietary inflation and mortgage backed securities models. Mr. Day has a BSc in Economics with Actuarial Studies from the University of Southampton and is a Fellow of the Institute of Actuaries.

E. Todd Rittenhouse

SENIOR VICE PRESIDENT, CLIENT SERVICES
MONDRIAN INVESTMENT PARTNERS (U.S.), INC. PHILADELPHIA

Mr. Rittenhouse is a graduate of LaSalle University where he earned a Bachelor of Science degree in Business Administration. He worked at Mondrian's former affiliate from 1992 to 1999, where he was a Vice President in the Client Services Group. Prior to joining Mondrian, he was a Partner in the Client Services Group at Chartwell Investment Partners, where he worked for eight years. In his present position, Mr. Rittenhouse is responsible for client service, consultant relations, and marketing.

Organization

Our Organization

December 31, 2015

Mondrian Investment Partners

A Successful, Well-Managed Company

- Founded in 1990
- Over 25 years of stable, consistent leadership
- Approximately US$57 billion under management

An Independent, Employee-Owned Company

- Equity ownership plan designed to attract, retain and motivate highly skilled people
- Mondrian is employee owned
- Approximately 80 employees are partners today, up from 60 in 2004

A Proven Investment Philosophy and Process

- All products utilize an income-oriented value discipline
- Consistently applied since the company's founding in 1990
- In-depth global fundamental research

A Well-Resourced Team

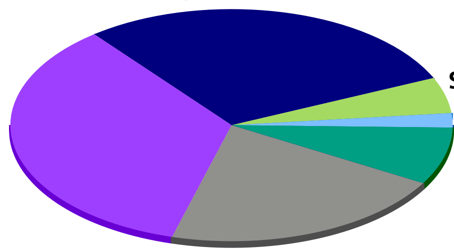
- Highly experienced team of approximately 50 investment professionals in London
- Low turnover of professional staff
- Strong culture of client service and support

Business Profile

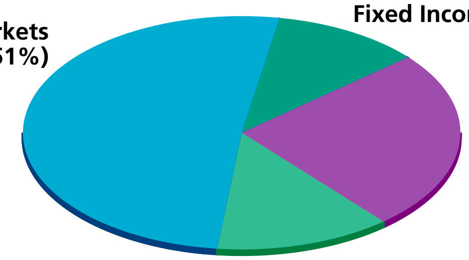
DECEMBER 31, 2015

MONDRIAN INVESTMENT PARTNERS

Type of Clients Served (Number of Relationships)



Type of Assets Managed (Assets Under Management)



Diverse Investment Products

Equity

- *Non-US Equity*
- *Focused Non-US Equity*
- *Global Equity*
- *All Countries World (ACW) Ex-US Equity*
- *Focused (ACW) Ex-US Equity*
- *Emerging Markets Equity*
- *Focused Emerging Markets Equity*
- *Non-US Small Cap Equity*
- *Emerging Markets Small Cap Equity*
- *Emerging Markets Wealth*

Fixed Income

- *Global Fixed Income (Sovereign and Aggregate)*
- *International Fixed Income (Non-US)*
- *Regional Fixed Income*
- *Emerging Markets Debt*
- *Global Debt Opportunities*
- *Global Inflation-Linked*

A number of vehicles are available in each of the above product areas, including separate accounts, limited partnerships, and registered mutual funds. Please refer to additional information at the end of the book regarding available vehicles and minimum account sizes.

Representative Client List
North America

MONDRIAN INVESTMENT PARTNERS

Government and Labor

Alameda County Employees' Retirement Association
Alaska Permanent Fund Corporation
Baltimore County Employees' Retirement System
California State Teachers' Retirement System (CalSTRS)
Carpenters Trusts of Western Washington
City of Austin Employees' Retirement System
City of Baltimore Employees' Retirement System
City of Charlotte Employee Benefit Trust
City of Cincinnati Retirement System
City of Hartford Municipal Employees' Retirement Fund
City of Phoenix Employees' Retirement System
Colorado Public Employee's Retirement Association
Cook County Annuity & Benefit Funds
El Paso Firemen & Policemen's Pension Fund
Equity League Pension & Health Trust Fund
ERFC (Fairfax County)
Florida State Board of Administration
Fresno County Employees Retirement Association
GCIU Local 119B Pension and Welfare Funds
Georgia Division of Investment Services
Howard County Government
Idaho Public Employee Retirement System
Illinois Municipal Retirement Fund
Inter-Local Pension Fund
International Union of Painters and Allied Trades
Iron Workers District Council of New England Pension Fund
Kent County Employees Retirement System
Los Angeles County Metropolitan Transportation Authority
Louisiana State Employees' Retirement System
(MassPRIM)
Mendocino County Employees Retirement Association
Municipal Fire and Police Retirement System of Iowa
National Grid Investment Management
Nebraska State Investment Council
New York City Deferred Compensation Plan
New York State Common Retirement Fund
Oklahoma Law Enforcement Retirement System
Oklahoma Police Pension & Retirement System
Oklahoma Public Employees Retirement System
Oklahoma State Regents for Higher Education
Ontario Power Generation Inc.
Ontario Public Service Employees Union
Orange County Retirement System
Parochial Employees' Retirement System of Louisiana
Prince George's County Pension System
Public Employees' Retirement System of Mississippi
Public School Retirement System of the City of St. Louis
Pueblo County Employees Retirement System
Sacramento County Employees' Retirement System
San Bernardino County Employees' Retirement Association
San Francisco City and County Retirement System
San Mateo County E.R.A.
South Carolina Retirement Systems
Southern California UFCW
St. Louis County, Government
State Universities Retirement System of Illinois
Teachers' Retirement System of the State of Illinois
The North Central States Regional Council of Carpenters Pension Fund
UT-Battelle
Vermont State Treasurer's Office
Washington State Investment Board

Insurance

ALAS Investment Services Limited
Ascension Investment Management
CIT Group Inc.
Highmark Health
Nuclear Electric Insurance Limited
State Auto Insurance Companies

Corporations

A.O. Smith Corporation
Alfred I. duPont Testamentary Trust
American College of Physicians
American Hospital Association
American Institute of Certified Public Accountants (AICPA)
Aon Hewitt Group Trust
Archdiocese of Los Angeles
Ascension Investment Management
Ash Grove Cement Company
Axel Johnson, Inc.
Bank of America Corporation
Banner Health System
Blue Cross & Blue Shield of Massachusetts, Inc.
Boys Town
Care New England
Children's Hospital Los Angeles
ConAgra Foods, Inc.
Cooperative Banks Employees Retirement Association
CSX Corporation, Inc.
Dartmouth-Hitchcock Medical Center
Deere & Company
The Dow Chemical Company
Energizer Holdings, Inc.
Eversource Energy
Farmers Group, Inc.
Group Health Cooperative
Health Care Service Corporation
Henry Ford Health Systems
Herbert J. Thomas Memorial Hospital Association
Hoag Memorial Hospital Presbyterian
Honeywell International Inc.
Huntington Ingalls Industries, Inc.
IATSE National Pension Fund
Integrys Energy Group
International Paper Company
John T. Mather Memorial Hospital
Liberty Mutual Group, Inc.
LyondellBasell Industries
Martin's Point Health Care, Inc.
Merck & Co., Inc.
Mercy Health
Ministers and Missionaries Benefit Board
National Grid Investment Management
Novant Health, Inc.
Oakwood Healthcare, Inc.
OhioHealth
Orlando Health, Inc.
Parkland Health & Hospital System
Pfizer Inc.
Pinnacle Health System
Renown Health

This representative client list includes all separately managed accounts and investors in Mondrian's commingled vehicles not subject to confidentiality limitations, where the clients are based in the United States and Canada. It is therefore not a complete list of all Mondrian's clients. It is not known whether the listed clients approve or disapprove of Mondrian or the services provided.

Updated: January 2016

Representative Client List
North America

MONDRIAN INVESTMENT PARTNERS

Corporations (cont.)

Ricoh Americas Corporation
Rotary International
Sappi Fine Paper North America
Savings Banks Employees Retirement Association
SECURA Insurance Companies
Sisters of Mercy Health System
Southern California Edison
Southern Company
Springpoint Senior Living, Inc.
State Auto Insurance Companies
The Green-Wood Cemetery
TI Group Automotive Systems
Tribune Media Company
Tufts Associated Health Maintenance Organization, Inc.
United Church of Christ Pension Boards
University of Maine System
University of Ottawa
Valley Children's Hospital
Verity Health System
Verizon Investment Management Corp.
Wal-Mart Stores, Inc.
Wells Fargo & Company Cash Balance Plan

Endowments and Foundations

Alfred I. duPont Testamentary Trust
Alverno College
America for Bulgaria Foundation
American Academy of Ophthalmology
Archdiocese of Los Angeles
Augustana College
Baylor Oral Health Foundation
Berkshire Taconic Community Foundation
Boys Town
Community Foundation for Southeast Michigan
Community Foundation of Greater Des Moines
Community Foundation of the Holland/Zeeland Area
Cornell University
Donald B. & Dorothy L. Stabler Foundation
Furman University
General Conference Corporation of Seventh-day Adventists
George I. Alden Trust
Gonzaga University
Goucher College
Greater Worcester Community Foundation, Inc.
Harvey Mudd College
Henry Ford Health Systems
Hoag Memorial Hospital Presbyterian
Home Health Foundation, Inc.
Indianapolis Symphony Orchestra
Kemper & Ethel Marley Foundation
Lenoir-Rhyne University
Marin Community Foundation
Missouri Botanical Garden
Nebraska State Investment Council
Northwest Area Foundation
Oakwood Healthcare, Inc.
Open Space Institute Land Trust, Inc.
Phi Beta Kappa Society
Ranken Technical College
Richard King Mellon Foundation
Riverside Healthcare Foundation
Rollins College
Roswell Park Alliance Foundation
Rotary International
Savannah College of Art & Design, Inc.
Siena College
Simpson College
Springfield Foundation
St. Louis Symphony Orchestra
St. Marys United Methodist Church Foundation, Inc.
Sunflower Foundation: Health Care for Kansans
Sunnyside Foundation, Inc.
Tabor Academy
Texas Tech University System
The Annie E. Casey Foundation
The Batchelor Foundation, Inc.
The Boston Foundation
The Butler Family Foundation
The Carle Foundation
The Catholic University of America
The Community Foundation for Greater New Haven
The Hyams Foundation, Inc.
The McKnight Foundation
The Riverside Church
The Samuel Roberts Noble Foundation, Inc.
The Seattle Foundation
Tufts Associated Health Maintenance Organization, Inc.
University of Kentucky
University of Maine System
University of Ottawa
University of Vermont
UNLV Foundation
Valley Children's Hospital
Washington State University Foundation
Wesleyan College
Western Illinois University
William Caspar Graustein Memorial Fund
William H. Miner Foundation
William Penn Foundation
Winthrop Rockefeller Foundation
World Learning

Sub-Advisory

Bessemer Trust
Brown Brothers Harriman
Charles Schwab Investment Management
Delaware Investments
Lincoln National Life Insurance Co.
MD Financial Management Inc.
The Investment Fund for Foundations
UBS Global Asset Management (Americas) Inc.
Olive Street Investment Advisors, LLC
(an affiliate of Edward Joines)

This representative client list includes all separately managed accounts and investors in Mondrian's commingled vehicles not subject to confidentiality limitations, where the clients are based in the United States and Canada. It is therefore not a complete list of all Mondrian's clients. It is not known whether the listed clients approve or disapprove of Mondrian or the services provided.

Updated: January 2016

Organization

January 1, 2016

Mondrian Investment Partners

Investment

Clive Gillmore
Chief Executive Officer & Group CIO

Emerging Markets Equities

Andrew Miller
CIO Emerging Markets Equities

Ginny Chong
Gregory Halton
Boris Veselinovich
Senior Portfolio Managers

Dan Kelly
Portfolio Manager

Dan Bronstein
Assistant Portfolio Manager

Small Cap Equities

Ormala Krishnan
CIO Small Cap Equities

Frances Cuthbert
Graeme Coll
Aidan Nicholson
Bhavin Manek
Senior Portfolio Managers

Alastair Cornwell
Portfolio Manager

Benjamin Hall
Assistant Portfolio Manager

Elina Grinchenko
Research Analyst

International Equities

Elizabeth Desmond
Director, CIO International Equities

Global Equities

Clive Gillmore
Chief Executive Officer & Group CIO

Brendan Baker
Nigel Bliss
Steven Dutaut
Aileen Gan
Andrew Porter
Alex Simcox
Jonathan Spread
Senior Portfolio Managers

Hamish Parker
Director

Nigel May
Deputy Chief Executive Officer

James Francken
Kim Nguyen
Melissa Platt
Bilgin Soylu
Paul Thompson
Samuel Wyatt
Portfolio Managers

Christopher Davis
Zsolt Mester
Assistant Portfolio Managers

Global Fixed Income & Currency

David Wakefield
Chief Investment Officer

Joanna Bates
Matt Day
Solomon Peters
Senior Portfolio Managers

David Cudmore
Kevin Fenwick
Sarah Mitchell
Portfolio Managers

Rothko Systematic Products

Dan Philps
Head of Systematic Products

Luigi Li Calzi
Portfolio Manager

David Miller
Research Analyst

Trading and Implementation

Nigel May
Deputy Chief Executive Officer

Clark Simpson
Head of Trading

+ Team (7)

Brian Heywood
Implementation Manager

Client Services

Philadelphia

Paul Ross
President

Patricia Karolyi
Executive Vice President

Jim Brecker
Laura Conlon
James Hill
David Hogan
Senior Vice Presidents

Justin Richards
Todd Rittenhouse
Stephen Starnes
Senior Vice Presidents

Peter Riviello
Jackie Stampone
Carol Starr
Vice Presidents

+ Team (15)

London

Russell Mackie
Global Head of Client Services

Andrew Kiely
Jenny Phimister
Managers

Paul Danaswamy
Client Services Executive

Gabriella Couper
Internal Client Services Assistant

Business Management

Clive Gillmore
Chief Executive Officer & Group CIO

David Tilles
Executive Chairman

Internal Audit

Lisa Debenham
Internal Audit Manager

Compliance & Risk

John Barrett
Chief Compliance Officer/MLRO

Ed Lambert
Jamie Shearer
Managers, Compliance & Risk

+ Team (4)

Legal

Jane Goss
General Counsel

Nicola Clarke
Senior Legal Counsel

Jason Menegakis
Senior Vice President (MIP US)

+ Team (1)

Business Management

Warren Shirvell
Deputy Chief Operating Officer

John Emberson
Chief Operating Officer

I.T.

Paul Fournel
Chief Technology Officer

Dilip Chauhan
BCM and Security Manager

Gary Aylett
Michael Williams
Business Applications Managers

+ Team (13)

Investment Admin

Jason Andrews
Investment Administration Manager

Rob Houghton
Assistant Manager

+ Team (29)

Finance

Darren Wells
Financial Controller

+ Team (5)

Financial Analysis

Ian Cooke
Chief Accountant

Performance

David Lourens
Investment Performance Manager

+ Team (2)

Graphics

Elaine Baker
Marketing and Client Presentations Manager

+ Team (2)

HR

Louise Poulter
Head of Human Resources

+ Team (2)

PA Support/ Office Admin

Team (8)

This chart is designed to indicate the staffing resources and management structure at Mondrian Investment Partners Limited and Mondrian Investment Partners (U.S.), Inc. The chart does not attempt to show all functions nor reporting and delegation lines, details of which are maintained in separate records. Please note some people may appear on this chart more than once, reflecting various responsibilities.

The Global Fixed Income & Currency Team

JANUARY 1, 2016

MONDRIAN INVESTMENT PARTNERS

David Wakefield *Chief Investment Officer*

Mr. Wakefield joined Mondrian in 2001. He took both a BSc and an MSc in Economics from the University of Warwick. Prior to joining Mondrian, Mr. Wakefield was an economic adviser to the Monetary Policy Committee of the Bank of England, and formerly an economic adviser to the UK Treasury Department, specializing in inflation forecasting in both positions. At Mondrian, he is the team's Chief Investment Officer and chairs the Global Fixed Income and Currency Committee meetings, where he utilizes his extensive inflation forecasting experience. Mr. Wakefield is a CFA Charterholder and is a member of the CFA Institute and the CFA Society of the UK.

Joanna Bates *Senior Portfolio Manager*

Ms. Bates is a graduate of London University. She joined Mondrian's Fixed Income Team in 1997, before which she was Associate Director of Fixed Interest at Hill Samuel Investment Management. She has also worked for Fidelity International and Save & Prosper as a fund manager and analyst for global bond markets. At Mondrian, Ms. Bates is a Senior Portfolio Manager with many client relationships including those based in Japan. Her research specialities are emerging market currencies and debt. Ms. Bates holds the ASIP designation and is a member of the CFA Institute and the CFA Society of the UK.

Matt Day *Senior Portfolio Manager*

Mr. Day joined the Mondrian Global Fixed Income & Currency Team in 2007. Prior to this, he worked at Buck Consultants in their investment and actuarial divisions, specialising in the development of stochastic asset and liability models for UK pension schemes. At Mondrian, Mr. Day has a quantitative research focus and is responsible for the continuing development of the company's proprietary inflation and mortgage backed securities models. Mr. Day has a BSc in Economics with Actuarial Studies from the University of Southampton and is a Fellow of the Institute of Actuaries.

Solomon Peters *Senior Portfolio Manager*

Mr. Peters joined Mondrian's Fixed Income Team in 2000. He has a BA in Economics from King's College, Cambridge and an MSc in Economics and Econometrics from Southampton University. After a period with the UK Government Statistical Service, he moved to research consulting at the Centre for Economics and Business Research (CEBR), specializing in econometric forecasting. Mr. Peters has helped to further develop Mondrian's proprietary inflation forecasting models, and also supplies quantitative support to our credit research. Mr. Peters is a CFA Charterholder and is a member of the CFA Institute and the CFA Society of the UK.

Kevin Fenwick *Portfolio Manager*

Mr. Fenwick is an Economics graduate from the University of Cambridge and also holds a Masters degree in Computer Science from the University of Adelaide, Australia. He joined Mondrian in 2008, working in the Performance and Attribution Department, and became a member of the Global Fixed Income and Currency team in 2010. Directly before joining Mondrian, Mr. Fenwick worked for Wilshire Associates in their portfolio analytics division. He started his career at Touche Ross & Co as an auditor and forensic accountant and, for a number of years, was a Professor at the City University of New York, where he taught algorithms and logic. Mr. Fenwick is a CFA Charterholder and is a member of the CFA Institute and the CFA Society of the UK.

Sarah Mitchell *Portfolio Manager*

Ms. Mitchell joined the Mondrian Global Fixed Income & Currency team in 2011. She has a BSc in Management from UMIST, University of Manchester, and is a qualified Chartered Accountant. Ms. Mitchell started her career at PricewaterhouseCoopers where she was involved in analysing the financial statements of large industrial clients. Prior to joining Mondrian, she worked at the Royal Bank of Scotland as a senior credit analyst, covering mid and large cap UK corporates. Ms. Mitchell is a CFA Charterholder and is a member of the CFA Institute and the CFA Society of the UK.

David Cudmore *Portfolio Manager*

Mr. Cudmore joined the Mondrian Global Fixed Income & Currency team in 2013. He has a BSc in Economics from the University of Warwick and is a qualified Chartered Accountant. Prior to joining Mondrian, he worked at Credit Suisse as a credit risk analyst focusing on the investment bank's European exposures. Mr. Cudmore began his career at KPMG where he was responsible for the financial analysis of real estate companies and later moving to an advisory position in the High Net Worth team. Mr. Cudmore is a CFA Charterholder and a member of the CFA Institute and the CFA Society of the UK.

Philosophy & Process

Global Fixed Income Philosophy

Mondrian is a Value Manager

We invest in global bond markets that offer high income in real (inflation-adjusted) terms, measured by a market's Prospective Real Yield (PRY)

PRY = 10-year government bond yield – Mondrian's inflation forecast

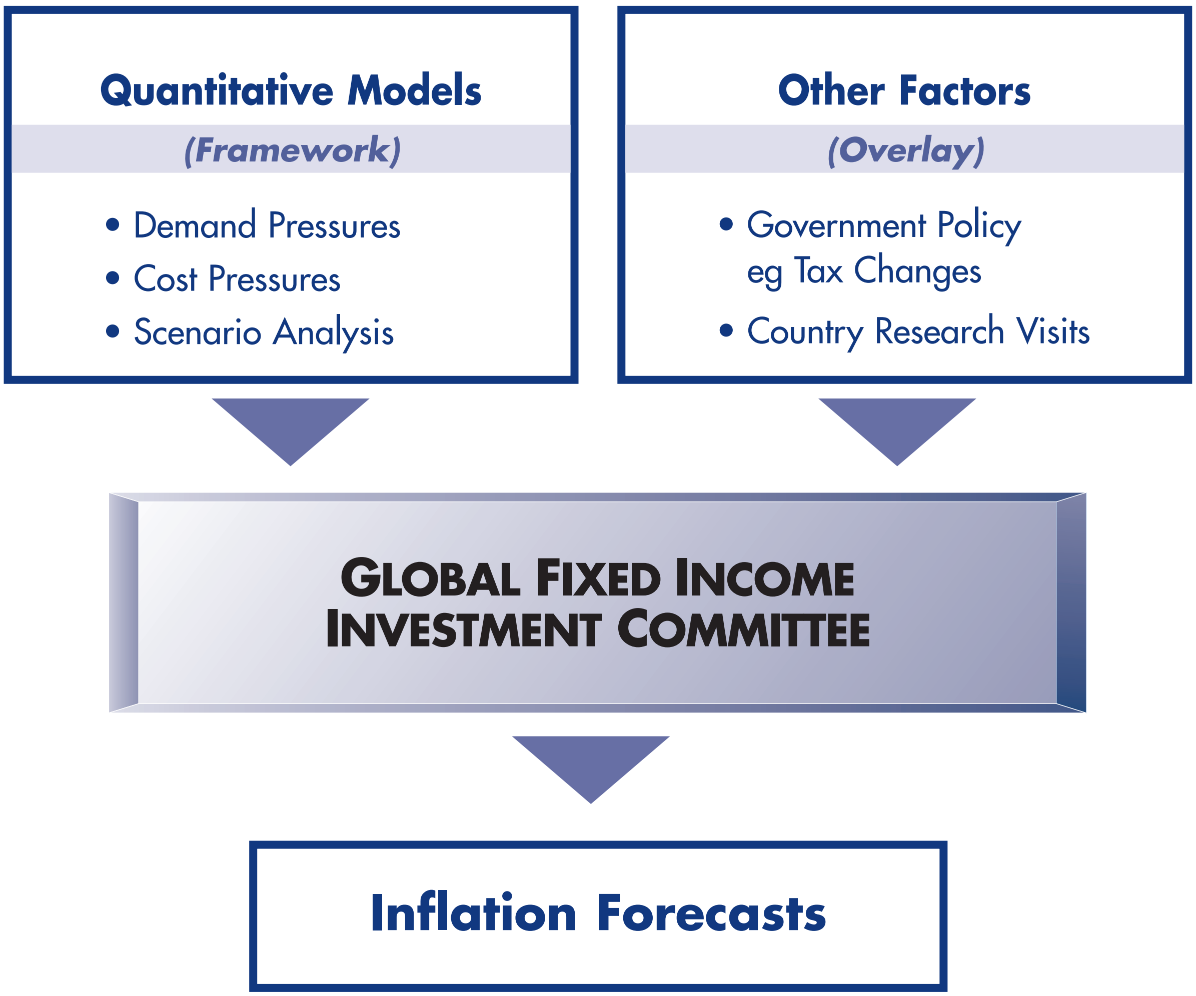
High PRY countries offer the highest long-term returns in an investor's base currency when currencies track inflation differentials

Key Points

- We have a **DISCIPLINED** investment philosophy
- It has consistently produced **STRONG LONG-TERM RESULTS**
- **INFLATION FORECASTING** is the key to our process

Inflation Forecasting Methodology

MONDRIAN INVESTMENT PARTNERS



- Proprietary quantitative models drive process and provide structure.
- Complemented by factors models are unable to capture.
- “Relative” inflation forecasts key for process.

Sovereign Credit Risk

- Informs top down allocation decision
- Conservative value approach
- Preservation of capital

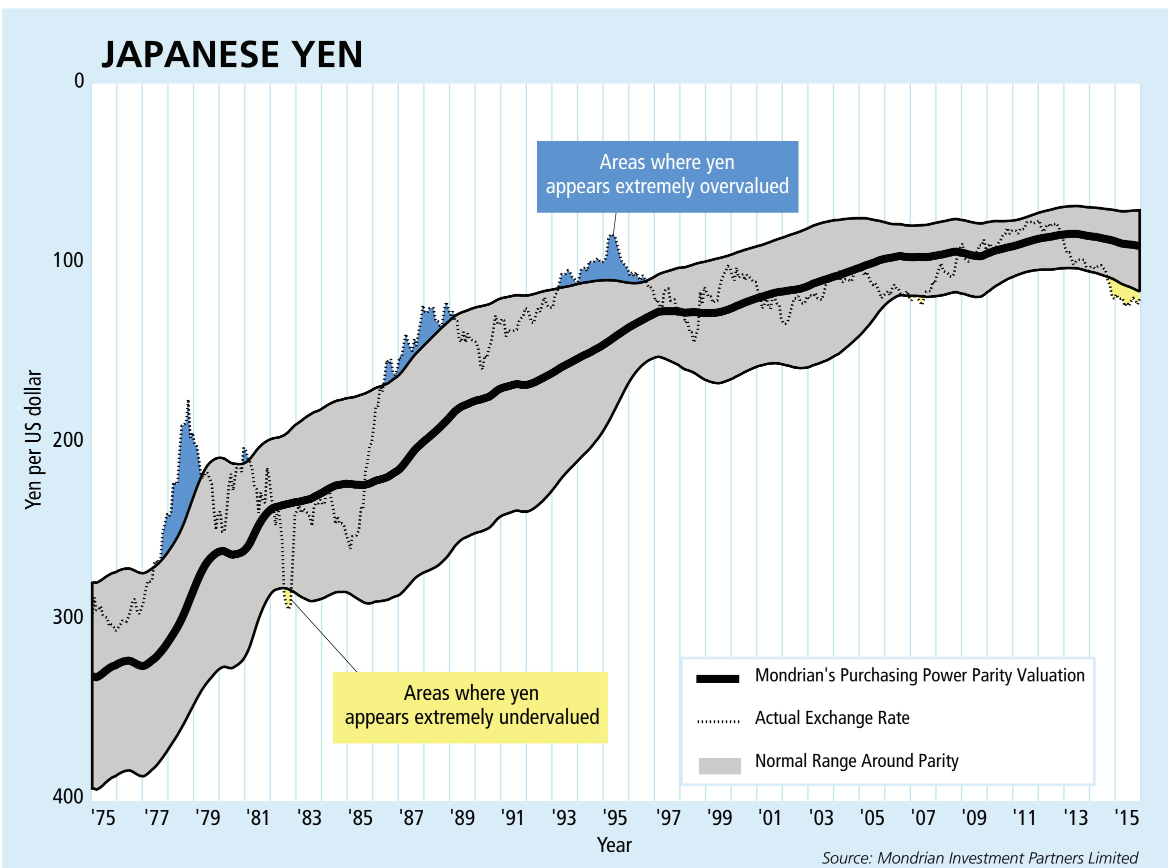
160218 AlaskaRetMgtBrd IDO

Currency Analysis
A Purchasing Power Parity (PPP) Approach

MONDRIAN INVESTMENT PARTNERS

- PPP fair value is the exchange rate at which a basket of goods and services costs the same in two different countries.
- Exchange rates normally trade within a 2 standard deviation band (grey area), offering little predictive power.
- PPP is utilized at extreme levels of valuation in our currency hedging decisions.

Mondrian's Currency Approach – A Defensive Strategy



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Global Credit Process

MONDRIAN INVESTMENT PARTNERS

Mondrian's **VALUE APPROACH** to global investment grade credit is highly **DEFENSIVE** utilizing extensive proprietary **QUANTITATIVE** models.

- Opportunistic approach extracting value from credit cycle
- Defensive style that concentrates on removing bad credits
- Mondrian's teams of equity analysts support credit research

160218 AlaskaRetMgtBrd IDO

Portfolio Construction

MONDRIAN INVESTMENT PARTNERS

TOP DOWN

COUNTRY ALLOCATION

- Countries' Prospective Real Yields (PRYs) entered into optimizer
- Countries with highest PRYs are overweighted subject to sovereign credit risk assessment

CURRENCY ALLOCATION

- Same as country allocation, reflecting PRYs
- Except when a currency is extremely overvalued according to our PPP valuations, then hedge

CLIENT PORTFOLIO

SECURITY SELECTION

- Value-based approach emphasizing risk controls
- Quantitative research process
- Portfolio duration managed between 75% and 125% of index

BOTTOM UP

160218 AlaskaRetMgtBrd IDO

Markets and Performance

Performance

ALASKA RETIREMENT MANAGEMENT BOARD

DECEMBER 31, 2015

MONDRIAN INVESTMENT PARTNERS

Period	Portfolio %	Benchmark* %	Relative %	US Inflation %
Mar. 3 - Dec. 31, 1997	2.3	1.2	1.1	1.1
1998	10.3	17.8	-6.4	1.6
1999	-5.1	-5.1	0.0	2.7
2000	0.1	-2.6	2.8	3.4
2001	-0.9	-3.5	2.8	1.6
2002	27.6	22.0	4.6	2.4
2003	22.6	18.5	3.4	1.9
2004	14.8	12.1	2.4	3.3
2005	-9.9	-9.2	-0.8	3.4
2006	7.0	6.9	0.0	2.5
2007	11.4	11.5	0.0	4.1
2008	11.1	10.1	0.9	0.1
2009	9.8	4.4	5.2	2.7
2010	8.1	5.2	2.8	1.5
2011	1.9	2.7	-0.8	3.0
2012	6.2	5.4	0.8	1.7
2013	-7.6	-5.8	-1.8	1.5
2014	-4.4	-3.5	-0.9	0.7
Quarter 4, 2015	-0.4	-0.9	0.5	N/A
Year to Date	-7.8	-8.4	0.6	1.3
Since Inception March 3, 1997 (cumulative)	138.4	103.2	17.3	49.1

Market Value: US$369,982,407

Source: Mondrian Investment Partners/Citigroup/JPMorgan

*From inception to March 31, 2011, the portfolio's performance was measured against the Citigroup Non-US World Government Bond Index. From April 1, 2011 to December 31, 2012, the portfolio's performance was measured against a blend of the Citigroup Non-US World Government Bond Index (70%) and the JPMorgan GBI-EM Broad Diversified Index (30%). Beginning January 1, 2013, the portfolio's performance is measured against a blend of the Citigroup Non-US World Government Bond Index (70%) and the JPMorgan GBI-EM Global Diversified Index (30%).

The returns presented on this page are presented gross of advisory fees and other expenses associated with managing an investment advisory account. Actual returns will be reduced by such fees and expenses. Please carefully review the disclosure at the back of this book for more information concerning these gross performance results including an illustration of the negative effect of advisory fees on performance. Past performance is not a guarantee of future results.

160218 AlaskaRetMgtBrd IDO

Performance Summary

ALASKA RETIREMENT MANAGEMENT BOARD

QUARTER 4, 2015

MONDRIAN INVESTMENT PARTNERS

	PERFORMANCE ATTRIBUTION %		
RELATIVE RETURN TO BENCHMARK	MARKET CONTRIBUTION	CURRENCY CONTRIBUTION	OTHER* CONTRIBUTION
+0.5	+0.1	+0.4	0.0

	POSITIVE	NEGATIVE
MARKET CONTRIBUTION	• Overweight Peru • Overweight Brazil	• Overweight Sweden
CURRENCY CONTRIBUTION	• Positioning RUB • Overweight BRL • Underweight EUR	• Overweight PEN
OTHER*		

*Other includes duration, credit/sector, and curve effects.

Source: Mondrian Investment Partners/Citigroup/JPMorgan

Benchmark: Performance is measured against a blend of the Citigroup Non-US World Government Bond Index (70%) and the JPMorgan GBI-EM Global Diversified Index (30%).

The returns presented on this page are presented gross of advisory fees and other expenses associated with managing an investment advisory account. Actual returns will be reduced by such fees and expenses. Please carefully review the disclosure at the back of this book for more information concerning these gross performance results including an illustration of the negative effect of advisory fees on performance. Past performance is not a guarantee of future results.

160218 AlaskaRetMgtBrd IDO

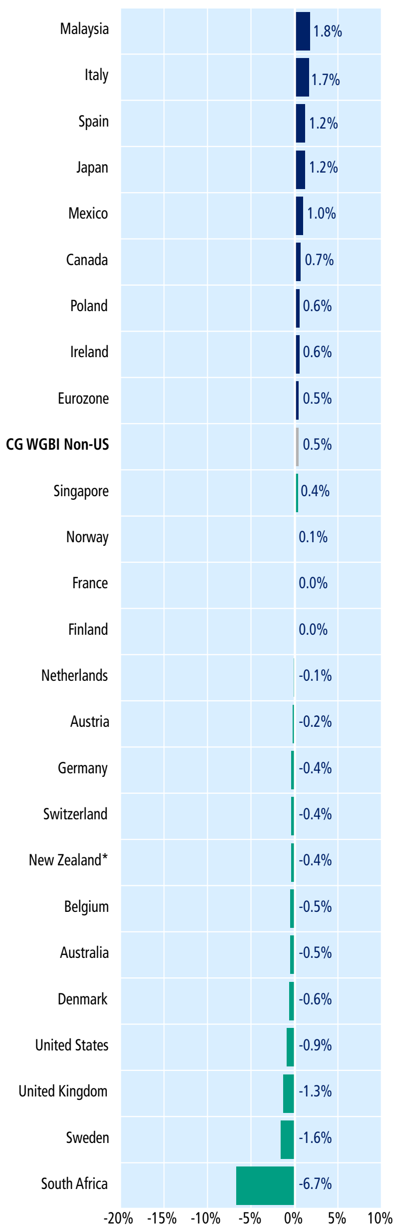
Developed Market Benchmark Returns

CG WGBI NON-US

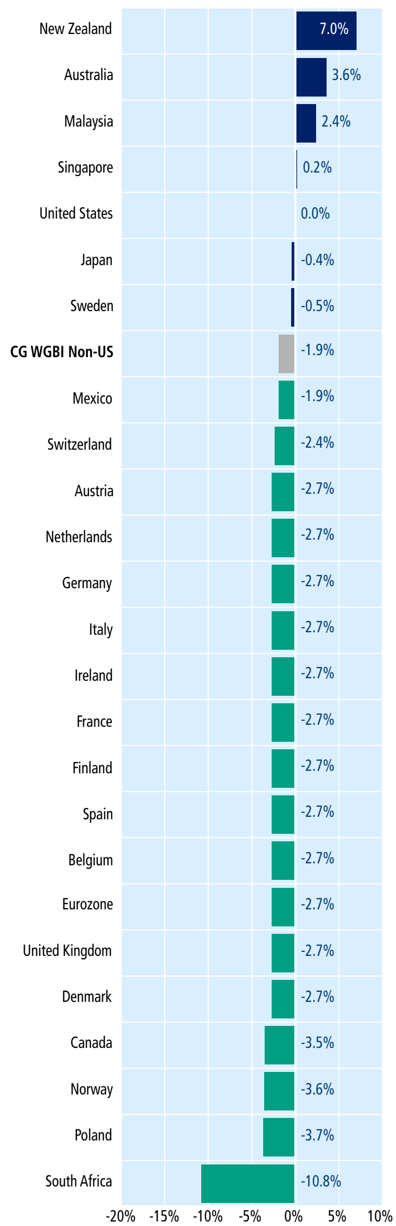
QUARTER 4, 2015

MONDRIAN INVESTMENT PARTNERS

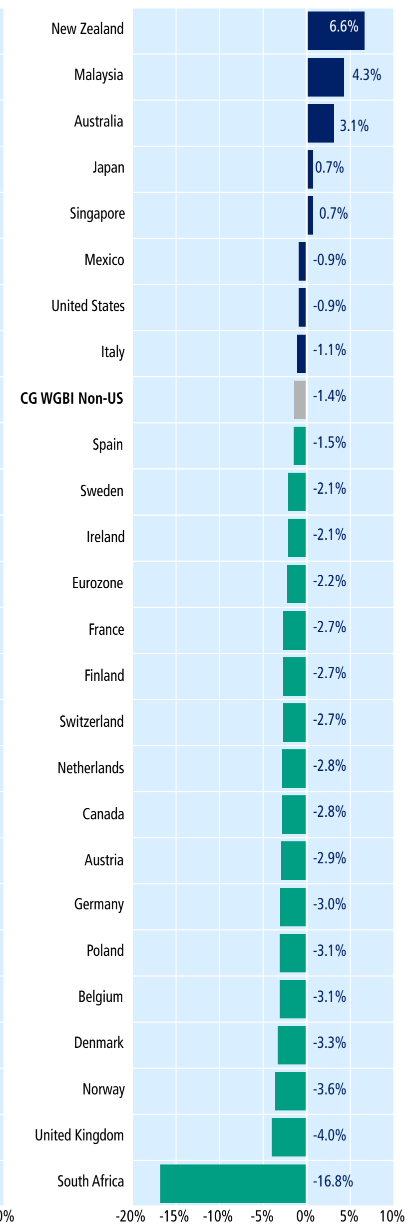
Local Market Return



Currency vs. US$



In US$ Terms Unhedged



*Please note New Zealand is not included in CG WGBI Non-US

Source: Citigroup and JP Morgan

160218 AlaskaRetMgtBrd IDO

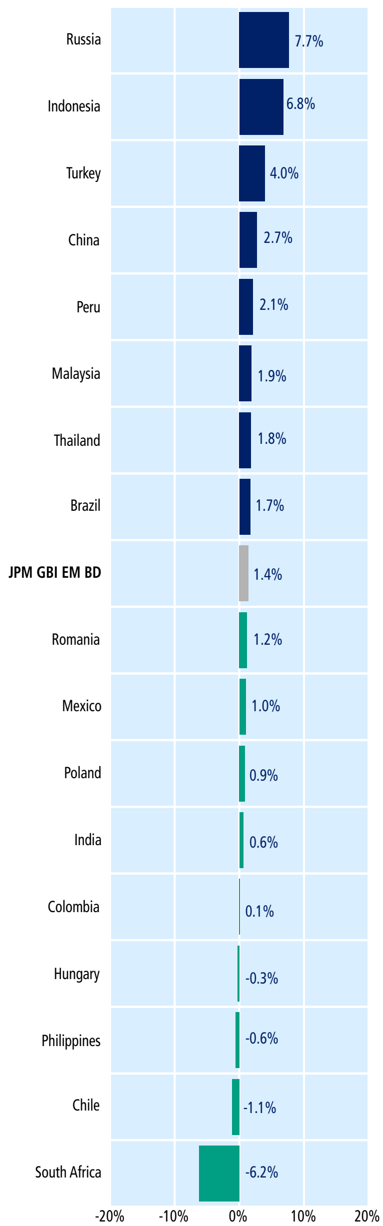
Emerging Market Benchmark Returns

JPM GBI EM BROAD DIVERSIFIED

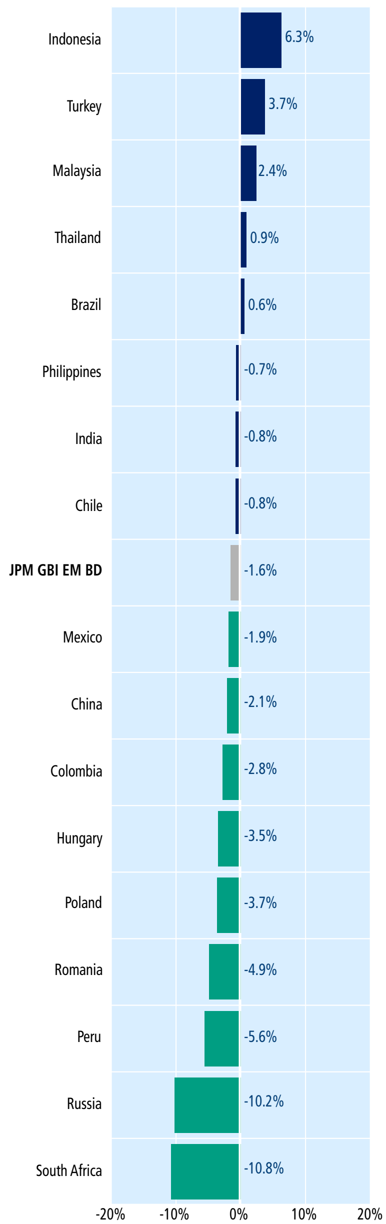
QUARTER 4, 2015

MONDRIAN INVESTMENT PARTNERS

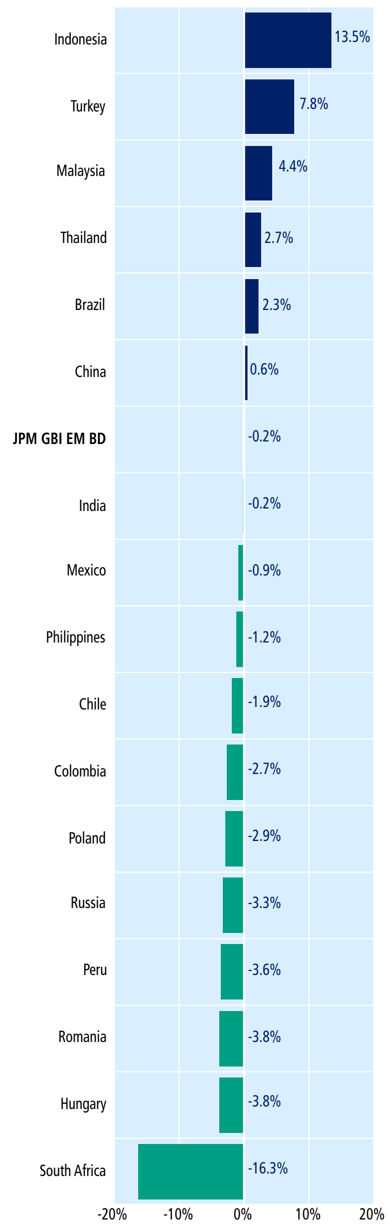
Local Market Return



Currency vs. US$



In US$ Terms Unhedged



Source: JPMorgan

Performance Summary

ALASKA RETIREMENT MANAGEMENT BOARD

2015

MONDRIAN INVESTMENT PARTNERS

	PERFORMANCE ATTRIBUTION %		
RELATIVE RETURN TO BENCHMARK	MARKET CONTRIBUTION	CURRENCY CONTRIBUTION	OTHER* CONTRIBUTION
+0.6	+0.4	+0.2	0.0

	POSITIVE	NEGATIVE
MARKET CONTRIBUTION	• Overweight Russia • Overweight United Kingdom • Overweight Mexico	• Underweight Thailand
CURRENCY CONTRIBUTION	• Positioning RUB • Underweight EUR • Underweight TRY	• Overweight BRL • Overweight MXN
OTHER*		

*Other includes duration, credit/sector, and curve effects.

Source: Mondrian Investment Partners/Citigroup/JPMorgan

Benchmark: Performance is measured against a blend of the Citigroup Non-US World Government Bond Index (70%) and the JPMorgan GBI-EM Global Diversified Index (30%).

The returns presented on this page are presented gross of advisory fees and other expenses associated with managing an investment advisory account. Actual returns will be reduced by such fees and expenses. Please carefully review the disclosure at the back of this book for more information concerning these gross performance results including an illustration of the negative effect of advisory fees on performance. Past performance is not a guarantee of future results.

160218 AlaskaRetMgtBrd IDO

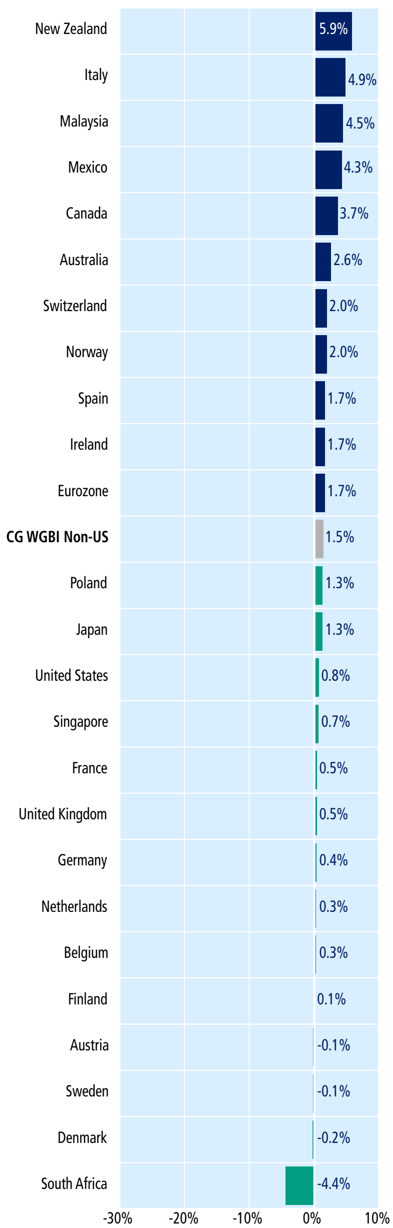
Developed Market Benchmark Returns

CG WGBI NON-US

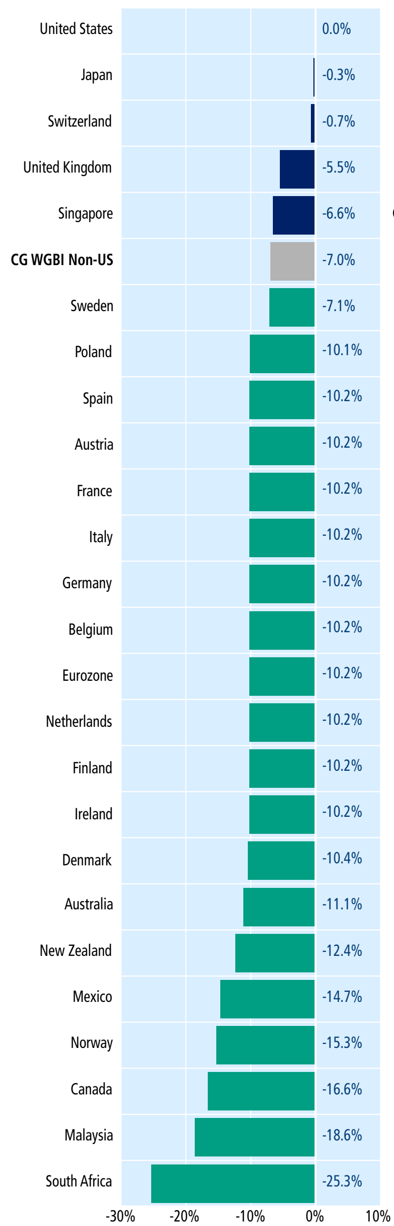
2015

MONDRIAN INVESTMENT PARTNERS

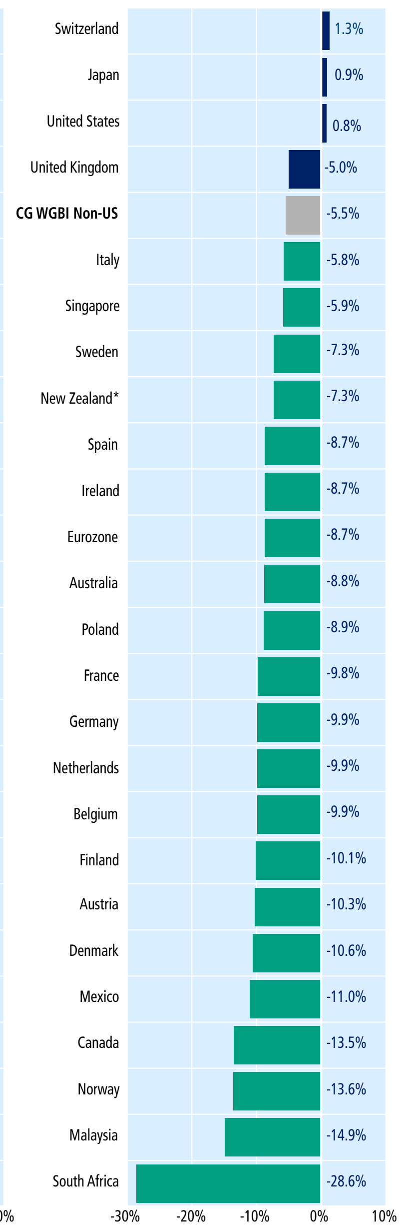
Local Market Return



Currency vs. US$



In US$ Terms Unhedged



*Please note New Zealand is not included in CG WGBI Non-US

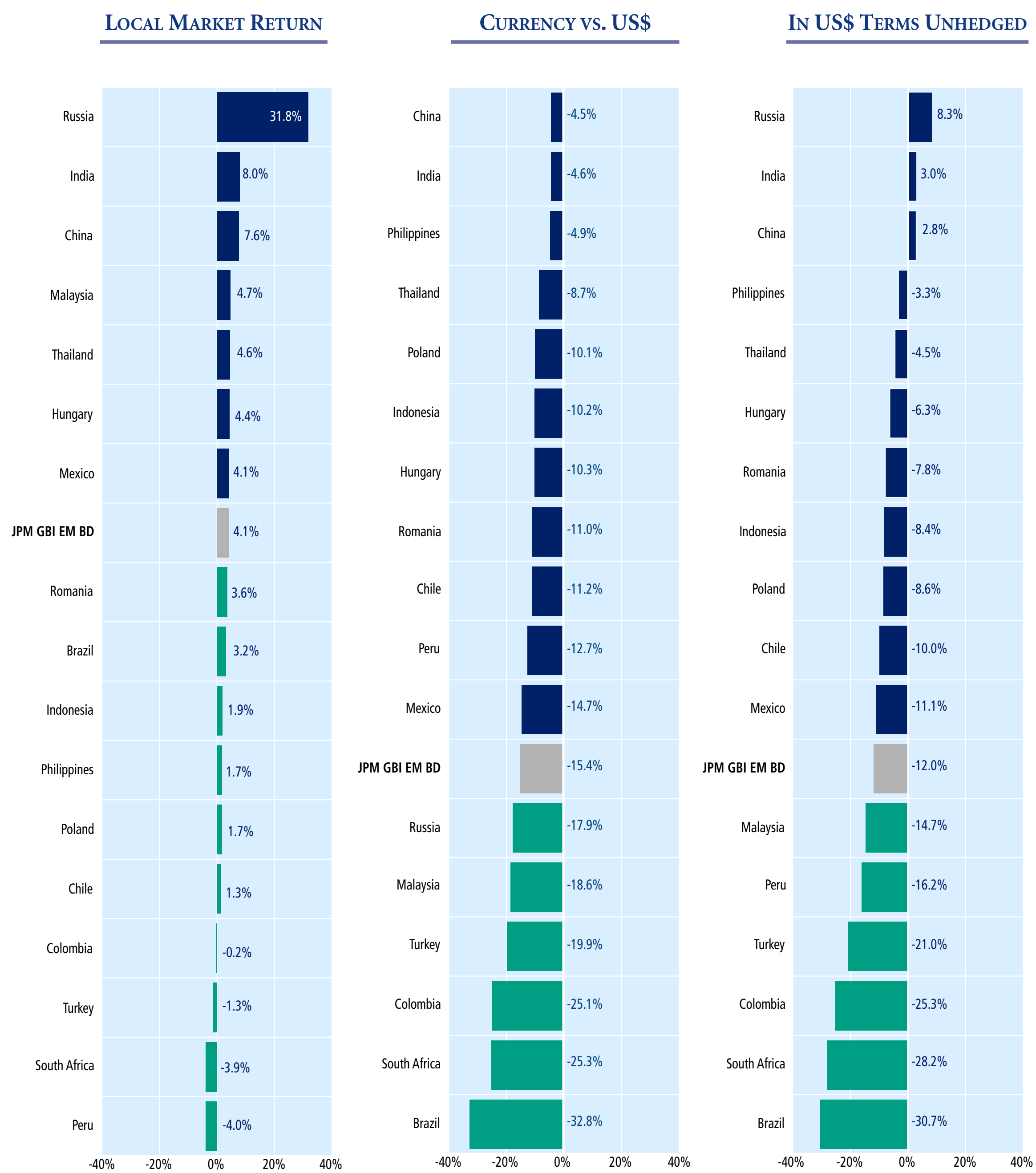
Source: Citigroup and JP Morgan

EMERGING MARKET BENCHMARK RETURNS

JPM GBI EM BROAD DIVERSIFIED

2015

MONDRIAN INVESTMENT PARTNERS



Source: JPMorgan

Strategy and Portfolio Positioning

Country Allocation

ALASKA RETIREMENT MANAGEMENT BOARD

DECEMBER 31, 2015

MONDRIAN INVESTMENT PARTNERS

		COUNTRY ALLOCATION WEIGHTINGS (%)		CURRENCY (%)	
	1	2	3	4	5
	PROSPECTIVE REAL YIELD (%)	INDEX WEIGHT (%)	MONDRIAN MARKET ALLOCATION (%)	CURRENCY HEDGE (%)	MONDRIAN CURRENCY ALLOCATION (%)
PACIFIC-ASIA		**34**	**35**		**35**
Australia	0.6	1	1		1
Indonesia	1.9	3	3		3
Japan	-0.3	23	23		23
Malaysia	0.6	3	6		6
Singpore	1.3	<1	2		2
EUROPE		**52**	**38**		**38**
Eurozone	-0.6	33	21		21
Poland	0.7	3	6		6
Sweden	-0.3	<1	3		3
Turkey	1.6	3	3		3
United Kingdom	0.6	7	6		6
NORTH AMERICA		**2**	**0**		**0**
Canada	-0.4	2	0		0
USA	0.6	0	0		0
LATIN AMERICA		**9**	**22**		**22**
Brazil	7.7	3	8		8
Colombia	2.7	2	4		4
Mexico	1.7	4	9		9
Peru	3.4	1	2		2
MIDDLE EAST & AFRICA		**3**	**4**		**4**
South Africa	1.8	3	4		4
CASH		**0**	**1**		**1**

1 Mondrian's real income methodology seeks to isolate attractive markets. These estimated Prospective Real Yields are used solely as a basis for making judgements about country allocation weightings and are not intended to be indications of expected returns. Forecast real returns in US dollars are calculated as at December 31, 2015.

2 A minimum/maximum country allocation policy seeks to allow broad flexibility while guarding against over-or under concentration relative to the Index. If the governing documents for the account contain min/max guidelines, these guidelines are reflected above. If the governing documents for the account do not contain min/max guidelines, the min/max allocations above represent Mondrian's current internal policy and can be changed at any time in Mondrian's discretion.

3 Citigroup Non-US World Government Bond Index (70%) and the JPMorgan GBI-EM Global Diversified Index (30%).

4 Absent client restrictions, current allocations are consistent across all client portfolios with the same type mandate.

5 Currency hedges are put into place if appropriate and permissible under client objectives.

6 Mondrian net currency exposure after hedging.

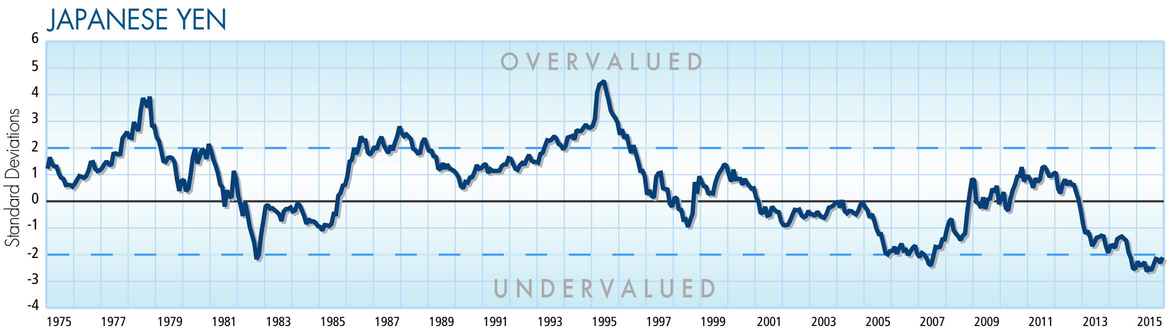
Source: Mondrian Investment Partners/Citigroup/JPMorgan

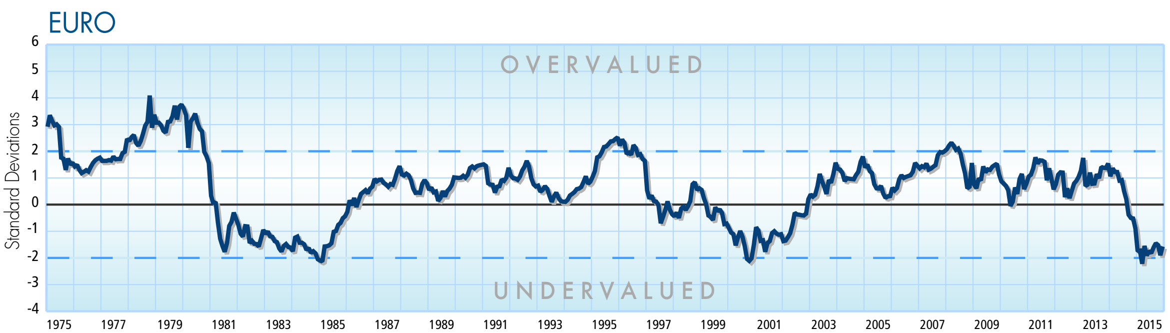
160218 AlaskaRetMgtBrd IDO

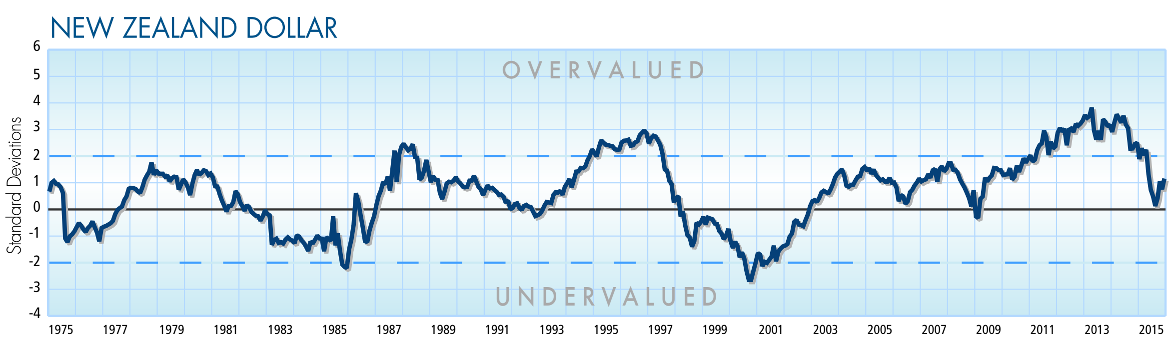
PURCHASING POWER PARITY VALUATIONS VERSUS US DOLLAR

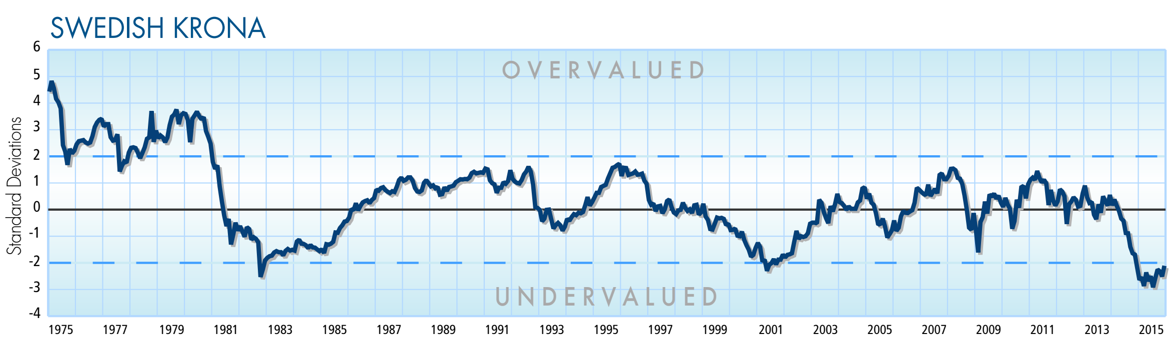
DECEMBER 31, 2015

MONDRIAN INVESTMENT PARTNERS







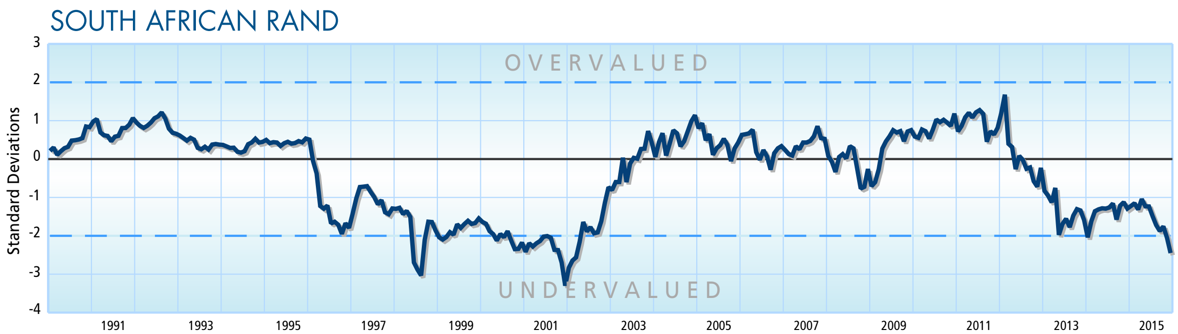


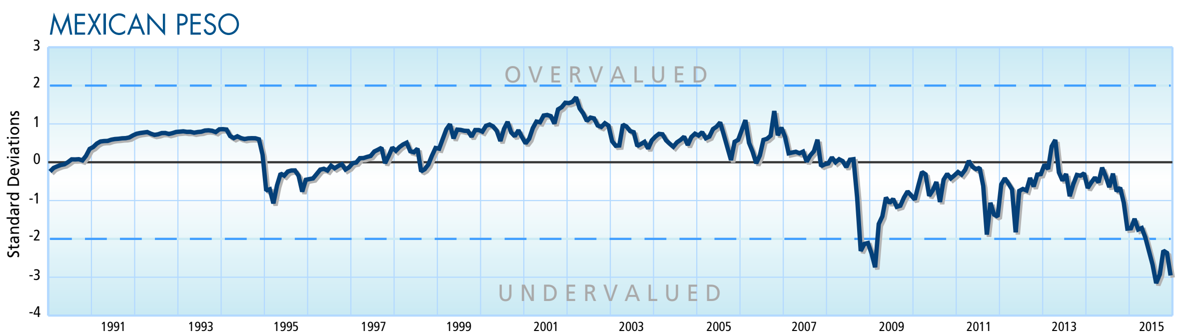
Source: Mondrian Investment Partners

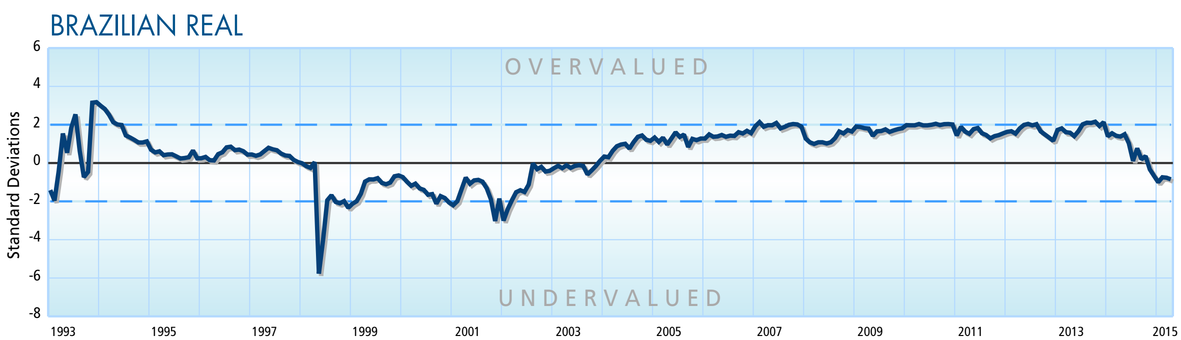
Purchasing Power Parity Valuations versus US Dollar

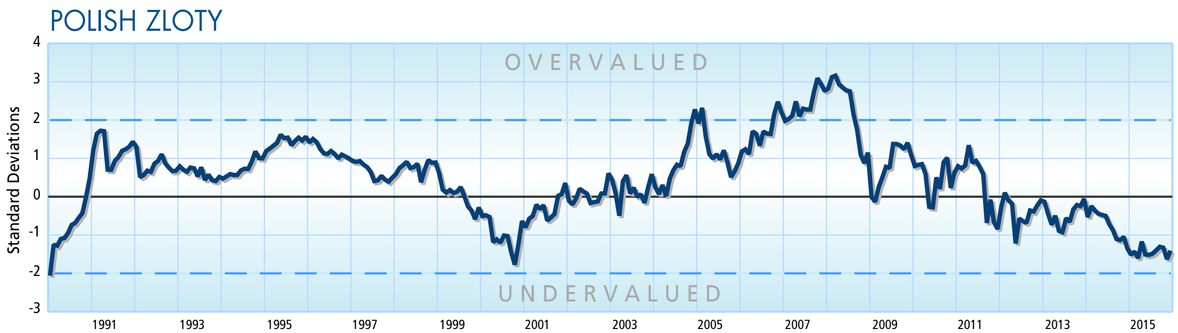
DECEMBER 31, 2015

MONDRIAN INVESTMENT PARTNERS









Source: Mondrian Investment Partners

International Fixed Income Portfolio

ALASKA RETIREMENT MANAGEMENT BOARD

DECEMBER 31, 2015

MONDRIAN INVESTMENT PARTNERS

		Bond Exposure (%) Portfolio	Currency Exposure (%) Portfolio	Benchmark (%)
PACIFIC-ASIA		**34.6**	**34.6**	**34.2**
Australia		1.4	1.4	1.5
Australian Govt	5.750% / 2021	1.4		
Indonesia		2.7	2.7	2.9
Indonesia Govt	5.625% / 2023	0.6		
Indonesia Govt	7.875% / 2019	0.1		
Indonesia Govt	8.375% / 2024	1.1		
Indonesia Govt	8.375% / 2034	0.4		
Indonesia Govt	9.000% / 2029	0.6		
Japan		22.5	22.5	23.4
Japan Govt	0.200% / 2017	1.9		
Japan Govt	0.600% / 2024	2.6		
Japan Govt	0.800% / 2020	2.6		
Japan Govt	1.000% / 2021	3.0		
Japan Govt	1.100% / 2020	1.0		
Japan Govt	1.400% / 2018	3.4		
Japan Govt	1.500% / 2034	2.1		
Japan Govt	1.700% / 2044	1.7		
Japan Govt	1.900% / 2029	1.4		
Japan Govt	2.100% / 2026	3.0		
Malaysia		6.0	6.0	3.3
Malaysia Govt	3.314% / 2017	0.3		
Malaysia Govt	3.418% / 2022	0.6		
Malaysia Govt	3.654% / 2019	0.8		
Malaysia Govt	3.659% / 2020	0.3		
Malaysia Govt	3.759% / 2019	1.2		
Malaysia Govt	3.795% / 2022	0.3		
Malaysia Govt	3.955% / 2025	1.5		
Malaysia Govt	4.048% / 2021	0.4		
Malaysia Govt	4.240% / 2018	0.6		
Malaysia Govt	4.498% / 2030	0.2		
Singapore		2.0	2.0	0.3
Singapore Govt	2.000% / 2020	1.0		
Singapore Govt	2.375% / 2025	0.8		
Singapore Govt	2.875% / 2030	0.2		
EUROPE		**38.5**	**38.5**	**51.9**
Eurozone		20.8	20.8	33.1
Bundesobligation	0.500% / 2018	0.9		
Bundesobligation	0.750% / 2017	0.2		
Bundesrepublik	2.250% / 2020	1.6		
Bundesrepublik	4.000% / 2037	0.6		
France O.A.T.	0.000% / 2020	2.4		
France O.A.T.	0.500% / 2025	1.7		
France O.A.T.	3.000% / 2022	1.7		
France O.A.T.	3.750% / 2017	2.4		
France O.A.T.	4.750% / 2035	1.8		
Spanish Govt	1.400% / 2020	1.9		
Spanish Govt	1.600% / 2025	0.8		
Spanish Govt	4.200% / 2037	1.3		
Spanish Govt	5.500% / 2017	1.8		
Spanish Govt	5.850% / 2022	1.8		
Poland		5.8	5.8	3.5
Poland Govt	4.750% / 2017	0.6		
Poland Govt	5.250% / 2017	0.6		
Poland Govt	5.500% / 2019	1.9		
Poland Govt	5.750% / 2021	0.5		
Poland Govt	5.750% / 2022	1.4		
Poland Govt	5.750% / 2029	0.8		
Sweden		3.3	3.3	0.4
Sweden Govt	3.500% / 2022	0.3		
Sweden Govt	3.750% / 2017	1.6		
Sweden Govt	4.250% / 2019	1.4		
Turkey		2.7	2.7	3.0
Turkey Govt	10.500% / 2020	1.3		
Turkey Govt	7.100% / 2023	0.1		
Turkey Govt	8.000% / 2025	0.5		
Turkey Govt	9.000% / 2017	0.4		
Turkey Govt	9.000% / 2024	0.4		

CONTINUED ON NEXT PAGE

Source: Mondrian Investment Partners/Citigroup/JPMorgan

Benchmark: Citigroup Non-US World Government Bond Index (70%) and the JPMorgan GBI-EM Global Diversified Index (30%)

International Fixed Income Portfolio

ALASKA RETIREMENT MANAGEMENT BOARD

DECEMBER 31, 2015

MONDRIAN INVESTMENT PARTNERS

		Bond Exposure (%) Portfolio	Currency Exposure (%) Portfolio	Benchmark (%)
United Kingdom		5.8	5.8	6.7
UK Treasury	3.750% / 2020	1.3		
UK Treasury	4.250% / 2027	1.7		
UK Treasury	4.250% / 2032	1.2		
UK Treasury	4.250% / 2039	1.1		
UK Treasury	4.500% / 2034	0.5		
LATIN AMERICA		**22.1**	**22.1**	**9.3**
Brazil		7.9	7.9	3.0
Brazil NTN-F	10.000% / 2017	2.9		
Brazil NTN-F	10.000% / 2021	2.7		
Brazil NTN-F	10.000% / 2023	1.3		
Brazil NTN-F	10.000% / 2025	1.0		
Colombia		3.6	3.6	1.9
Colombia Tes	10.000% / 2024	1.4		
Colombia Tes	5.000% / 2018	1.1		
Colombia Tes	6.000% / 2028	1.0		
Mexico		9.0	9.0	3.8
Mexico Bonos	10.000% / 2036	0.8		
Mexico Bonos	4.750% / 2018	0.7		
Mexico Bonos	6.500% / 2021	1.4		
Mexico Bonos	7.500% / 2027	0.9		
Mexico Bonos	7.750% / 2017	0.6		
Mexico Bonos	7.750% / 2034	0.4		
Mexico Bonos	8.000% / 2023	2.7		
Mexico Bonos	8.500% / 2018	1.5		
Peru		1.7	1.7	0.5
Peruvian Govt	5.200% / 2023	0.4		
Peruvian Govt	6.900% / 2037	0.3		
Peruvian Govt	6.950% / 2031	0.5		
Peruvian Govt	7.840% / 2020	0.4		
AFRICA		**3.9**	**3.9**	**3.0**
South Africa		3.9	3.9	3.0
Rep of South Africa	10.500% / 2026	1.4		
Rep of South Africa	6.250% / 2036	1.3		
Rep of South Africa	6.750% / 2021	0.2		
Rep of South Africa	7.250% / 2020	0.0		
Rep of South Africa	7.750% / 2023	1.0		
CASH		**1.0**	**1.0**	**0.0**
TOTAL		**100.0**	**100.0**	**100.0**

Source: Mondrian Investment Partners/Citigroup/JPMorgan

Benchmark: Citigroup Non-US World Government Bond Index (70%) and the JPMorgan GBI-EM Global Diversified Index (30%)

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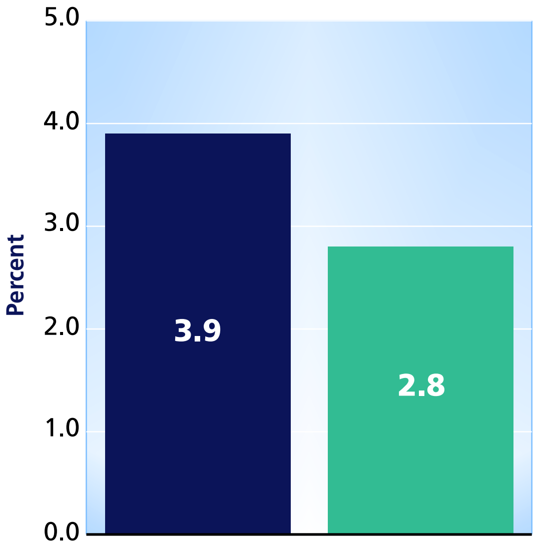
Summary Portfolio Characteristics

ALASKA RETIREMENT MANAGEMENT BOARD

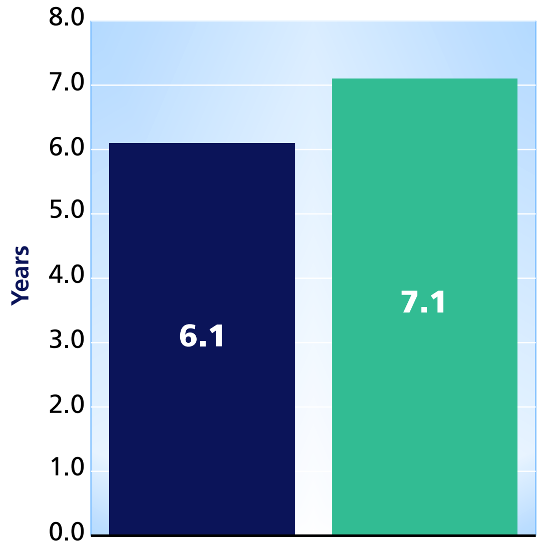
DECEMBER 31, 2015

MONDRIAN INVESTMENT PARTNERS

Yield to Maturity



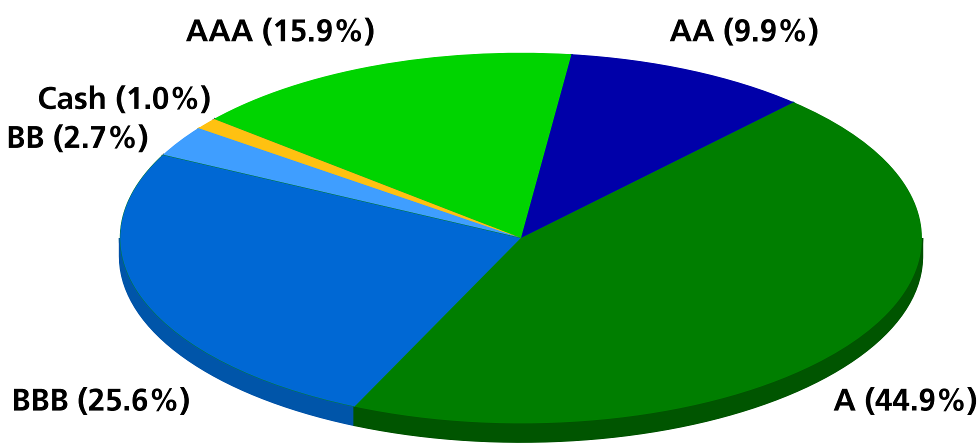
Duration



Alaska Retirement Management Board

Benchmark

Credit Rating Distribution



Average = A+

Corporate bond exposure = 0.0%

Source: Mondrian Investment Partners/Citigroup/JPMorgan

Benchmark: Citigroup Non-US World Government Bond Index (70%) and the JPMorgan GBI-EM Global Diversified Index (30%)

160218 AlaskaRetMgtBrd IDO

Appendix

Investment Outlook Summary

January 2016

Mondrian Investment Partners

US

- Economy gradually recovering
- But overcapacity set to persist
- Inflation pressures to remain muted

Japan

- Surplus capacity in economy
- Inflation looks set to remain low
- Japanese yen appears extremely undervalued versus US dollar

Europe

- Swedish krona appears extremely undervalued versus US dollar
- Core Eurozone government bond markets offer poor value
- Polish government bonds attractive

Rest of the World

- New Zealand government bonds good value
- New Zealand dollar remains overvalued
- Mexican government bonds attractive, Mexican peso appears extremely undervalued versus US dollar

The opinions expressed here are Mondrian's views based on proprietary research.
Source: Mondrian Investment Partners.

Investment Outlook Summary

EMERGING MARKET DEBT

DECEMBER 2015

MONDRIAN INVESTMENT PARTNERS

Asia

- Chinese inflation to remain low; economy decelerating and food price and fuel pressures low
- Indonesian inflation has reverted to low levels after last year's spike, due to the almost complete removal of fuel subsidies in late 2014. Inflation should now remain low as economic growth remains fairly subdued
- Malaysian inflation remains pressured at the headline level, again due to the removal of fuel subsidies, and the introduction of a goods and services tax in early 2015. However, these effects will begin to wash out in early 2016
- Indian inflation likely to stay low, due to weak economic growth and lower fuel costs

Latin America

- Mexican economic recovery tepid, leading to muted inflation pressures. Headline inflation now below 3% and unlikely to accelerate much, despite a weak Mexican peso. Mexican peso is extremely undervalued
- Brazilian economy is in recession. Inflation is currently high due to upwards adjustments to administered prices and electricity tariffs in 2015, and a weak exchange rate, but is likely to fall sharply in 2016. Bond yields are very high and hence offer a very attractive Prospective Real Yield (PRY). The Brazilian real is very undervalued
- Chilean economy has weakened persistently, opening up an output gap. Inflation now likely to fall, as pass-through from a weak exchange rate ebbs, and fuel prices remain low
- Peruvian inflation well contained; economic growth sluggish relative to potential, thus limiting upside. However, "el niño" weather phenomenon may lead to higher food prices in the short term
- Colombian economy weak; inflation has risen recently due to the impact from a weak exchange rate, and "el niño" but this should dissipate in late 2016. Colombian peso extremely undervalued

Eastern Europe

- Hungarian inflation remains low, helped by cuts in domestic energy costs, but the economy is robust, and some pricing power should re-emerge in 2016.
- Polish economy faring relatively well, but inflation is low, helped by lower food and oil prices and sluggish growth in trading partners
- Czech economy rebounding, inflation likely to accelerate in 2016
- Turkey's growth is slowing. However, core inflation is stuck at high levels, partly due to high labour cost growth, and pass-through from F/X weakness
- Russian economy in recession. Inflation has spiked higher, driven by severe F/X weakness. However, this impact should fade over 2016, and domestic demand weakness should ultimately lead to much lower inflation

Middle East and Africa

- South African economy weak, but inflation pressures remain; high wage settlements, low productivity and currency weakness
- Israel's open economy makes it vulnerable to global growth weakness; inflation to remain low.

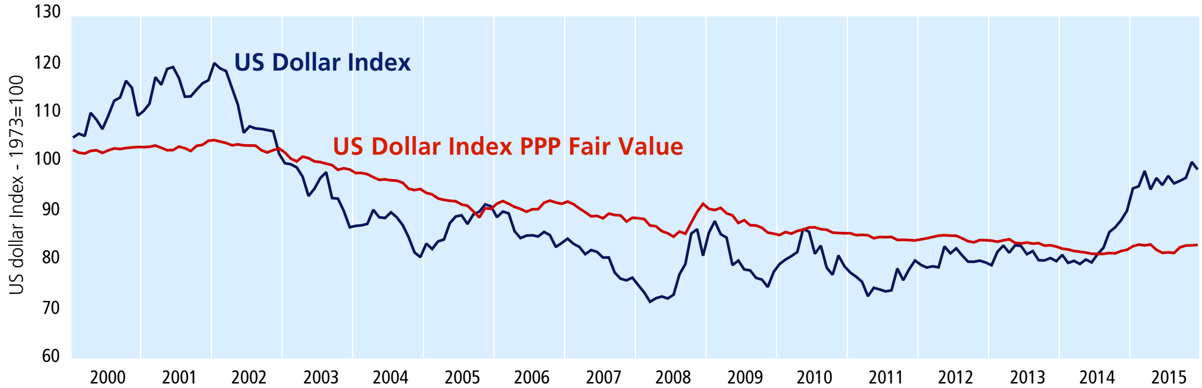
The opinions expressed here are Mondrian's views based on proprietary research.

The US Dollar is Extremely Overvalued

DECEMBER 2015

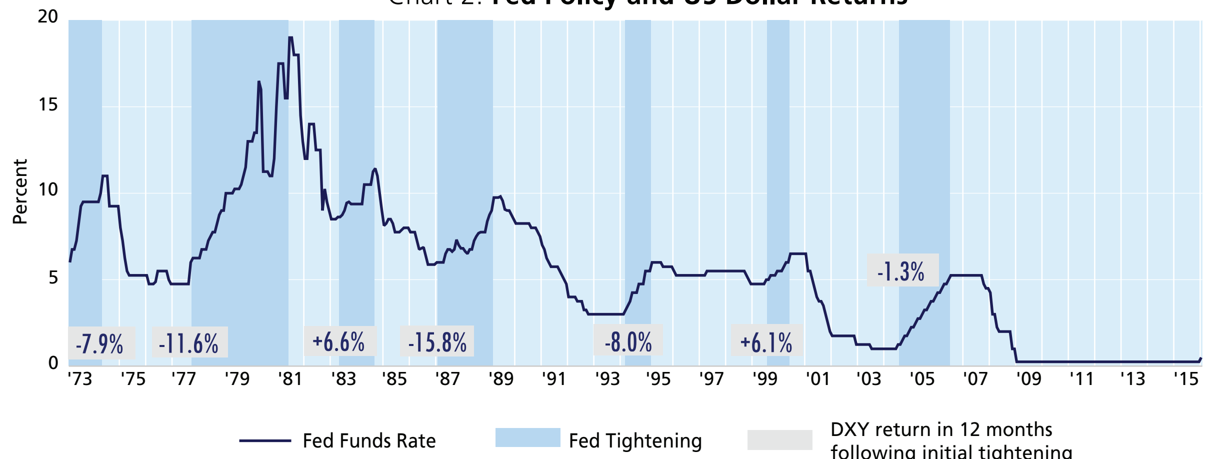
MONDRIAN INVESTMENT PARTNERS

Chart 1: **US Dollar Index Valuation**



Source: Thomson Reuters Datastream, Mondrian

Chart 2: **Fed Policy and US Dollar Returns**



Source: Thomson Reuters Datastream, Mondrian

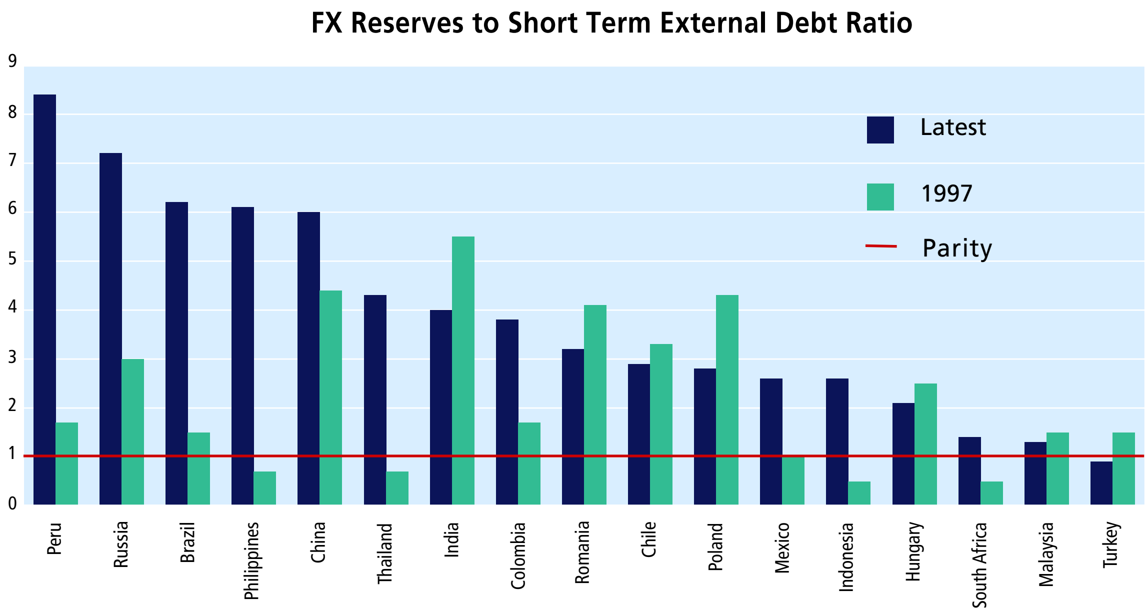
- The US dollar index (DXY) appreciated 25% in the 18 months prior to the Fed's recent hike
- It is now substantially overvalued according to our PPP metrics (chart 1)
- Fed tightening does not necessarily imply a stronger US dollar going forward
- There have been seven major Fed tightening episodes since the 1970s
- Twelve months after the start of all but two, the US dollar index had fallen (chart 2)
- Current tightening has been more keenly anticipated than any other (a "crowded trade").

The opinions expressed here are Mondrian's views based on proprietary research.

EMERGING MARKET DEBT OFFERS GOOD VALUE

SEPTEMBER 2015

MONDRIAN INVESTMENT PARTNERS



Source: World Bank, BIS, National Data, Mondrian

- Emerging markets are suffering from uncertainty over Fed policy, weaker GDP growth and lower commodity prices.

- Macroeconomic reforms mean that sovereign fundamentals are much more robust than in prior downturns (e.g. the Asian crisis of 1997):
  - Sovereigns now rely more on local currency debt issuance
  - Macroeconomic imbalances are less extreme
  - Healthier FX reserve positions in most cases (see chart)
  - Improved policy frameworks - independent central banks, fiscal councils, inflation targeting, market exchange rates.

- Valuations are now very compelling:
  - Prospective Real Yields are attractive
  - Our PPP valuations suggest that currencies are cheap.

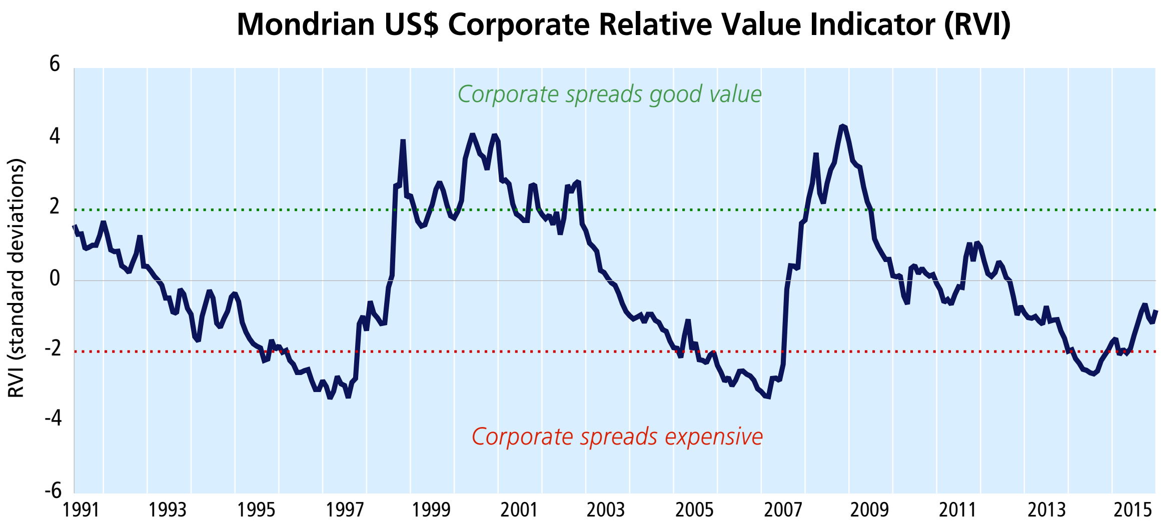
- Over the longer term, demographic trends in many countries outside Europe, the potential for productivity catch-up and further institutional and structural reforms all bode well.

The opinions expressed here are Mondrian's views based on proprietary research.

Corporate Bonds Overvalued

DECEMBER 2015

MONDRIAN INVESTMENT PARTNERS



Source: Mondrian Investment Partners and Barclays

Mondrian's RVI approach exploits the mean reversion of credit spreads over a full market cycle.
The RVI represents the number of standard deviations that relevant benchmark spreads are currently from fair value.
A positive (negative) RVI represents under (over) valuation

- US$ corporate bonds are overvalued on our RVI measure (see chart). Euro corporate bonds are also overvalued

- Mondrian's RVI approach has provided a reliable guide to heightened systemic risk and points of over (and under) valuation

- Current valuations are not supported by an improvement in fundamentals in our view; they have been inflated by the provision of central bank liquidity

- Such overvaluation of corporate bonds can persist for extended periods of time but historically they have tended to end with sharp corrections, e.g. 2008 and as we are seeing currently, with US$ corporate spreads now 70% wider than when our RVI measure was signalling an extreme of overvaluation in late 2014/early 2015

- With the Fed tightening monetary policy and companies engaging in less credit friendly corporate behaviour, the risk environment for corporate credit is deteriorating. Corporates have 'leveraged up', taking advantage of historic low borrowing costs to either repurchase shares or engage in M&A

- Such levels of overvaluation continue to trigger defensive positioning across our portfolios

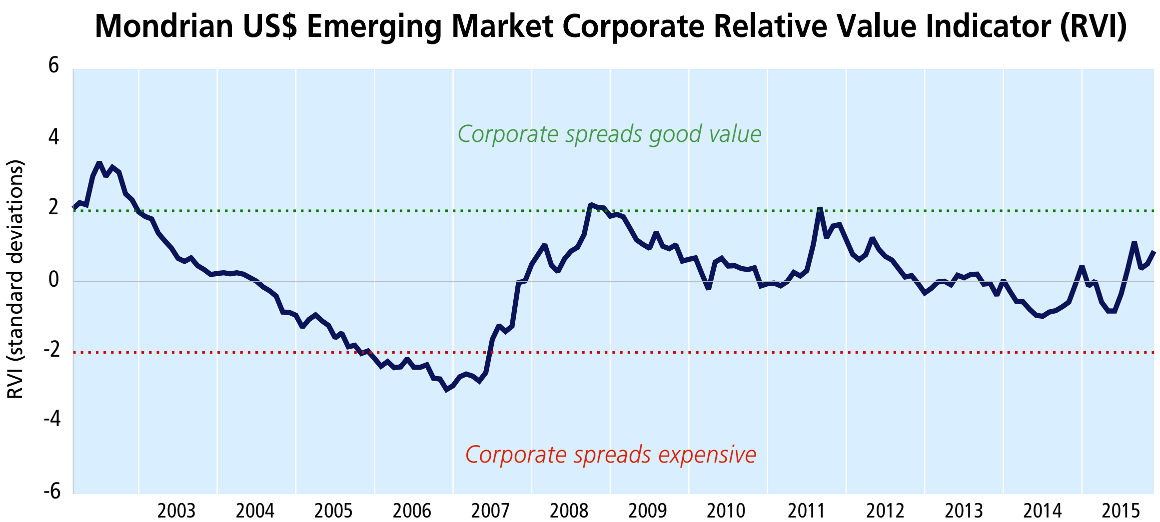
- We believe this leaves us strongly positioned to protect client capital and exploit market weakness when the credit cycle inevitably turns again

The opinions expressed here are Mondrian's views based on proprietary research.

EMERGING MARKET CORPORATE BONDS NOT GOOD VALUE

DECEMBER 2015

MONDRIAN INVESTMENT PARTNERS



Source: Mondrian Investment Partners, JP Morgan and Barclays

Mondrian's RVI approach exploits the mean reversion of credit spreads over a full market cycle.
The RVI represents the number of standard deviations that relevant benchmark spreads are currently from fair value.
A positive (negative) RVI represents under (over) valuation.

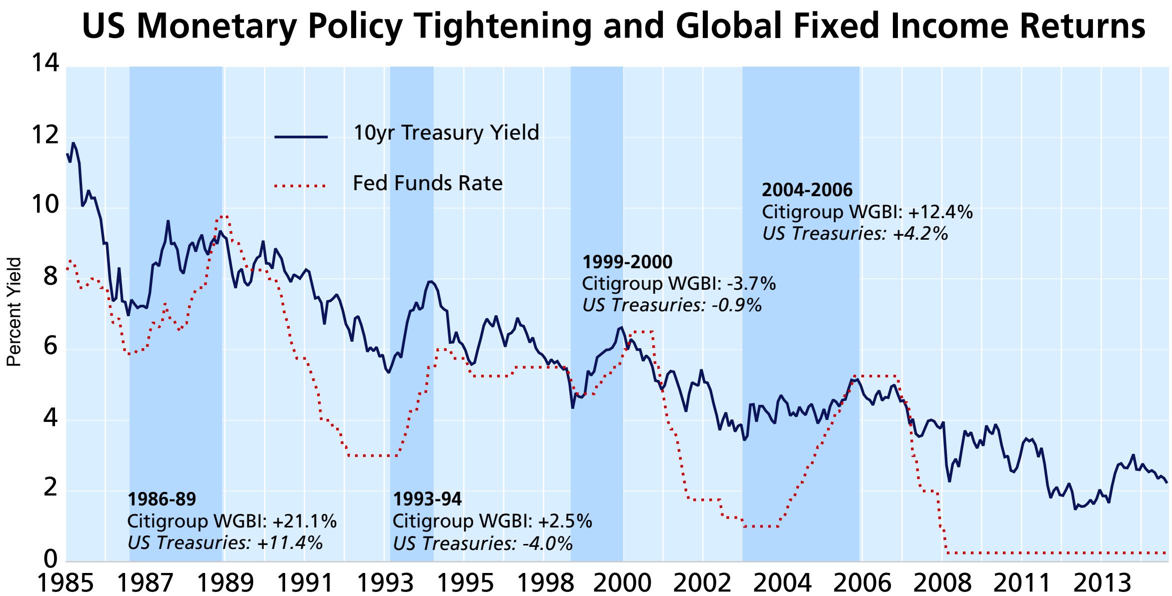
- US$ denominated emerging market corporate bonds are undervalued on our RVI measure of corporate bond value, but not significantly so (see chart)
- Mondrian's RVI approach has provided a reliable guide to heightened systemic risk and points of over (and under) valuation
- Our RVI has in the past enabled us to exploit periods of market weakness
- Our RVI measure is not signalling significant undervaluation despite the selloff in emerging markets in recent months. We remain cautious given the risks presented by emerging market corporates exposure to weak commodity prices and potential distortions as the Fed prepares to move into tightening mode in a sector where the global search for yield has inflated valuations
- The provision of central bank liquidity and low borrowing costs since the financial crisis has seen corporates increase debt to record levels. This leaves corporate issuers exposed to both the inevitable rate rises in the future and the subsequent refinancing risk when portions of the current high debt levels mature
- Whilst we view emerging market corporate debt as an established asset class, this has not always been the case. Historically emerging market corporates have not been an attractive proposition for us to exploit market weakness as the asset class was constrained by poor liquidity (exacerbated in times of sell-off) and governance issues

The opinions expressed here are Mondrian's views based on proprietary research.

THE TACTICAL CASE FOR GLOBAL BONDS

DECEMBER 2014

MONDRIAN INVESTMENT PARTNERS



Source: Federal Reserve, Citigroup. US dollar returns.

- Global fixed income returns were positive in three of the past four episodes of Fed tightening (see chart)
- Income returns offset negative principal returns
- Central bank forward guidance suggests tightening, when it eventually comes, will be gradual
- Rate rises are therefore likely to be protracted, giving income time to offset bond price falls
- Other asset classes, such as equities and high yield bonds, are richly valued on a number of measures and potentially liable to fall
- In those episodes where the US 10 year bond yield has risen, Mondrian Global Fixed Income has, in aggregate, outperformed the Citigroup WGBI benchmark[1]

[1] Tightening episodes under consideration are trough-to-peak movements in the 10 year US government bond yield associated with underlying rises in the federal funds rate. The Mondrian Global Fixed Income Composite, which incepted in 1991, outperformed the Citigroup World Government Bond Index during the last three tightening episodes taken as a whole.

The opinions expressed here are Mondrian's views based on proprietary research.

The Strategic Case for International Bonds

DECEMBER 2014

MONDRIAN INVESTMENT PARTNERS

Excellent Short-Term Diversification Benefits

	1979/1980 Oil Price Rise	1987 Stock Market Crash	Gulf War	1994 Fed Rate Rise	Russia/ LTCM	9/11	Enron/ WorldCom	Lehman Bankruptcy	Eurozone Crisis
	Q3, 1980	**Q4, 1987**	**Q3, 1990**	**Q1, 1994**	**Q3, 1998**	**Q3, 2001**	**Q2, 2002**	**Q4, 2008**	**Q2, 2011**
US Equity	9.7	–23.0	–13.7	–3.8	–9.2	–14.7	–14.4	-22.4	0.1
EAFE Equity	6.2	–10.6	–21.2	3.5	–14.2	–14.0	–2.1	-20.0	1.6
US Bonds	–8.8	5.5	0.9	–3.0	5.7	5.5	4.5	8.9	2.3
High Yield	—	1.9	–10.2	–1.9	–4.6	–4.2	–6.4	–17.9	1.1
Int'l Bonds	**1.9**	**24.0**	**6.1**	**1.9**	**9.6**	**7.8**	**14.0**	**8.8**	**3.7**

Unhedged US dollar returns (%) Source: Barclays, Citigroup, MSCI

- International bonds have usually outperformed during periods of market turmoil
- Can help stabilize performance of portfolios during times of crises
- Market crises are unpredictable and will always occur
- International bonds can act like an insurance policy – there when you need them most

Excellent Long-Term Diversification Benefits

	1985 – 1989	1990 – 1994	1995 – 1999	2000 – 2004	2005 – 2009	2010 – 2014	1985 – 2014
US Equity	18.5	8.1	29.0	-3.6	0.0	14.8	10.6
EAFE Equity	36.1	1.5	12.8	-1.1	3.5	5.3	9.0
US Bonds	11.8	7.5	7.4	7.4	4.9	3.9	7.1
High Yield	11.9	12.1	9.3	7.0	6.5	9.0	9.3
Int'l Bonds	**18.8**	**11.4**	**5.9**	**8.8**	**4.5**	**0.8**	**8.2**

Annualized unhedged US dollar returns (%) Source: Barclays, Citigroup, MSCI

- International bond returns tend to be countercyclical, so offer excellent long term diversification benefits to domestic portfolios
- International bonds underperformed in 1995 – 1999 and 2010 – 2014, when equities did well, but outperformed in 1990 – 1994 and 2000 – 2004 when equities underperformed
- International bonds can therefore reduce the volatility of domestic portfolios
- Over the longer term international bonds have outperformed US bonds, so can enhance portfolio risk/return characteristics

The opinions expressed here are Mondrian's views based on proprietary research.
Source: Mondrian Investment Partners.

Disclosure – Global Debt Opportunities Composite

MONDRIAN INVESTMENT PARTNERS

Annual Performance

Year	Total Gross US$ Return	Total Net of Fees US$ Return	Benchmark US$ Return	Composite Standard Deviation	Benchmark Standard Deviation	Number of Portfolios	Composite Dispersion	Total Composite Assets (US$ millions)	% of Firm Assets	Total Firm Assets (US$ millions)
2007	7.43%	7.26%	6.85%	N/A	N/A	1	N/A	850.8	1.32	64,338
2008	5.92%	5.43%	8.20%	N/A	N/A	1	N/A	792.6	1.64	48,233
2009	12.72%	12.19%	5.18%	N/A	N/A	1	N/A	894.7	1.39	64,393
2010	9.86%	9.35%	6.95%	9.84%	9.27%	2	N/A	936.2	1.37	68,386
2011	4.70%	4.21%	5.56%	8.63%	7.64%	2	N/A	814.0	1.24	65,891
2012	2.98%	2.50%	3.96%	6.51%	5.73%	3	N/A	539.5	0.79	68,248
2013	-6.99%	-7.43%	-5.01%	5.53%	5.13%	3	N/A	469.2	0.67	70,356
2014	-2.09%	-2.55%	0.12%	4.91%	4.71%	2	N/A	399.3	0.62	64,102
2015	-5.35%	-5.80%	-4.51%	4.77%	4.53%	2	N/A	108.4	0.19	56,857

Accompanying Notes Concerning Performance Calculation and GIPS® Compliance

- *This composite was created in September 2007.*
- *Past performance is not a guarantee of future results.*
- *A complete list and description of all firm composites is available on request.*

Mondrian Investment Partners Limited ("Mondrian") claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the Global Investment Performance Standards (GIPS®). Mondrian has been independently verified for the periods 1 January 1993 to 31 December 2014.

Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Additional third party Performance Examination under GIPS of this composite's results has also been undertaken from 1 September 2007 to 31 December 2014. The verification and performance examination reports are available upon request.

The Firm is defined as all discretionary portfolios managed by Mondrian.

Mondrian is a value-oriented defensive manager seeking to achieve high real returns for its clients. Mondrian invests mainly in securities where rigorous dividend discount analysis identifies value in terms of the long-term flows of income. Mondrian's methodology is applied consistently to markets and individual securities, both bonds and equities.

The Global Debt Opportunities Composite includes US dollar based discretionary fee paying portfolios, measured against a customised index consisting of the monthly US dollar returns of the JP Morgan GGBI (80% weighting) and the JP Morgan GBI EM Broad Diversified Index (20% weighting) gross of withholding taxes. The portfolios are invested in global bonds and target a 20% exposure to emerging market debt.

Portfolios are valued on a trade date basis using accrual accounting. Returns are calculated using the modified Dietz method and then weighted by using beginning-of-period market values to calculate the monthly composite returns. Portfolio returns are calculated net of irrecoverable withholding tax on dividend income. New portfolios are included in the first full month of investment in the composite's strategy. Terminated portfolios remain in the composite through the last full month of investment. Additional information regarding the valuing of portfolios, calculating performance, and preparing compliant presentations are available upon request.

Composite and benchmark standard deviation are measured as the rolling 3 year annualised standard deviation of monthly returns. The dispersion of annual returns of portfolios within the composite (Composite Dispersion), is measured by the standard deviation of the equal-weighted returns of portfolios represented within the composite for the full year. Composite Dispersion is not presented if there are less than five portfolios in the composite during the year.

Performance results marked "Gross" do not reflect deduction of investment advisory fees. Investment returns will be reduced accordingly. For example, if a 1.00% advisory fee were deducted quarterly (0.25% each quarter) and the three year gross annual returns were 10.00%, 3.00% and -2.00%, giving an annualized return of 3.55% before deduction of advisory fees, then the deduction of advisory fees would result in three year net annual returns of 8.91%, 1.98% and -2.97% giving an annualized net return of 2.52%.

Performance returns marked "Net" reflect deduction of investment advisory fees and are calculated by deducting a quarterly indicative fee from the quarterly composite return. The indicative fee is defined as being the effective fee rate (or average weighted fee) at the composite's minimum account size as set out below. Actual net composite performance would be higher than the indicative performance shown because some accounts have sliding fee scales and accordingly lower effective fee rates.

Mondrian's investment advisory fees are described in Part II of its Form ADV. A representative United States fee schedule for institutional accounts is provided below, although it is expected that from time to time the fee charged will differ from the below schedule depending on the country in which the client is located and the nature, circumstances and requirements of individual clients. The fees will be charged as follows: the first US$50m at 0.50%; the next US$50m at 0.44%, the next US$100m at 0.40% and amounts over US$200m at 0.36%. Minimum segregated portfolio size of currently US$100 million (or fees equivalent thereto).

Disclosure – International Fixed Income Unhedged Composite

MONDRIAN INVESTMENT PARTNERS LIMITED

Annual Performance

Year	Total Gross US$ Return	Total Net of Fees US$ Return	Benchmark US$ Return	Composite Standard Deviation	Benchmark Standard Deviation	Number of Portfolios	Composite Dispersion	Total Composite Assets (US$ millions)	% of Firm Assets	Total Firm Assets (US$ millions)
2006	7.20%	6.74%	6.94%	7.42%	6.97%	5	0.27%	523.7	0.99	53,102
2007	11.49%	11.02%	11.45%	6.56%	6.38%	7	0.10%	1,022.9	1.59	64,338
2008	11.95%	11.47%	10.11%	7.85%	8.44%	6	0.95%	1,086.0	2.25	48,233
2009	8.94%	8.47%	4.39%	9.61%	10.09%	19	0.52%	2,035.0	3.16	64,393
2010	7.45%	6.99%	5.21%	10.74%	11.06%	18	0.82%	2,865.7	4.19	68,386
2011	4.92%	4.47%	5.17%	9.79%	9.47%	16	0.67%	2,885.5	4.38	65,891
2012	1.50%	1.07%	1.51%	7.81%	7.36%	11	0.75%	2,642.1	3.87	68,248
2013	-6.98%	-7.38%	-4.56%	6.21%	5.83%	8	0.17%	2,203.4	3.13	70,356
2014	-3.39%	-3.80%	-2.68%	5.40%	5.45%	5	0.09%	907.0	1.41	64,102
2015	-4.63%	-5.04%	-5.54%	5.36%	5.81%	4	N/A	449.2	0.79	56,857

Accompanying Notes Concerning Performance Calculation and GIPS® Compliance

- *This composite was created in October 1993.*
- *Past performance is not a guarantee of future results.*
- *A complete list and description of all firm composites is available on request.*

Mondrian Investment Partners Limited ("Mondrian") claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the Global Investment Performance Standards (GIPS®). Mondrian has been independently verified for the periods 1 January 1993 to 31 December 2014.

Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Additional third party Performance Examination under GIPS of this composite's results has also been undertaken from 1 October 1993 to 31 December 2014. The verification and performance examination reports are available upon request.

The Firm is defined as all discretionary portfolios managed by Mondrian.

Mondrian is a value-oriented defensive manager seeking to achieve high real returns for its clients. Mondrian invests mainly in securities where rigorous dividend discount analysis identifies value in terms of the long-term flows of income. Mondrian's methodology is applied consistently to markets and individual securities, both bonds and equities.

The International Fixed Income Unhedged Composite includes US dollar based discretionary fee paying portfolios, measured against the Citigroup non-US World Government Bond Index gross of US withholding taxes. The portfolios are invested in international bonds and are allowed no more than 5% in emerging markets debt.

Portfolios are valued on a trade date basis using accrual accounting. Returns are calculated using the modified Dietz method and then weighted by using beginning-of-period market values to calculate the monthly composite returns. Portfolio returns are calculated net of irrecoverable withholding tax on dividend income. New portfolios are included in the first full month of investment in the composite's strategy. Terminated portfolios remain in the composite through the last full month of investment. Additional information regarding the valuing of portfolios, calculating performance, and preparing compliant presentations are available upon request.

Composite and benchmark standard deviation are measured as the rolling 3 year annualised standard deviation of monthly returns. The dispersion of annual returns of portfolios within the composite (Composite Dispersion), is measured by the standard deviation of the equal-weighted returns of portfolios represented within the composite for the full year. Composite Dispersion is not presented if there are less than five portfolios in the composite during the year.

Performance results marked "Gross" do not reflect deduction of investment advisory fees. Investment returns will be reduced accordingly. For example, if a 1.00% advisory fee were deducted quarterly (0.25% each quarter) and the three year gross annual returns were 10.00%, 3.00% and -2.00%, giving an annualized return of 3.55% before deduction of advisory fees, then the deduction of advisory fees would result in three year net annual returns of 8.91%, 1.98% and -2.97% giving an annualized net return of 2.52%.

Performance returns marked "Net" reflect deduction of investment advisory fees and are calculated by deducting a quarterly indicative fee from the quarterly composite return. The indicative fee is defined as being the effective fee rate (or average weighted fee) at the composite's minimum account size as set out below. Actual net composite performance would be higher than the indicative performance shown because some accounts have sliding fee scales and accordingly lower effective fee rates.

Mondrian's investment advisory fees are described in Part II of its Form ADV. A representative United States fee schedule for institutional accounts is provided below, although it is expected that from time to time the fee charged will differ from the below schedule depending on the country in which the client is located and the nature, circumstances and requirements of individual clients. The fees will be charged as follows: the first US$50m at 0.43% and amounts over US$50m at 0.30%.
Minimum segregated portfolio size of currently US$50 million (or fees equivalent thereto).

Important Information

MONDRIAN INVESTMENT PARTNERS

Term/Issue	Description/Disclosure
Benchmark:	From inception to March 31, 2011, the portfolio's performance was measured against the Citigroup Non-US World Government Bond Index. From April 1, 2011 to December 31, 2012, the portfolio's performance was measured against a blend of the Citigroup Non-US World Government Bond Index (70%) and the JPMorgan GBI-EM Broad Diversified Index (30%). Beginning January 1, 2013, the portfolio's performance is measured against a blend of the Citigroup Non-US World Government Bond Index (70%) and the JPMorgan GBI-EM Global Diversified Index (30%).
Confidentiality:	This document is confidential and only for the use of the party named on its cover and their advisers. It may not be redistributed or reproduced, in whole or in part.
Current Views:	Views expressed were current as of the date indicated, are subject to change, and may not reflect current views. Views should not be considered a recommendation to buy, hold or sell any security and should not be relied on as research or investment advice.
Estimated Prospective "Real" Yields:	These estimated prospective "real" yields are used solely as a basis for making judgments about country allocation weightings and are not intended to be indications of expected returns.
Forward-Looking Statements:	This document may include forward-looking statements. All statements other than statements of historical facts are forward-looking statements (including words such as "believe," "estimate," "anticipate," "may," "will," "should," "expect"). Although we believe that the expectations reflected in such forward-looking statements are reasonable, we can give no assurance that such expectations will prove to be correct. Various factors could cause actual results or performance to differ materially from those reflected in such forward-looking statements.
Fund Characteristics:	Yield to Maturity, Duration and Credit Rating Distribution are each based on generally accepted industry standards. All portfolio characteristics are derived by first calculating the characteristics for each security, and then calculating the weighted-average of these values for the portfolio. The details of exact calculations can be provided on request.
Performance Results:	Performance results do not reflect deduction of investment advisory and other fees and are net of transaction costs and withholding tax. Investment returns will be reduced accordingly. For example, if a 1.00% advisory fee were deducted quarterly (0.25% each quarter) and your annual return was 10% (approximately 2.411% each quarter) before deduction of advisory fees, the deduction of advisory fees would result in an annualized return of approximately 8.904%. Mondrian's investment advisory fees are described in Part II of its Form ADV. A representative US dollar fee schedule for institutional accounts is provided below, although it is expected that from time to time the fee charged will differ from the below schedule depending on the country in which the client is located and the nature, circumstances and requirements of individual clients. The fees will be charged as follows: the first US$200m at 0.43%, the next US$200m at 0.33% and thereafter at 0.28%. Unless otherwise noted, all returns are in US Dollar.
Purchasing Power Parity Valuations:	Using proprietary Mondrian models. Further information on these models can be provided on request.
US Consumer Price Index:	Data provided through Datastream; two months in arrears.

Mondrian Equity Products

U.S. INVESTORS

DECEMBER 31, 2015

MONDRIAN INVESTMENT PARTNERS

MONDRIAN PRODUCT AND TYPICAL BENCHMARK	VEHICLE			
	SEPARATE ACCOUNT	LIMITED PARTNERSHIP	COLLECTIVE INVESTMENT TRUST	REGISTERED MUTUAL FUND
Non-US Equity *MSCI EAFE*	Closed	*Open Minimum: $5 million*	*Open Minimum: $3 million*	
Focused Non-US Equity *MSCI EAFE*	*Open Minimum: $100 million*			Laudus Mondrian[4]
Global Equity *MSCI World*	*Open Minimum: $100 million*	*Open Minimum: $2 million*		
All Countries World Equity *MSCI ACW*	*Open Minimum: $300 million[1] Minimum: $100 million[2]*	*Open Minimum: $20 million[3]*		
All Countries World Ex-US Equity *MSCI ACW ex-US*	Closed	*Open Minimum: $5 million*	*Available*	
Focused All Countries World Ex-US Equity *MSCI ACW ex-US*	*Open Minimum: $300 million[1] Minimum: $100 million[2]*			
Emerging Markets Equity *MSCI EM*	Closed	Closed		
Focused Emerging Markets Equity *MSCI EM*	Closed	Closed		Laudus Mondrian[4]
Emerging Markets Wealth *MSCI EM*	*Open Minimum: $100 million*	*Open Minimum: $1 million*		
Non-US Small Cap Equity *MSCI World ex-US Small Cap*	Closed	Closed		
Emerging Markets Small Cap Equity *MSCI EM Small Cap*	*Open Minimum: $150 million*	*Open Minimum: $5 million*		

Closed is defined as the vehicle is no longer available to new investors. The vehicle remains open to existing clients for contributions.

1. Utilizing separate account only
2. Utilizing commingled fund for emerging markets exposure
3. Utilizing commingled fund for both global equity and emerging markets exposure
4. Mondrian serves as sole sub-advisor to a range of registered mutual funds known as the Laudus Mondrian Funds. The Funds are advised by Charles Schwab Investment Management. For additional information on the Laudus Mondrian Funds, please contact your Mondrian client service representative or see www.laudusfunds.com

MONDRIAN FIXED INCOME PRODUCTS

U.S. INVESTORS

DECEMBER 31, 2015

MONDRIAN INVESTMENT PARTNERS

MONDRIAN PRODUCT AND TYPICAL BENCHMARK	VEHICLE			
	SEPARATE ACCOUNT	LIMITED PARTNERSHIP	COLLECTIVE INVESTMENT TRUST	REGISTERED MUTUAL FUND
Global Fixed Income *Citigroup WGBI* *Barclays Global Aggregate Bond Index* *JPMorgan Global Government Bond Index*	*Open* *Minimum: $50 million*	*Open* *Minimum: $1 million*		
International Fixed Income *Citigroup WGBI ex-US* *Barclays Global Aggregate ex-US Bond Index* *JPMorgan Global Government Bond ex-US Index*	*Open* *Minimum: $50 million*	*Open* *Minimum: $1 million*		Laudus Mondrian[1]
Global Inflation-Linked Bonds *Barclays World Government Inflation-Linked Bond Index*	*Open* *Minimum: $50 million*	*Open* *Minimum: $1 million*		
US Aggregate Fixed Income *Barclays US Aggregate Bond Index*	*Open* *Minimum: $50 million*	*Open* *Minimum: $1 million*		
Global Debt Opportunities *80% JPM GGBI/20% JPM GBI-EM BD* *80% Citigroup WGBI/20% Custom Citigroup EM Local Currency Bond Index*	*Open* *Minimum: $100 million*	*Open* *Minimum: $1 million*		Laudus Mondrian[1]
Emerging Markets Debt *JP Morgan GBI-EM BD*	*Open* *Minimum: $50 million*	*Open* *Minimum: $1 million*		

1. Mondrian serves as sole sub-advisor to a range of registered mutual funds known as the Laudus Mondrian Funds. The Funds are advised by Charles Schwab Investment Management. For additional information on the Laudus Mondrian Funds, please contact your Mondrian client service representative or see www.laudusfunds.com

Mondrian may, from time to time, reduce and/or increase the minimum amounts listed above. The above is for information purposes only and intended solely for the person to whom is has been delivered. It is not an offer or solicitation with respect to the purchase of any securities. Any investment decision in connection with any investment vehicle should be based on the information contained in its written offering materials.

Swaps

Gary Bader, CIO

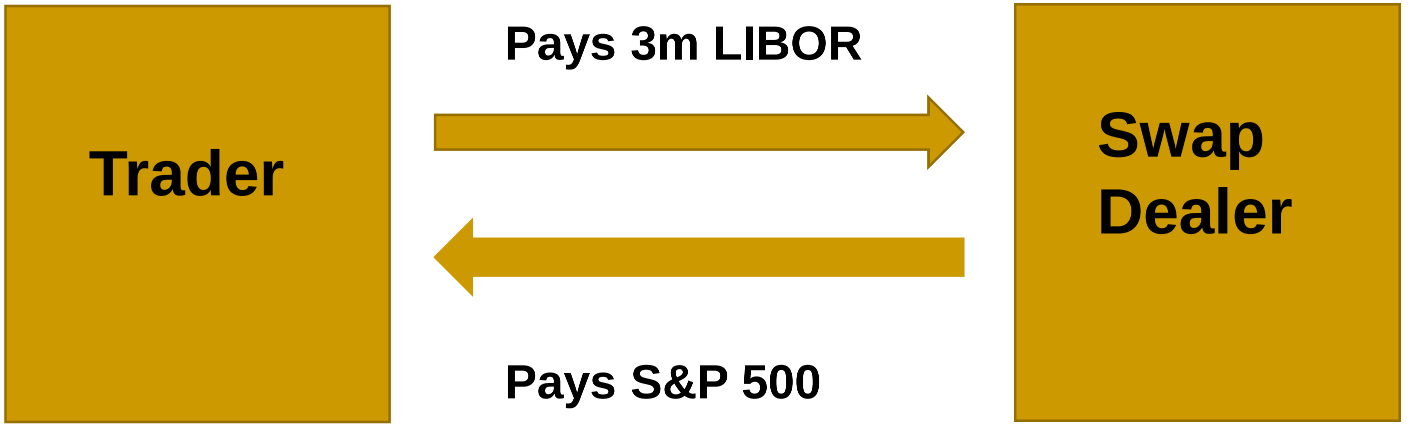
February 18, 2016

What Are Swaps?

What Are Swaps?

- Swaps are contractual agreements between two parties to exchange returns.
- Either side, sometimes referred to as a “leg”, might reference the return of an index, a custom basket of securities, or a single issue.
- The agreement covers a specific period of time, with periodic truing-up or resets.
- At each reset, the returns of each leg are netted and proceeds are transferred between the two parties.

What Are Swaps: An Illustration



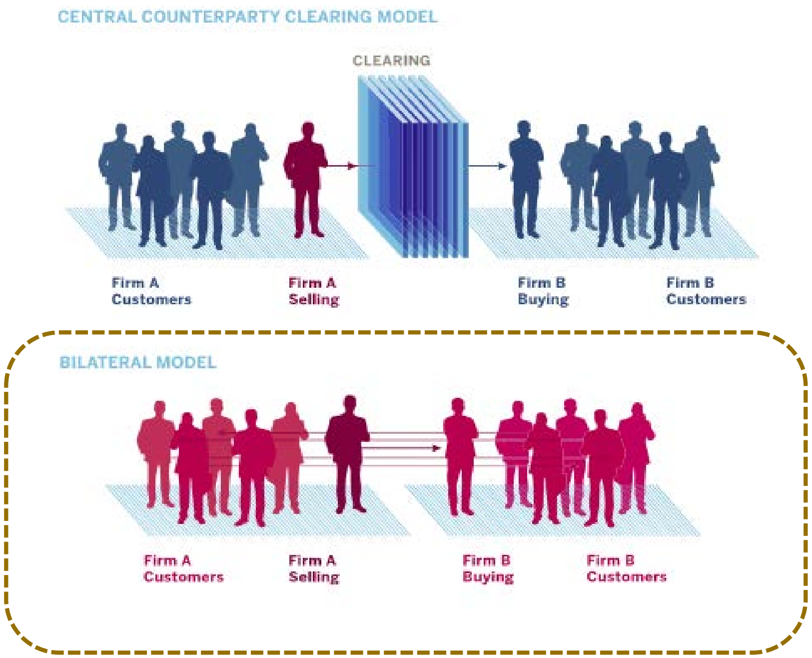
Leverage

- As is also the case with futures, swap contracts create leverage by committing less capital than would be required for a fully funded position.
- This provides the trader with greater flexibility and capital efficiency.

Maximizing Capital Efficiency

- The leverage available in swaps allows you to utilize your capital more efficiently. For example, if you have $200,000 and you want to speculate on the direction of the S&P 500, for the purposes of this illustration you have three choices:
  - **Buy $200,000 of stock using available capital.** This can be done by purchasing an Exchange-Traded Fund (ETF), which for this example would be SPY. SPY seeks to replicate, net of expenses, the S&P 500 Index.
  - **Buy the same (ETF-SPY) stock on margin, taking advantage of the 2:1 leverage in equities.** This allows you to control the same portfolio of stocks (ETF-SPY) by utilizing $100,000 of available capital.
  - **Enter into a swap, receiving the S&P 500 return on $200,000 notional value.** Upfront capital is limited to execution costs.

Clearing: Exchange versus OTC Forward contracts



Swaps are a customized, over-the-counter contracts with specific counterparties. The agreements are not standardized, and they are less liquid than futures. Early termination of a swap might involve payment of a break fee.

How Does A Trade Work: Resets

- Periodically, typically quarterly, a swap agreement resets.
- The returns of each leg are compared at each reset for the period just ended.
- The net return is exchanged between the parties to the swap agreement.

How Does a Trade Work: An Example

- A trader arranges with a **swap dealer** to exchange three-month LIBOR for the return of the S&P 500 index. A custom contract is drafted which addresses the terms for: the life of the swap (typically 3-12 months); periodic resets (typically quarterly); dividend treatment (cash dividends are transferred in total return swaps); execution costs; and break fees.
- Swaps often involve a fixed leg (where a trader receives the periodic return of an index or basket of securities) and a floating leg (where the swap dealer is compensated at a floating LIBOR funding rate to compensate for the dealer's financing cost in covering their short index or basket exposure.
- For mitigating credit exposure, the swap will be marked-to-market at regular intervals called resets. At this time, gains or losses since the previous reset may be exchanged along with any payment from the floating rate payer. Also, dividends may be structured to be passed through either during resets or when the swap terminates.

How Does a Trade Work: An Example (2)

- At the **expiration** of the contract, any remaining reset value would be exchanged. If the swap is terminated early, a **break fee** may be owed. This differs from a futures transaction where a trader can also exit his exposure prior to expiration by selling **offsetting positions**.
- A **profit** (or loss) on the swap would equal the ending less the beginning value of the index, multiplied by notional value of the swap – and netted against payments made on the floating leg. If the S&P 500 rose by 2-percent over the one-year life of a swap, and the agreement was for a notional value of $10-million, then the profit on this trade would be $200,000 (2-percent x $10-million) less 3-month LIBOR payments made on the floating leg (about $61,000 at current rates) – or about $139,000.

BlackRock, Inc.

Mandate: **BlackRock MSCI ACWI ex-US IMI Index Non-Lendable Fund** **Hired:** **2013**

Firm Information	Investment Approach	Total ARMB Mandate
BlackRock Inc. is a large global investment management firm with over 135 investment teams managing in excess of 7,700 portfolios. As of 12/31/15, BlackRock's AUM was approximately $4.6T. As of December 1, 2009, BlackRock purchased Barclay's Global Investors. Barclays had been managing funds in the SBS and Deferred Comp programs since 1994. **Key Executives:** **Chris Bliss**, Head of Institutional Portfolio Management for Equity Beta Strategies **Client Relationship Team** - Doug McNeely (Lead Relationship Manager), Laura Champion, Kim Tran, and Sunitha Nareddy	**BlackRock MSCI ACWI ex-US IMI Index Non-Lendable Fund**: The Fund shall be invested and reinvested in a portfolio of International Equity Securities whose total rates of return will approximate as closely as practicable the capitalization weighted total rates of return of the markets in certain countries for equity securities traded outside the United States. The Fund seeks to provide returns consistent with the MSCI ACWI ex USA IMI Net Dividend Return Index. **Benchmark:** MSCI ACWI ex-US IMI Index	**Assets Under Management** 12/31/2015: $497,527,478

Concerns: None

12/31/2015 Performance

	Last Quarter	1 Year	3 Years Annualized	5 Years Annualized
Manager (gross)	3.52%	-4.39%	N/A	N/A
Fee	0.01%	0.05%		
Manager (net)	3.51%	-4.44%		
Benchmark	3.52%	-4.60%		

BlackRock, Inc.

Mandate: Equity Index Non-Lendable Fund EX — **Hired:** 1994

Firm Information	Investment Approach	Total ARMB Mandate
BlackRock Inc. is a large global investment management firm with over 135 investment teams managing in excess of 7,700 portfolios. As of 12/31/15, BlackRock's AUM was approximately $4.6T. As of December 1, 2009, BlackRock purchased Barclay's Global Investors. Barclays had been managing funds in the SBS and Deferred Comp programs since 1994. **Key Executives:** **Chris Bliss**, Head of Institutional Portfolio Management for Equity Beta Strategies **Client Relationship Team** - Doug McNeely (Lead Relationship Manager), Laura Champion, Kim Tran, and Sunitha Nareddy	**Equity Index Non-Lendable Fund EX**: The Fund shall be invested and reinvested in a portfolio of Equity Securities with the objective of approximating as closely as practicable the capitalization weighted total rate of return of that segment of the U.S. market for publicly traded equity securities represented by the larger capitalized companies. The criterion for selection of investments shall be the S&P 500® Index. **Benchmark:** S&P 500 Index	**Assets Under Management** 12/31/2015: $179,844,970

Concerns: None

12/31/2015 Performance

	Last Quarter	1 Year	3 Years Annualized	5 Years Annualized
Manager (net)	7.04%	1.34%	15.08%	12.53%
Benchmark	7.04%	1.38%	15.13%	12.57%

BlackRock, Inc.

Mandate: **Government/Credit Bond Non-Lendable Fund E** **Hired:** **1994**

Firm Information	Investment Approach	Total ARMB Mandate
BlackRock Inc. is a large global investment management firm with over 135 investment teams managing in excess of 7,700 portfolios. As of 12/31/15, BlackRock's AUM was approximately $4.6T. As of December 1, 2009, BlackRock purchased Barclay's Global Investors. Barclays had been managing funds in the SBS and Deferred Comp programs since 1994. **Key Executives:** **Scott Radell,** Head of North America Portfolio Solutions Group **Client Relationship Team** - Doug McNeely (Lead Relationship Manager), Laura Champion, Kim Tran, and Sunitha Nareddy	**Government/Credit Bond Index Non-Lendable Fund E**: The Fund shall be invested and reinvested primarily in a portfolio of Debt Securities with the objective of closely approximating the total rate of return of the Barclays U.S. Government/Credit Bond Index. **Benchmark:** Barclays U.S. Government/Credit Bond Index	**Assets Under Management** 12/31/2015: $122,778,085

Concerns: None

12/31/2015 Performance

	Last Quarter	1 Year	3 Years Annualized	5 Years Annualized
Manager (net)	-0.79%	0.00%	1.09%	3.26%
Benchmark	-0.74%	0.15%	1.21%	3.39%

BlackRock, Inc.

Mandate: **Intermediate Government Bond Index Non-Lendable Fund E** **Hired:** **1994**

Firm Information	Investment Approach	Total ARMB Mandate
BlackRock Inc. is a large global investment management firm with over 135 investment teams managing in excess of 7,700 portfolios. As of 12/31/15, BlackRock's AUM was approximately $4.6T. As of December 1, 2009, BlackRock purchased Barclay's Global Investors. Barclays had been managing funds in the SBS and Deferred Comp programs since 1994. **Key Executives:** **Scott Radell,** Head of North America Portfolio Solutions Group **Client Relationship Team** - Doug McNeely (Lead Relationship Manager), Laura Champion, Kim Tran, and Sunitha Nareddy	**Intermediate Government Bond Index Non-Lendable Fund E**: The Fund shall be invested and reinvested primarily in a portfolio of Debt Securities with the objective of approximating as closely as practicable the total rate of return of the Barclays U.S. Intermediate Government Bond Index. **Benchmark:** Barclays U.S. Intermediate Government Bond Index	**Assets Under Management** 12/31/2015: $45,025,786

Concerns: None

12/31/2015 Performance

	Last Quarter	1 Year	3 Years Annualized	5 Years Annualized
Manager (net)	-0.85%	1.06%	0.66%	1.88%
Benchmark	-0.84%	1.18%	0.81%	2.02%

Alaska Retirement Management Board

18 February 2016

Table of Contents

I. BlackRock Update & Relationship Summary

BlackRock at a glance

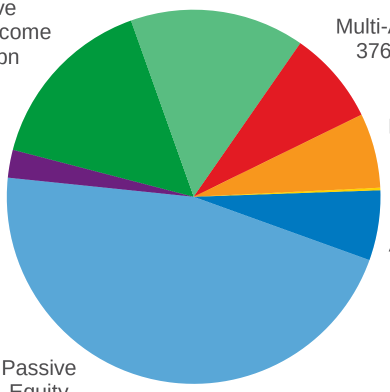
BlackRock Mission Statement

Create a better financial future for our clients by building the most respected investment and risk manager in the world

BlackRock facts

- Established in 1988
- NYSE: BLK
- $4.65 trillion assets under management
- More than 12,000 employees
- More than 1,800 investment professionals
- Offices in over 30 countries
- 25 primary investment centers globally
- Clients in over 100 countries
- Over 750 iShares® ETFs
- Through BlackRock Solutions, the Firm provides risk management and enterprise investment services for over 200 clients
- Financial Markets Advisory business managed or advised on over $8 trillion in asset and derivative portfolios
- Transition Management team partners with clients to save costs and reduce risks when changing investment exposures

$4.65 trillion managed across asset classes



Assets as of 31 December 2015

[1] Includes commodity and currency mandates

As of 31 December 2015

Alaska Retirement Management Board
Relationship Summary

As of 31 December 2015

Alaska Public Employees' Retirement System – Defined Benefit Plan					$497,527,478
Performance	**Inception**	**Dec 2015 (%)**	**4Q 2015 (%)**	**1 year %**	**Since Inception %**
MSCI ACWI ex-US IMI NL Fund	31 January 2013	-1.61	3.52	-4.39	0.91%
Benchmark		-1.61	3.52	-4.60	0.69%
Difference		0.00	0.00	0.21	0.22%

Total Defined Benefit AUM	***$497,527,478***

Alaska Public Employees' Retirement System – Defined Contribution Plan							$32,586,773
Performance	**Inception**	**Dec 2015 (%)**	**4Q 2015 (%)**	**1 year %**	**3 year %**	**5 year %**	**Since Inception %**
Alaska Def Comp Gov/Credit[1]	28 August 2007	-0.43	-0.79	0.00	1.09	3.27	4.33
Benchmark		-0.43	-0.74	0.15	1.21	3.39	4.50
Difference		0.00	-0.05	-0.15	-0.12	-0.12	-0.17

Alaska Teachers Retirement System – Defined Contribution Plan							$15,152,269
Performance	**Inception**	**Dec 2015 (%)**	**4Q 2015 (%)**	**1 year %**	**3 year %**	**5 year %**	**Since Inception %**
Alaska Def Comp Gov/Credit[1]	28 August 2007	-0.43	-0.79	0.00	1.09	3.27	4.33
Benchmark		-0.43	-0.74	0.15	1.21	3.39	4.50
Difference		0.00	-0.05	-0.15	-0.12	-0.12	-0.17

Total Defined Contribution AUM	***$47,739,042***

Performance figures are annualized as of period end
[1]Performance is net-of-fees

Alaska Retirement Management Board
Relationship Summary

As of 31 December 2015

Alaska Supplemental Annuity Plan							$46,861,165
Performance	**Inception**	**Dec 2015 (%)**	**4Q 2015 (%)**	**1 year %**	**3 year %**	**5 year %**	**Since Inception %**
Alaska Def Comp Gov/Credit[1]	28 August 2007	-0.43	-0.79	0.00	1.09	3.27	4.33
Benchmark		-0.43	-0.74	0.15	1.21	3.39	4.50
Difference		0.00	-0.05	-0.15	-0.12	-0.12	-0.17

Total Supplemental Annuity Plan AUM ***$46,861,165***

Alaska Deferred Compensation							$28,177,878
Performance	**Inception**	**Dec 2015 (%)**	**4Q 2015 (%)**	**1 year %**	**3 year %**	**5 year %**	**Since Inception %**
Alaska Def Comp Gov/Credit[1]	28 February 1994	-0.43	-0.79	0.00	1.09	3.27	5.48
Benchmark		-0.43	-0.74	0.15	1.21	3.39	5.57
Difference		0.00	-0.05	-0.15	-0.12	-0.12	-0.09

							$45,025,786
Performance	**Inception**	**Dec 2015 (%)**	**4Q 2015 (%)**	**1 year %**	**3 year %**	**5 year %**	**Since Inception %**
Alaska Def Comp Intermediate Gov[1]	28 February 1994	-0.21	-0.85	1.06	0.66	1.88	4.74
Benchmark		-0.19	-0.84	1.18	0.81	2.02	4.78
Difference		-0.02	-0.01	-0.12	-0.15	-0.14	-0.04

							$180,093,241
Performance	**Inception**	**Dec 2015 (%)**	**4Q 2015 (%)**	**1 year %**	**3 year %**	**5 year %**	**Since Inception %**
Alaska Def Comp Equity Index[1]	27 March 2009	-1.58	7.04	1.34	15.08	12.53	16.95
Benchmark		-1.58	7.04	1.38	15.13	12.57	16.99
Difference		0.00	0.00	-0.04	-0.05	-0.04	-0.04

Total Deferred Compensation AUM ***$253,296,905***

Total Alaska Retirement Management Board AUM ***$845,424,590***

Performance figures are annualized as of period end

[1]Performance is net-of-fees

II. Fixed Income Index Overview

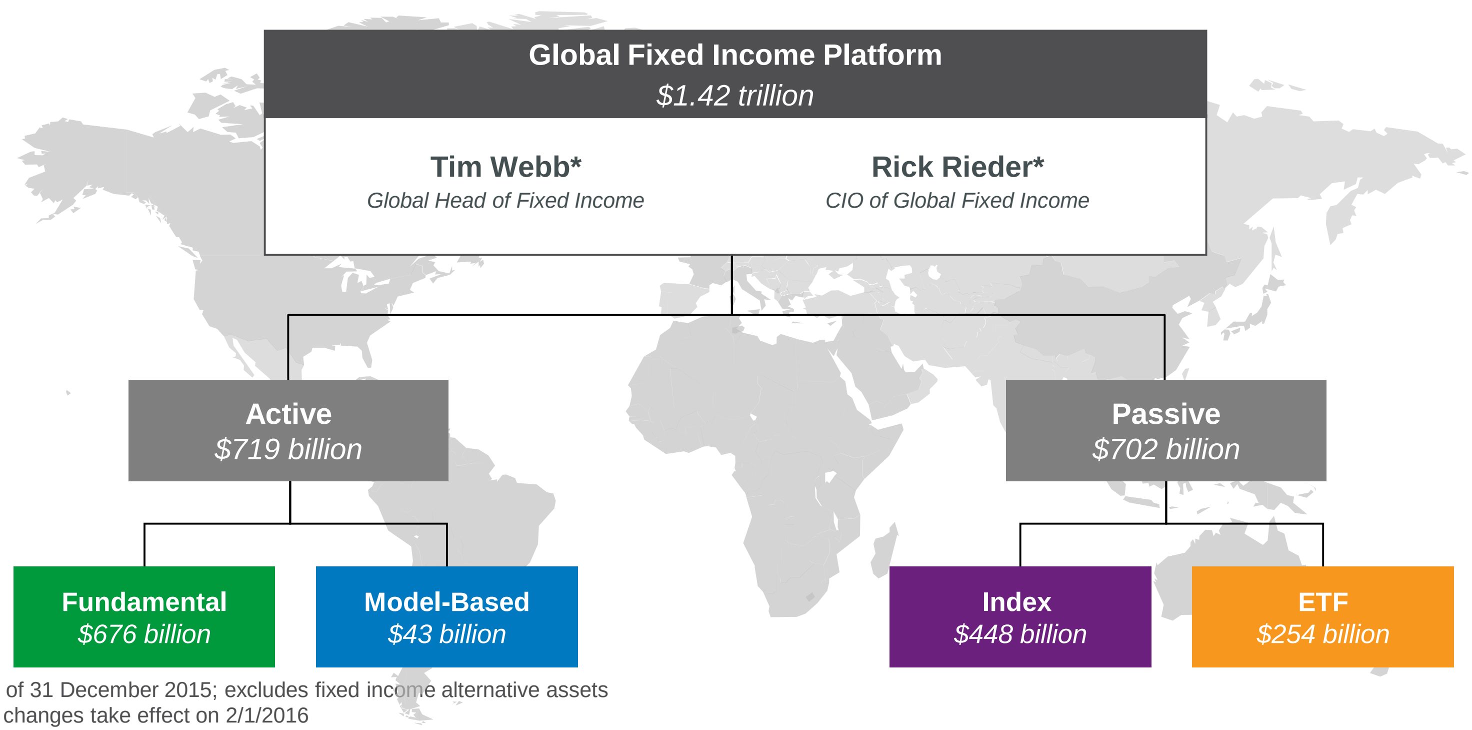
i. Philosophy and Process

Global fixed income platform provides greater access to investment opportunities

Benefits of BlackRock's breadth and depth

- **Talent:** 400+ fixed income professionals generate ideas and identify insights to create alpha opportunities
- **Trading:** Global execution platform provides deep market access
- **Technology:** Best-in-class analytics and risk management enables us to better understand and take risk in pursuit of alpha
- **Culture:** Fiduciary commitment to advising and serving clients drives our investment culture

Experienced leadership team oversees portfolio teams with decision-making autonomy



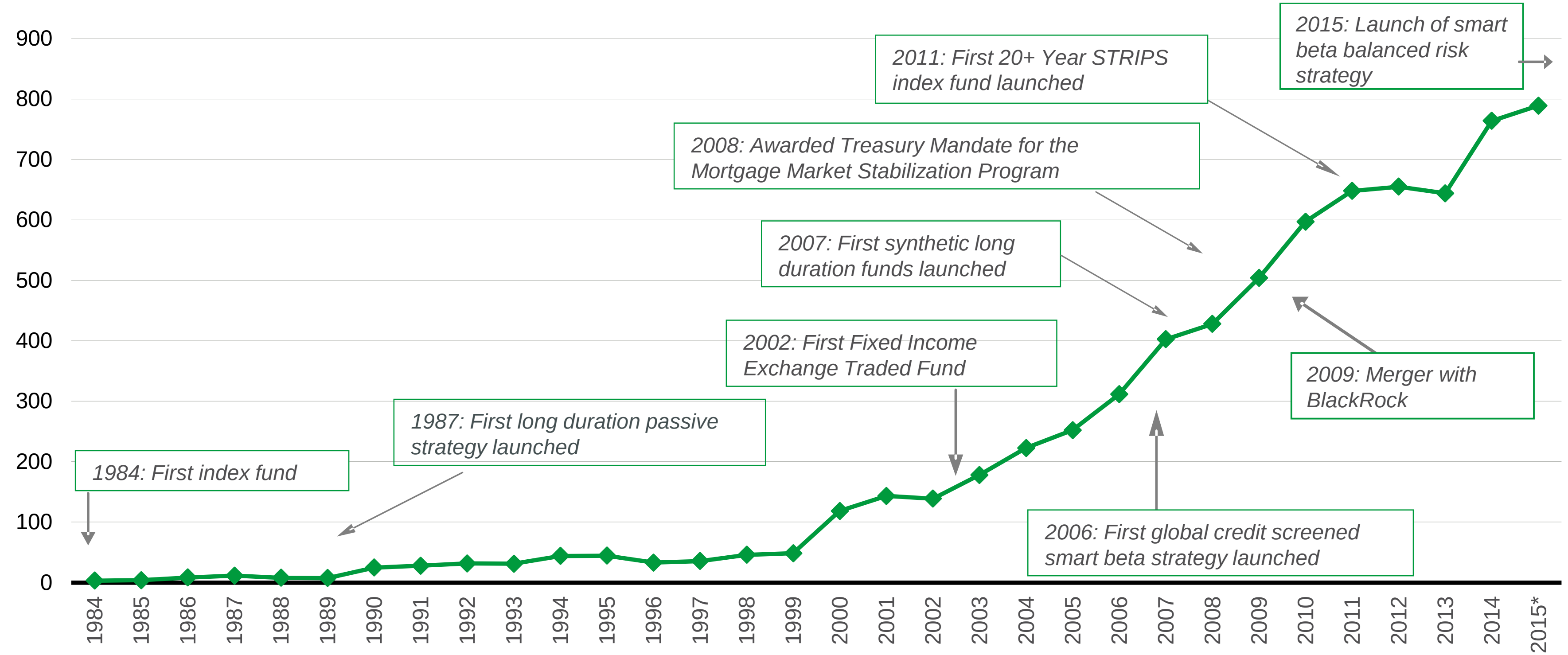
AUM in USD as of 31 December 2015; excludes fixed income alternative assets
*Organizational changes take effect on 2/1/2016

BlackRock global fixed income
Pioneer for over 30 years in passive investing

Pioneer in:

- Fixed Income index investing — largest fixed income index and ETF manager globally**

BlackRock index & model-based global fixed income assets under management ($ billions)



* As of 30 September 2015
** Source: Pension & Investments as of 30 June 2014

BlackRock Model-Based North America Portfolio Solutions Team

The North America portfolio solutions team consists of 25 investment professionals

Scott Radell, CFA, Managing Director, is Head of US Fixed Income Portfolio Solutions within BlackRock's Model-Based Fixed Income Portfolio Management Group.

Mr. Radell's service with the firm dates back to 2003, including his years with Barclays Global Investors (BGI), which merged with BlackRock in 2009. At BGI, Mr. Radell was the Head of Portfolio Solutions, a group responsible for management and oversight of all US based active fixed income funds. Before founding the Portfolio Solutions Group, he was a portfolio manager responsible for BGI's active investment grade long-only and long/short cross-over portfolios. Prior to joining BGI, Scott served for over seven years as an analyst for corporate bond and Commercial Mortgage Backed Securities for Morgan Stanley Investment Management. Mr. Radell began his career as a fixed income client service and mortgage analysts at BARRA.

Mr. Radell earned a BA degree in quantitative economics and decision sciences from the University of California at San Diego in 1992.

Multi-Sector/Other

Scott Radell
Sr. Portfolio Manager
Multi-Sector

Joel Silva
Sr. Portfolio Manager
Municipals / Canada

Karen Uyehara
Portfolio Manager
Multi-Sector

Tao Chen
Portfolio Manager
Municipal Bonds

Rena Patel
Portfolio Manager
Municipals

Jermaine Pierre
Portfolio Manager
Canada

Jasmita Mohan
Portfolio Manager
Multi-Sector

Lip Tong
Portfolio Manager
Canada

Clay Armistead
Portfolio Manager
Securitized Credit

Credit

David Dulski
Portfolio Manager
Corporate Credit

Jonathan Graves
Sr. Portfolio Manager
Corporate Credit

Allen Kwong
Portfolio Manager
Corporate Credit

Eric Souders
Portfolio Manager
Corporate Credit

Nicolas Giometti
Jr Portfolio Manager
Corporate Credit

Elya Schwartzman
Portfolio Manager
Corporate Credit

Jesse Kang
Jr Portfolio Manager
Corporate Credit

Leo Landes
Portfolio Manager
Corporate Credit

Sam Dreyfuss
Jr Portfolio Manager
Corporate Credit

Rates/Mortgage/EM

Jay Mauro
Sr. Portfolio Manager
US Government Bonds

Mark Buell
Portfolio Manager
US Government Bonds

Wes George
Portfolio Manager
US Government Bonds

Cynthia Fan
Jr Portfolio Manager
US Government Bonds

Parry Wang
Portfolio Manager
Agency Mortgages

Daniel Ruiz
Portfolio Manager
Emerging Markets

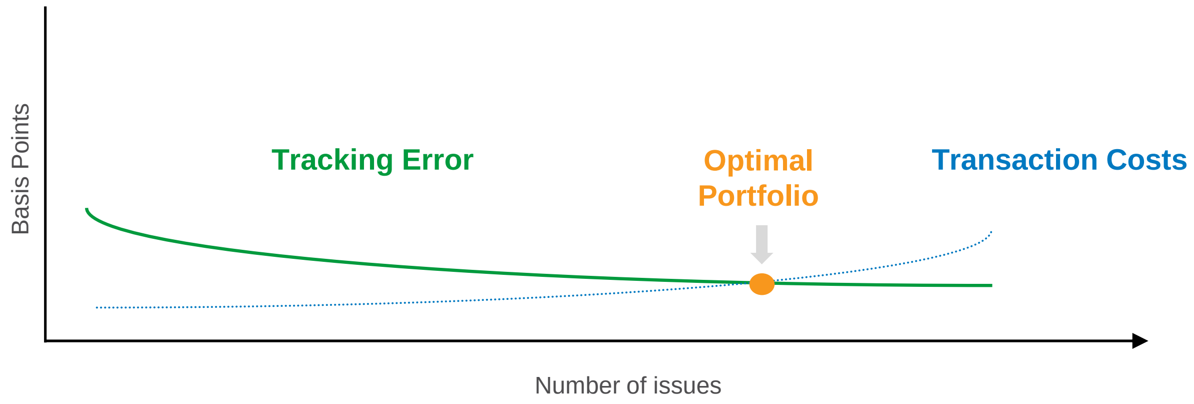
Gabe Shipley
Portfolio Manager
Emerging Markets

As of 31 December 2015

Fixed Income indexing: different market, different strategy

Quantitative process balances tracking error & transaction costs

- Unlike equities, Fixed Income is not traded on exchanges
- Prohibitive costs, uncertain liquidity, and issue scarcity often makes perfect replication infeasible
- Index process optimizes marginal contribution to tracking error with T-Costs



For illustrative purpose only.
Source: BlackRock

Index portfolio construction processes

Detailed Benchmark Knowledge

- Daily updates from index providers
- Index methodology changes
- New securities

Performance Analysis

- Investment Review Committee
- Dedicated return attribution
- Independent compliance

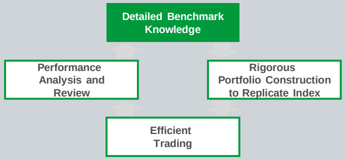
Index Replication

- Portfolio analysis
- Stratified sampling
- Leading edge portfolio construction technology

Efficient Trading

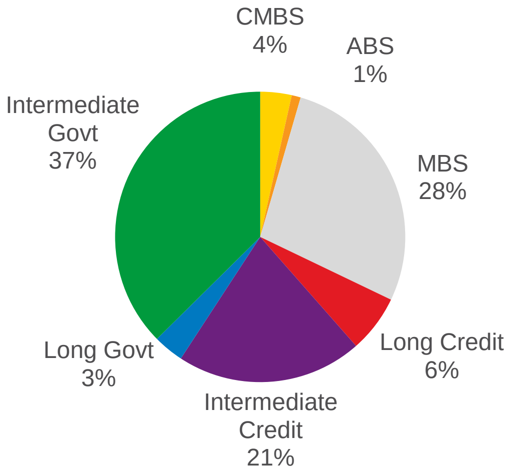
- Expert traders
- Unit exchange opportunities
- Economies of scale

Modular Fund Design



BlackRock's modular fund design leverages our scale and facilitates crossing opportunities for clients

Barclays US Aggregate
Issues Fund: 7,645
Issues Benchmark: 9,720



Intermediate Government
Issues Fund: 252
Issues B'mark: 744

Long Government
Issues Fund: 93
Issues B'mark: 87

Intermediate Credit
Issues Fund: 4,076
Issues B'mark: 4,328

Long Credit
Issues Fund: 2,026
Issues B'mark: 2,131

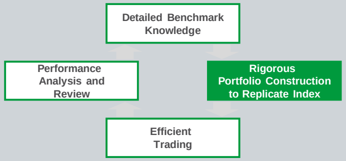
Mortgage-Backed Securities
Issues Fund: 362
Issues B'mark: 362

Asset-Backed Securities
Issues Fund:164
Issues B'mark: 391

CMBS
Issues Fund: 354
Issues B'mark: 1,670

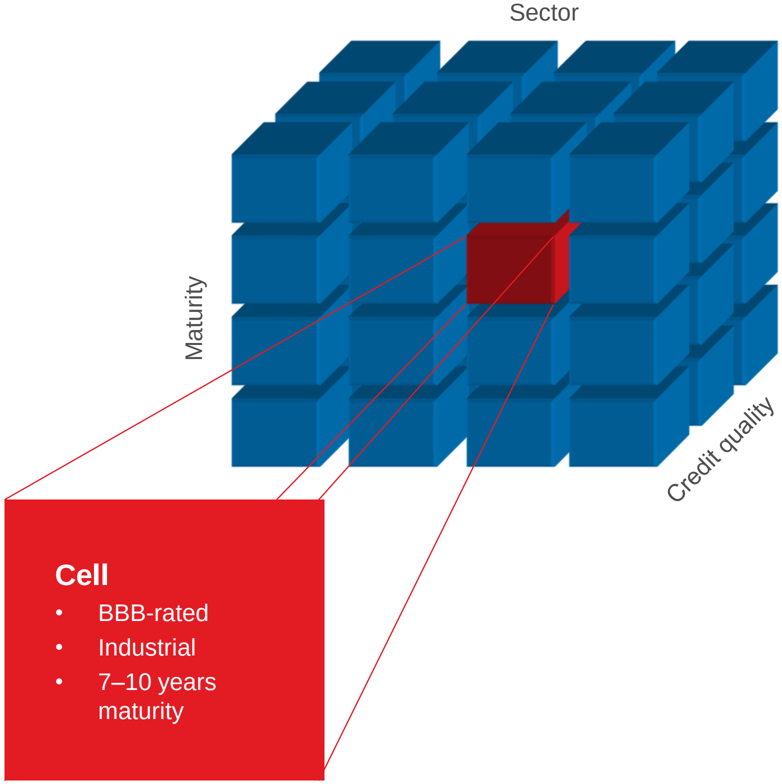
Source: BlackRock; data as of 31 December 2015

Portfolio construction



Stratified sampling methodology: Dividing the various indexes into subsets (cells) based upon relative parameters

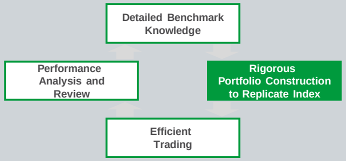
Government Bonds	Mortgage-Backed Securities	Credit and Asset-Backed Securities
Sector/Issue type	Issuer (GNMA, FNMA, FHLMC)	Sector/issue type
Maturity	Mortgage type (30 year, 15 year, balloon)	Maturity/average life
Call Features	Coupon	Credit rating
	Age (year of issuance)	Call/payment structure
	Specified Pools "Story"	



Portfolios are constructed by sampling bonds from each index cell

For illustrative purpose only.
Please see important notes in the appendix for additional Credit Quality information

Portfolio construction: Sample/Optimize



Part 1

Stratify Universe by Risk Cells

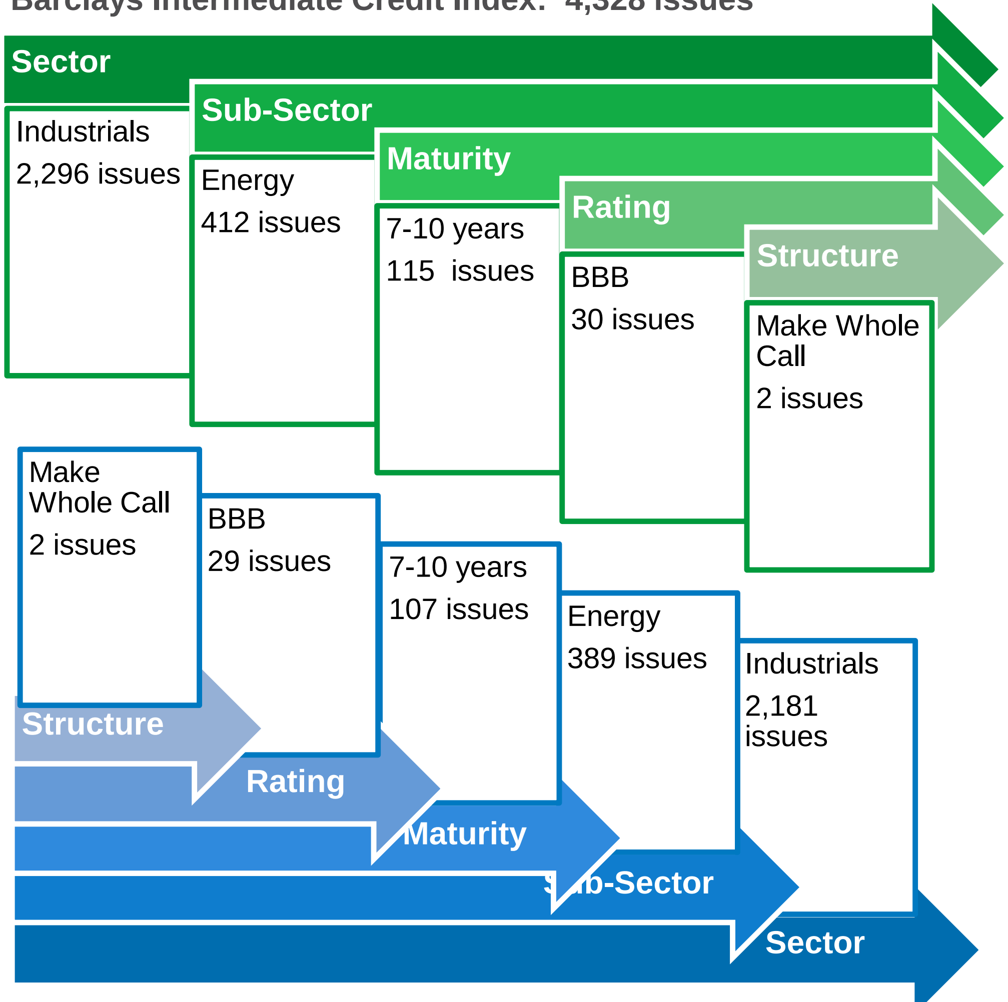
- Sector
- Industry / sub-sector
- Maturity
- Credit
- Optionality

Part 2

Optimize by Risk Factors

- Key Rate Duration
- Convexity
- Duration Times Spread
- T-Cost

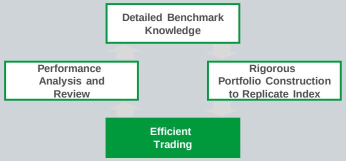
Barclays Intermediate Credit Index: 4,328 issues



BlackRock Intermediate Credit Bond Index Fund: 4,076 issues

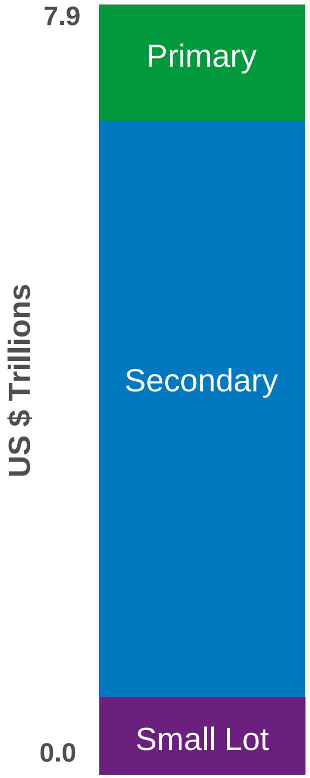
Source: BlackRock; data as of 31 December 2015
Please see important notes in the appendix for additional Credit Quality information

BlackRock is the Largest Counterparty to Wall Street



Size and scale are a clear competitive advantage in the Fixed Income marketplace

- BlackRock traded $7.9 trillion of fixed income last year
- Globally coordinated trading business leveraging scale across all investment activity for strong pricing power
- The uniqueness of our breadth and depth benefits our trading experience at all levels of execution



Primary Issuance

- BLK Global Capital Markets/Syndicate manages deal structure as well as optimizes allocations
- BLK drives many "issued to manage" deals which result in reduced fees and increased allocations

Secondary Trading

- Pricing power of US$4 trillion annual flow
- Managed trade distribution and optimized execution leverages price discovery, reduces bid/offer spread

Small Lot Trading

- Dedicated unit aggregates firm-wide small lot orders
- Execution benefits from round-lot price improvement

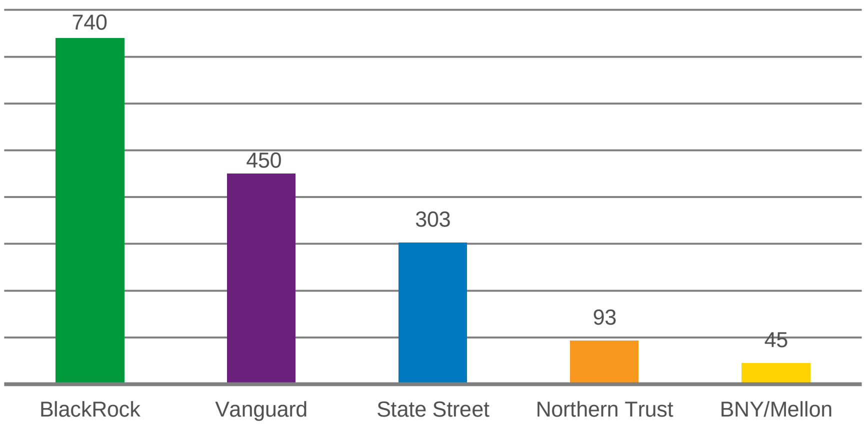
Source: BlackRock; Data as of 31 December 2015

BlackRock's index strategies have delivered strong performance

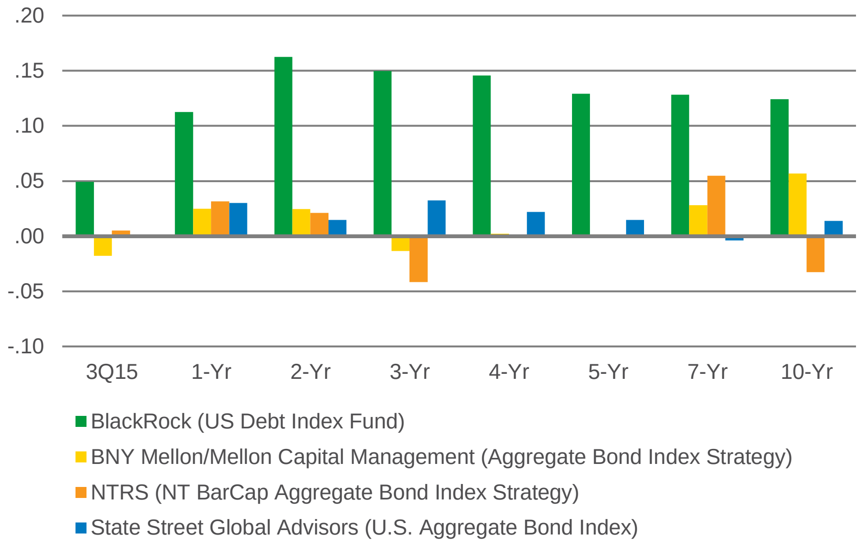
There are four key reasons to pick BlackRock over any other index provider

- Low historical tracking error
- An experienced, stable team
- Low transaction costs from size and scale
- Transparent pricing and no cross subsidization as BlackRock has no custody business

Global Fixed Income Index Market AUM[1]



Excess CTF returns vs. Barclays US Aggregate Index[2]



1 Source: Pension & Investments. All dollar values are in $ billions.; data as of 30 June 2015. The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. Past performance is not necessarily an indicator of future performance.
2 Source: eVestment; data as of 30 September 2015. Past performance is no guarantee of future results. Indexes are unmanaged and one cannot invest directly in an index. Managers included based on global fixed income index market AUM per Pension & Investments. Vanguard not included based on lack of CTF offering. CTF performance is that of individual CTFs that were self-reported to eVestment.

ii. Portfolio Characteristics and Characteristics

Fixed Income Index

Intermediate Government Bond Index Non-Lendable Fund
Portfolio Profile

As of 31 December 2015

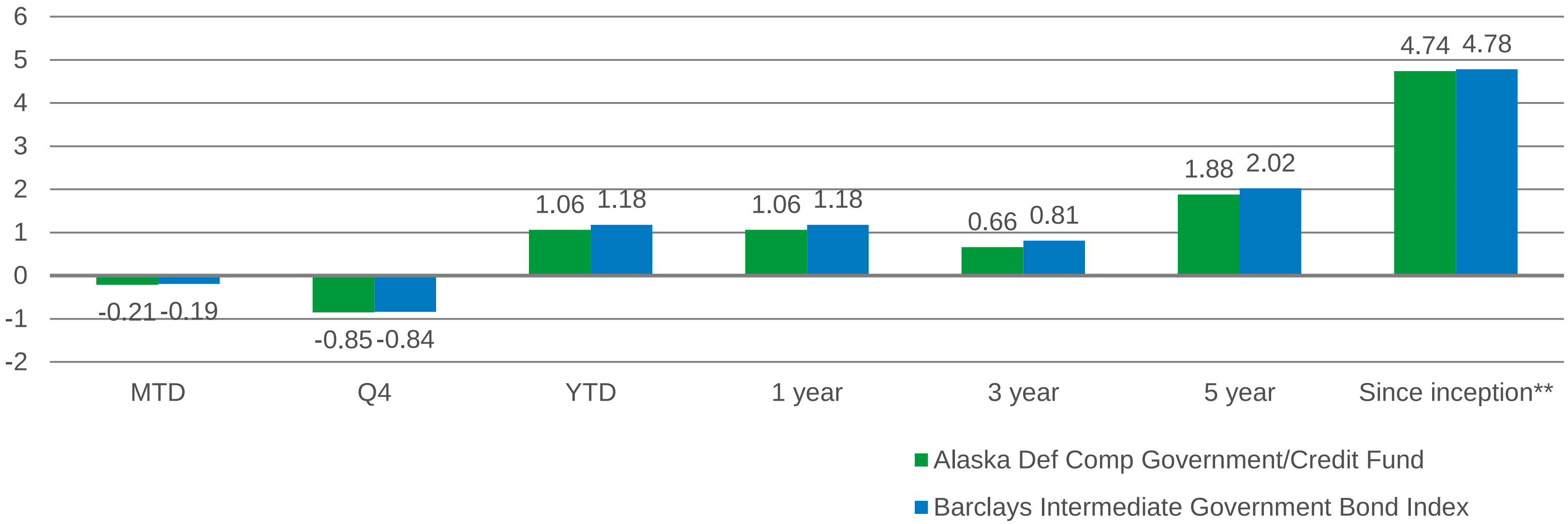
Intermediate Government Bond Index Non-Lendable Fund		
	Intermediate Government Bond Index Non-Lendable Fund	**Barclays Intermediate Government Bond Index**
Market value ($B)	8.06	6,090.83
# Issues	198	744
Characteristics		
Coupon (%)	2.05	1.84
Yield to maturity (YTM) (%)	1.52	1.52
Weighted avg life (yrs)	4.01	4.03
Effective duration (yrs)	3.73	3.76
Spread duration	0.23	0.20
Option adjusted spread (bps)	2	1
Convexity	0.19	0.18
Sector breakdown (mkt val %)		
Treasury	92.24	92.51
Agencies	7.41	7.49
Cash	0.34	0.00
Quality breakdown (mkt val %)		
AAA or above	99.59	99.90
AA	0.41	0.10
Weighted avg life breakdown (mkt val %)		
0-1	2.08	0.12
1-2	24.90	24.73
2-3	10.02	16.76
3-5	27.02	28.26
5-7	22.52	17.32
7-10	13.39	12.81
10-20	0.08	0.00
20-30	0.00	0.00
30+	0.00	0.00

Data is for analytical purposes only. Index data points may differ to those published by the Index due to different classification criteria. Breakdowns may not sum to total due to rounding, exclusion of cash, STIF, and statistically immaterial factors. Past performance is not a reliable indicator of future results. The above information is based on the Intermediate Government Bond Index Non-Lendable Collective Trust Fund's portfolio characteristics. Source: BlackRock

Alaska Deferred Compensation Intermediate Government Fund Performance

As of 31 December 2015

Net total return in USD (annualized* %)



	MTD %	Q4 %	YTD %	1-yr %	3-yr %	5-yr %	Since incept %
Tracking difference (Gross vs. Benchmark)	-0.02	-0.01	-0.12	-0.12	-0.15	-0.14	-0.04

** Period returns for less than a year are cumulative

** Client inception date 28 February 1994 for Alaska Deferred Compensation plan

Performance is net of fees. Past performance is not necessarily an indicator of future performance. Performance is for the Alaska Deferred Compensation Intermediate Government Fund, which holds Intermediate Government Bond Index Non-Lendable Collective Fund E.

Government/Credit Bond Index Non-Lendable Fund
Portfolio Profile

As of 31 December 2015

Government/Credit Bond Index NL Fund

	Government/ Credit Bond Index NL Fund	Barclays Gov/Credit Bond Index
Market value ($B)	1.07	12,494.73
# Issues	6,222	7,290
Characteristics		
Coupon (%)	3.01	2.97
Yield to maturity (YTM) (%)	2.50	2.51
Weighted avg life (yrs)	8.39	8.44
Effective duration (yrs)	5.92	5.94
Spread duration	3.09	3.07
Option adjusted spread (bps)	68	68
Convexity	0.74	0.74
Quality breakdown (mkt value%)		
AAA or above	60.54	60.84
AA	5.08	4.94
A	15.04	15.19
BBB	18.87	19.03
Below BBB	0.13	0.00
NR	0.34	0.00

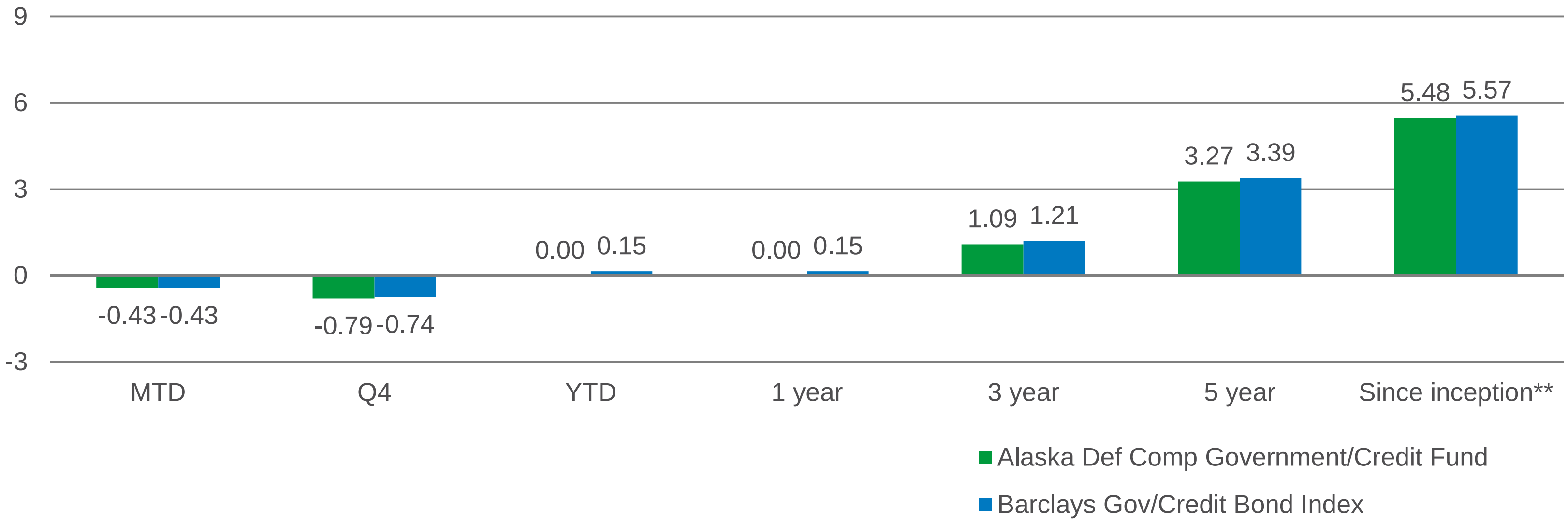
	Government/ Credit Bond Index NL Fund	Barclays Gov/Credit Bond Index
Sector breakdown (mkt val %)		
Treasury	52.59	52.87
Agencies	4.23	4.09
Financials	11.08	11.04
Industrials	21.30	21.55
Utilities	2.60	2.63
Non-US credit	6.63	6.55
Taxable munis	1.24	1.27
Cash	0.34	0.00
Weighted avg life breakdown (mkt val %)		
0-1	1.32	0.10
1-2	16.52	16.62
2-3	9.94	13.23
3-5	21.50	22.13
5-7	16.25	13.75
7-10	13.69	13.39
10-20	4.71	4.77
20-30	15.44	15.33
30+	0.62	0.70

Data is for analytical purposes only. Index data points may differ to those published by the Index due to different classification criteria. Breakdowns may not sum to total due to rounding, exclusion of cash, STIF, and statistically immaterial factors. Past performance is not a reliable indicator of future results. The above information is based on the Government/Credit Bond Index Non-Lending Collective Trust Fund's portfolio characteristics. Source: BlackRock

Alaska Deferred Compensation Government/Credit Fund Performance

As of 31 December 2015

Net total return in USD (annualized* %)



	MTD %	Q4 %	YTD %	1-yr %	3-yr %	5-yr %	Since incept %
Tracking difference (Gross vs. Benchmark)	0.00	-0.05	-0.15	-0.15	-0.12	-0.12	-0.09

** Period returns for less than a year are cumulative

** Client inception date 28 February 1994 is shown for Alaska Deferred Compensation plan. Since inception (28 August 2007) performance for Alaska Supplemental Annuity Plan, Alaska Public Employees' Retirement System and Alaska Teachers Retirement System was 4.33% vs. the benchmark of 4.50% as of 12/31/15. Performance is net of fees. Past performance is not necessarily an indicator of future performance. Performance is for the Alaska Deferred Compensation Government/Credit Fund , which holds the Government/Credit Bond Index Non-Lendable Fund E Collective Fund.

III. Equity Index Overview

BlackRock's Beta Strategies Platform

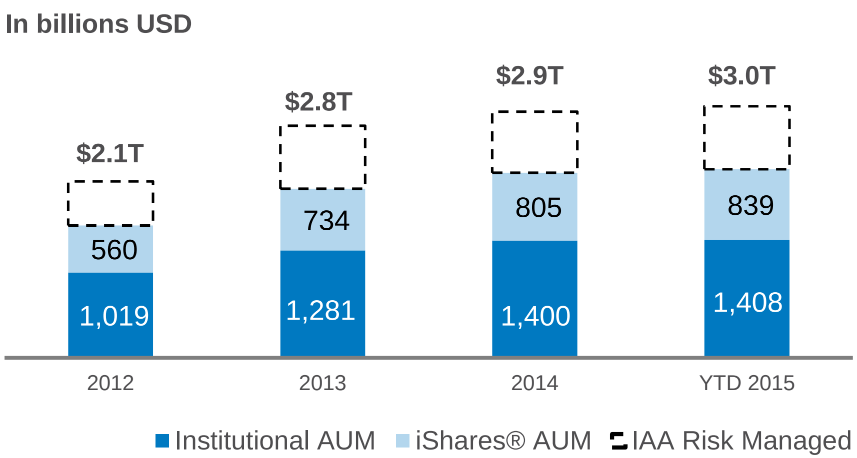
Global leader in Index Equity assets[1]

- We seek to deliver consistent performance with precise and reliable outcomes for our clients
- Thousands of skillful and thoughtful decisions made each year for swift response to market trends and client demands

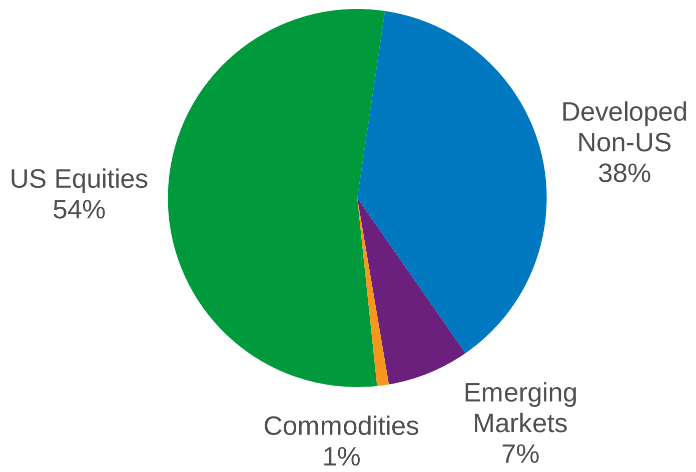
Extensive and flexible platform for beta strategies

- Over 2,000 funds managed against 650+ benchmarks
- Daily liquidity with T-1 notification (for US equities) and T-2 notification (for non US equities)[2]
- Modular fund structure and asset allocation platform facilitates custom and outcome oriented solutions

Total Beta Strategies risk managed assets of $3.0 trillion USD



Distribution of assets by region of mandate



Source: BlackRock, Inc. and its affiliates (together "BlackRock") as of 31 December 2015
1 In terms of AUM. Source: Pensions & Investments
2 Frontier markets commingled fund currently open bi-monthly

BlackRock is a leading global provider of equity index solutions

We have a history of consistent performance and low tracking error

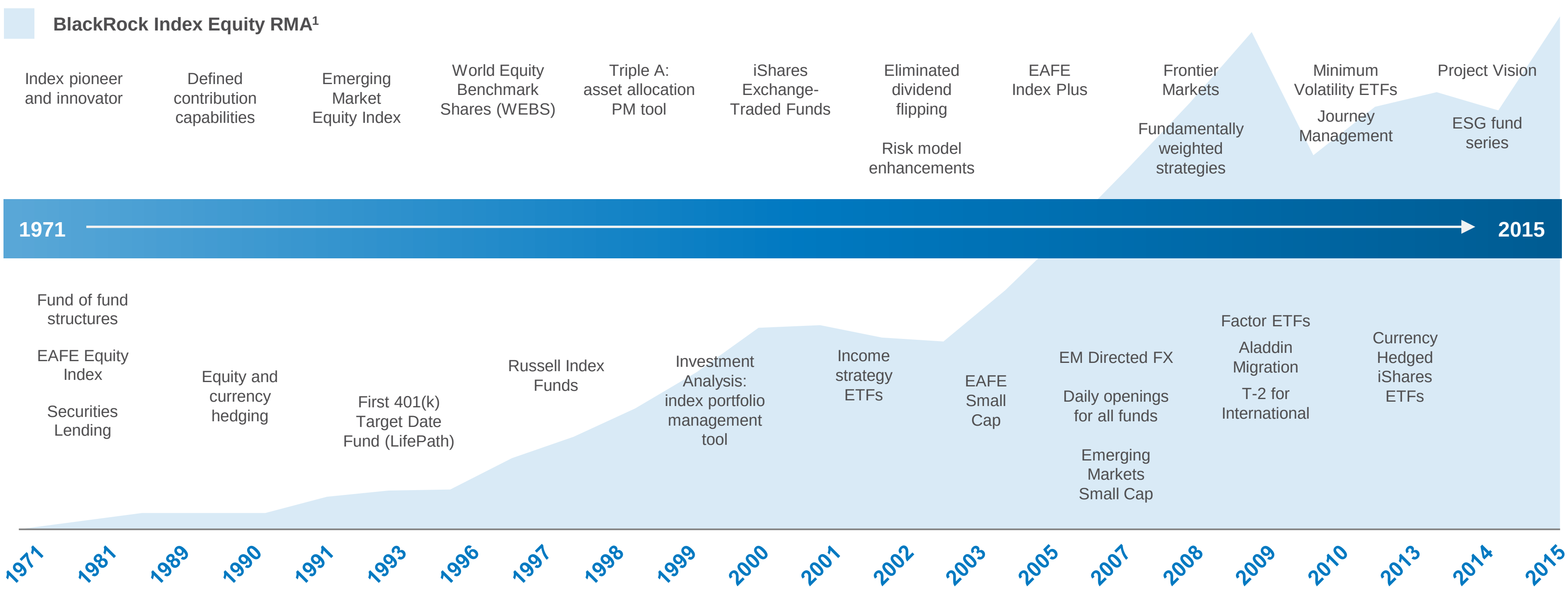
BlackRock's Key Differentiators:		Seek to provide:
Seek performance with precision	• We believe skill and ingenuity can lead to precise, reliable outcomes • Thousands of decisions each year provide opportunities to preserve value for clients • Backed by experienced teams specializing in tax, trading, risk oversight and securities lending	**Consistent returns with low costs**
Clients first	• We put clients at the center of our thinking and minimize potential conflicts of interest • Scale and diversity of our platform helps lower costs for clients • Strive for consistent performance as planned	**Minimal risk at less cost**
Constant evolution	• Relentless in our quest to improve beta strategies • Rapid and flexible response to trends, new markets and client demands • Our scale and technology innovations enhance our ability to deliver consistent performance	**Flexible range of solutions to help meet diverse client needs**

Over 40 years of experience driving beta forward

We constantly reinvest in and reinvent our business so our clients have access to high quality Beta solutions

- Drive the industry forward through our ability to create specialized, innovative investments afforded by our scale and depth of expertise
- Forge new ground for clients — first manager to offer opportunities in equity index developed, emerging, and frontier markets
- Evolve capabilities to continuously deliver on emerging trends — smart beta, global benchmarking, overlay strategies
- Serve as an index advocate on behalf of clients and as a key partner to index providers seeking our practitioner knowledge

40 years of Beta Strategies — Continual evolution of products, technology and capabilities



1 Risk Managed Assets (RMA) represents total asset values of the portfolio risks managed by Index Asset Allocation group

Beta strategies continue to be a growing portion of client portfolios

Investors today are enhancing their passive allocations in three ways:

Comprehensive core

- Migrating to broader mandates — segregated index mandates are re-aggregated into one
- Going global — ACWI / ACWI IMI* is the fastest growing index strategy
- Moving EM into mainstream — no longer niche; gain EM exposure via global indices

Complementary styles

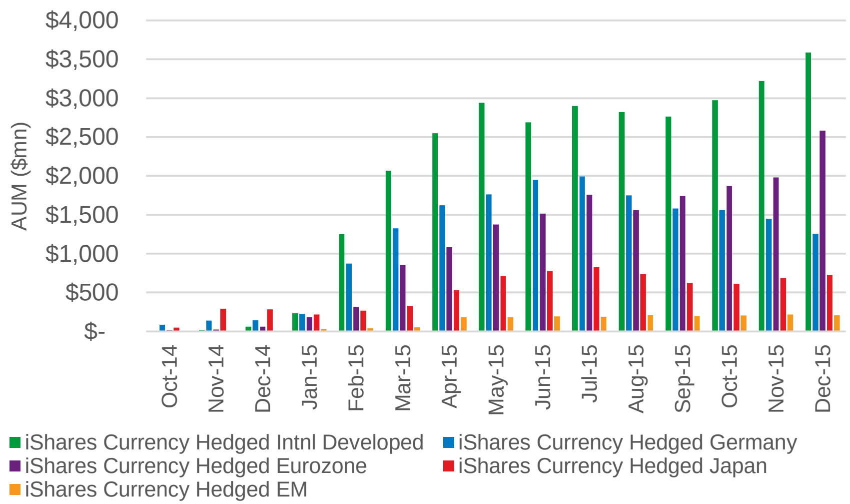
- Growing suite of smart beta offerings, complementing traditional indices
  - Certain equity risk factors proven to add value over the long term
    - Value
    - Quality
    - Momentum
    - Size

Customization

- Social & environmental investment considerations
  - Spurring a wide variety of societal outcomes with capital
  - Multi-faceted goals on top of financial return and risk
- Tax-sensitive investing

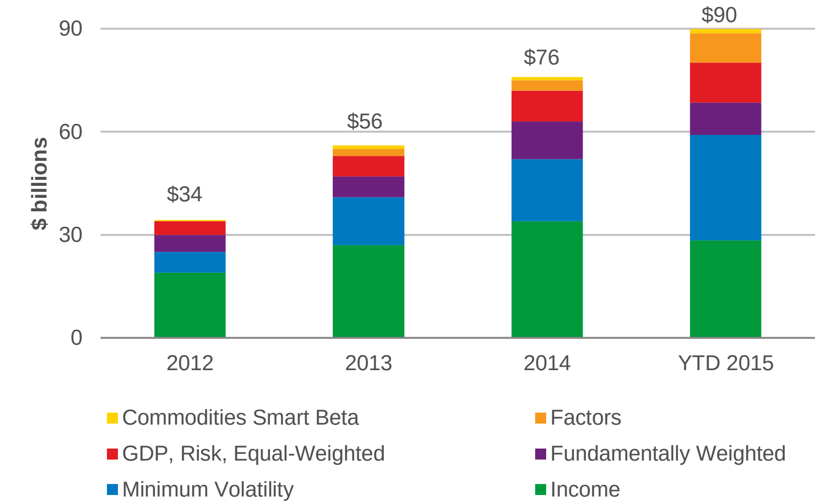
*All Country World Index Investable Market Index

Increase of currency hedged assets under management



Source: BlackRock, as of 31 December 2015. Above is display of Currency Hedged ETFs with longest track record. BlackRock offers multiple currency hedged vehicles, including: separate accounts, CTFs and ETFs.

Growth in smart beta long-only equity strategies over 4 years



Source: BlackRock smart beta (non-market cap weighted equity index strategies) assets under management. As of 31 December 2015.

Beta Strategies: Americas Index Equity

Beta Strategies Leadership

Amy Schioldager
Global Head of Beta Strategies

Americas Index Equity

Alan Mason
Head of Americas Beta Strategies

Institutional

Christopher Bliss, CFA
Head of Institutional Portfolio Management

- **North America** — **Peter Sietsema, CFA**, Senior Portfolio Manager
- **International Developed** — **Rachel Aguirre**, Senior Portfolio Manager
- **International Emerging** — **Matt Waldron, CFA**, Senior Portfolio Manager

Index Asset Allocation

Amy Whitelaw
Head of Index Asset Allocation

- **DB Index Allocation** — **Maya Tussing**, Senior Portfolio Manager

Alternative

Creighton Jue, CFA
Head of Alternative Beta

Research

Matthew Lee, Ph.D.
Head of Research

Index Research

Stephanie Allen
Head of Index Research

Portfolio Management

North America	International Developed	International Emerging	Defined Benefit	Defined Contribution	Alternative
+8 Portfolio Managers	+7 Portfolio Managers	+5 Portfolio Managers	+3 Portfolio Managers	+6 Portfolio Managers	+8 Portfolio Managers

Research

Research Officer	Index Analyst
+2 Officer	+10 Analysts

Strategy

Corin Frost, CFA
Global Head of Index Product Strategy

US Strategy

Scott Dohemann, CFA
Head of US Index Strategy

U.S.

- Cara Barr
- Christian De Leon
- Kristen Dickey
- Timothy Murray, CFA

EMEA

- Rita Gemelou*
- Andrew Graver*
- Flora Herries*
- Timothy Parsons*

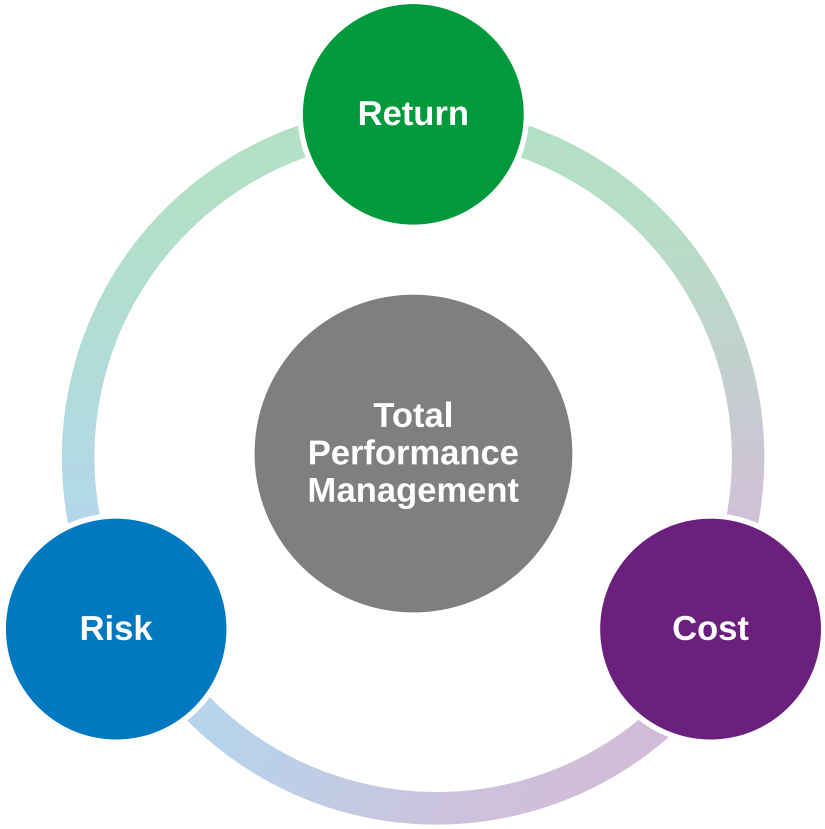
APAC

- Ben Garland, CFA*
- Colin Zhang*

As of December 2015
* Located outside of the US

Core investment philosophy of total performance management

We believe that superior investment outcomes are best achieved through a disciplined, objective process to manage return, risk and cost



Return

- Performance as planned with value-added portfolio management
- Flexible strategies and solutions

Risk

- Proprietary portfolio & risk management system helps manage investment and operational risk

Cost

- Trading cost integrated into portfolio construction using proprietary transaction cost models
- Potential for reduced transaction costs through netting of client flows
- Focus on best execution for all external trading, including FX

Our index investment management process is anything but passive

Deep expertise and investment skill underpin consistent historical performance

- BlackRock's beta portfolios are managed using a team approach to strategy, portfolio management, research, and trading

The ability to capture gains on hundreds of investment decisions adds up over time

- Portfolio managers' decision-making process involves deciding on corporate actions such as dividends, stock splits, spinoffs, rights offerings, and mergers & acquisitions

Detail-intensive investment decisions in pursuit of performance with precision and reliability

Benchmark Knowledge	Portfolio Construction	Efficient Trading	Performance & Oversight
• Analysis of forthcoming index changes • Audit daily updates from index providers • Develop trade strategies to thoughtfully incorporate index events	• Teams of portfolio managers dedicated by region • Supported by leading technology and risk models • Rapid dividend reinvestment and cash equitization	• Industry's largest internal market place for netting client flows • Best execution sought on all trades • Economies of scale • Dedicated trading research team	• Daily review by portfolio managers • Monthly Investment Review Committee • Independent Risk & Quantitative Analysis Group

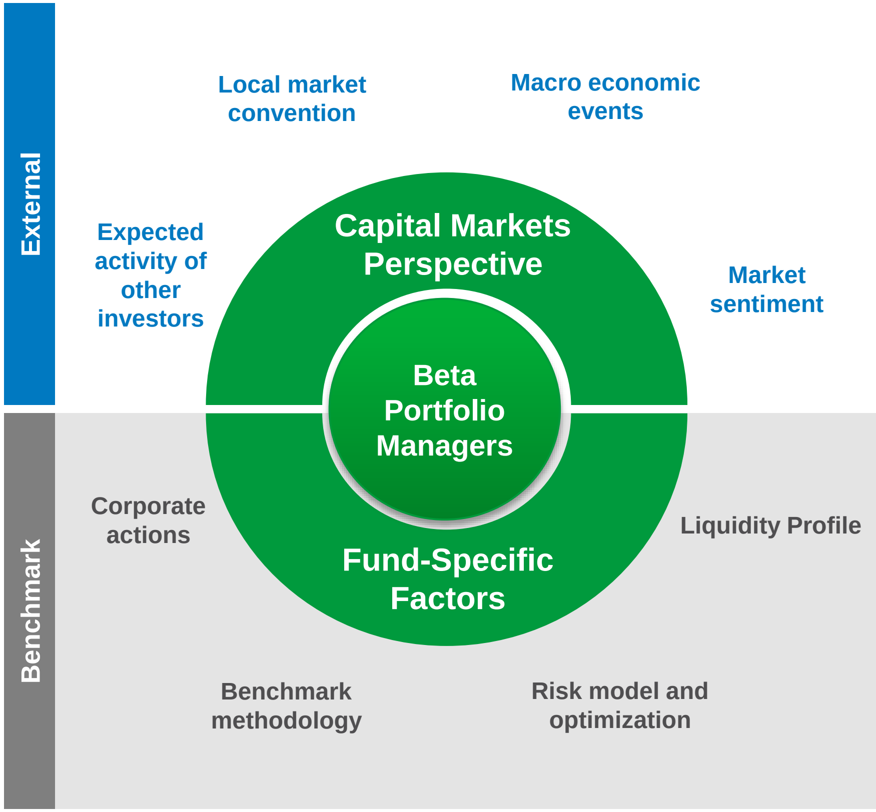
Risk Management

Leverage RQA and BlackRock's proprietary Aladdin® system to help identify, monitor and minimize risk

Factors PMs use to preserve value

Our portfolio managers use skill and ingenuity in pursuit of creating precise and reliable outcomes, and have delivered benchmark returns as planned each year

Beta PMs are experts in the capital markets they transact — actively driving hundreds of decisions each year



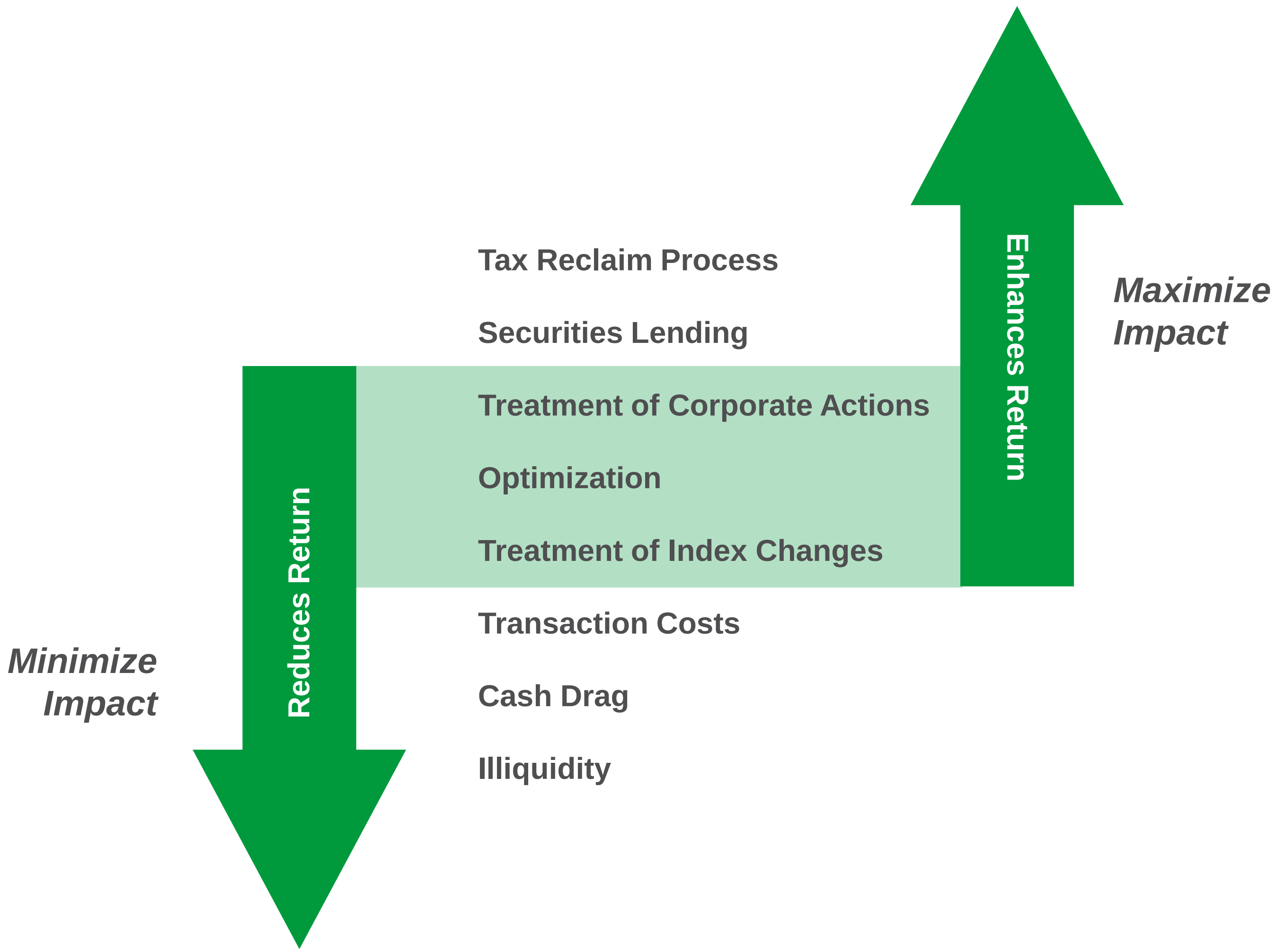
PMs evaluate aggregate views, activities, and sentiments of other investors, including:

- Net flows of BLK and other indexers
- Expected activity of profit-motivated investors
- Local market conventions and behaviors
- Macro economic events (Fed announcement, jobs report)
- Company earnings releases
- Market sentiment that could affect rebalancing

PMs have detailed understanding of benchmark changes in context of each Fund:

- Ensure funds are fully invested in light of client flows or dividend payments
- Construct each trade to explicitly trade off risk and cost
- Carefully evaluate corporate actions to help minimize risk and preserve value
- Develop creative trading strategies for less liquid positions
- Partner with index providers regarding benchmark changes

Major sources of tracking error:
Global & domestic index funds



Beta Strategies is anything but passive — Google corporate action

Background	Google announced a **distribution of new class of non-voting C shares to existing shareholders** of outstanding shares of Class A and Class B common stock S&P and Russell *originally* planned to **delete the Google Class A** shares from their respective indexes, and **double the weight of the Class C** shares
Impact	Google represents **~2% in S&P 500 and Russell 1000**. Beta Strategies engaged with indexers and Google on potential risk of original treatment including tracking error, tax implications, and price volatility

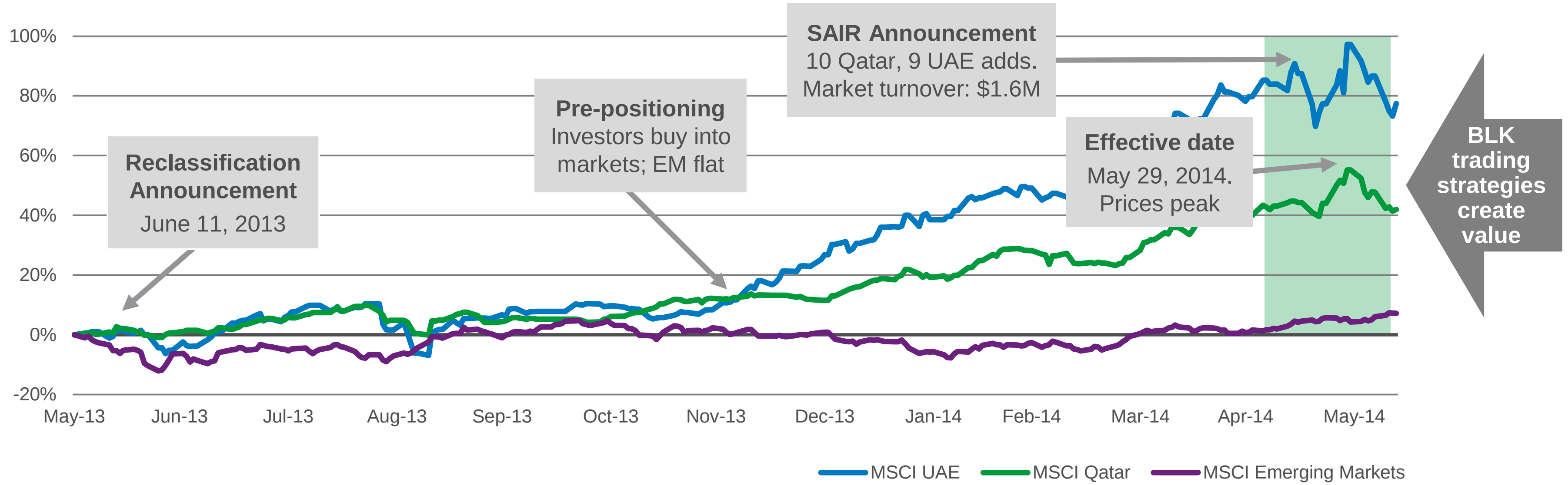
Ensuring the interests of our clients and advocating on their behalf are high priorities	Risks considered	Delete Class A Shares *(Original)*	Retain both Class A and C Shares *(Final Decision)*
	Liquidity	✗	✓
	Capital structure	✗	✓
	Capital gains	✗	✓
	Tracking error	✗	✓
	Market impact	✗	✓

BlackRock-driven outcome:

S&P and Russell revised published methodology to maintain both Class A and C shares, avoiding ***$45 billion*** in unnecessary trading and additional price volatility

The issuers referenced is an example of an issuer that BlackRock considers to be well known and that may fall into the stated sector. BlackRock may or may not own any securities of the issuers referenced and, if such securities are owned, no representation is being made that such securities will continue to be held.

Deliberate balancing of risk, return, and costs:
UAE and Qatar reclassification from Frontier to Emerging Markets



Benchmark context

- UAE and Qatar promoted to EM status by MSCI effective May 30th, 2014
- UAE and Qatar to comprise appx 50 bps each in MSCI EM Index
- Net expected buy of ~$1bn in each market was 10 – 15x ADV

Market context

- Significant pre-positioning
- Low liquidity, large trade size
- Operational complexity & immature local market structure

Value preservation

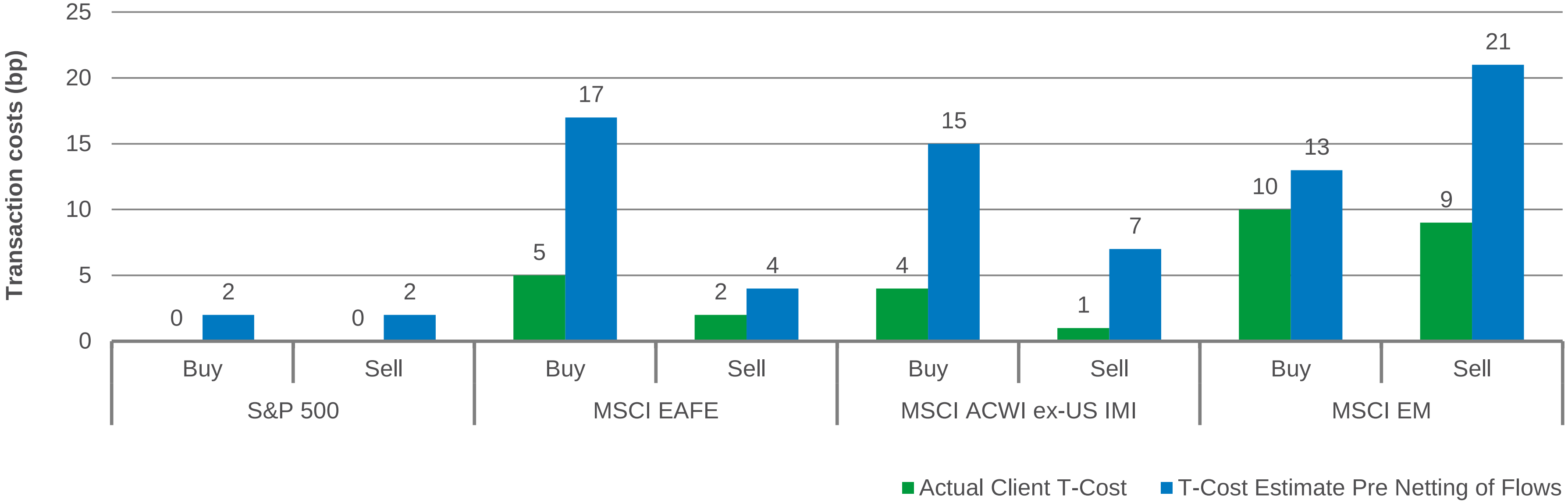
- Globally, executed ~$1.5 billion in Qatar / UAE trades over several weeks
- Cautious approach to liquidity and risk management
- Generated $55 million in value for BlackRock clients

Source: BlackRock, Bloomberg, as of June 2014

BlackRock's scale and internal network for netting client flows delivers the potential to significantly lower transaction costs

BlackRock transaction costs vs. ex-ante estimates[1]

Average client cost in 2014, as of Dec 31, 2014



The scale of BlackRock's CTFs and global trading footprint results in reduced T costs:

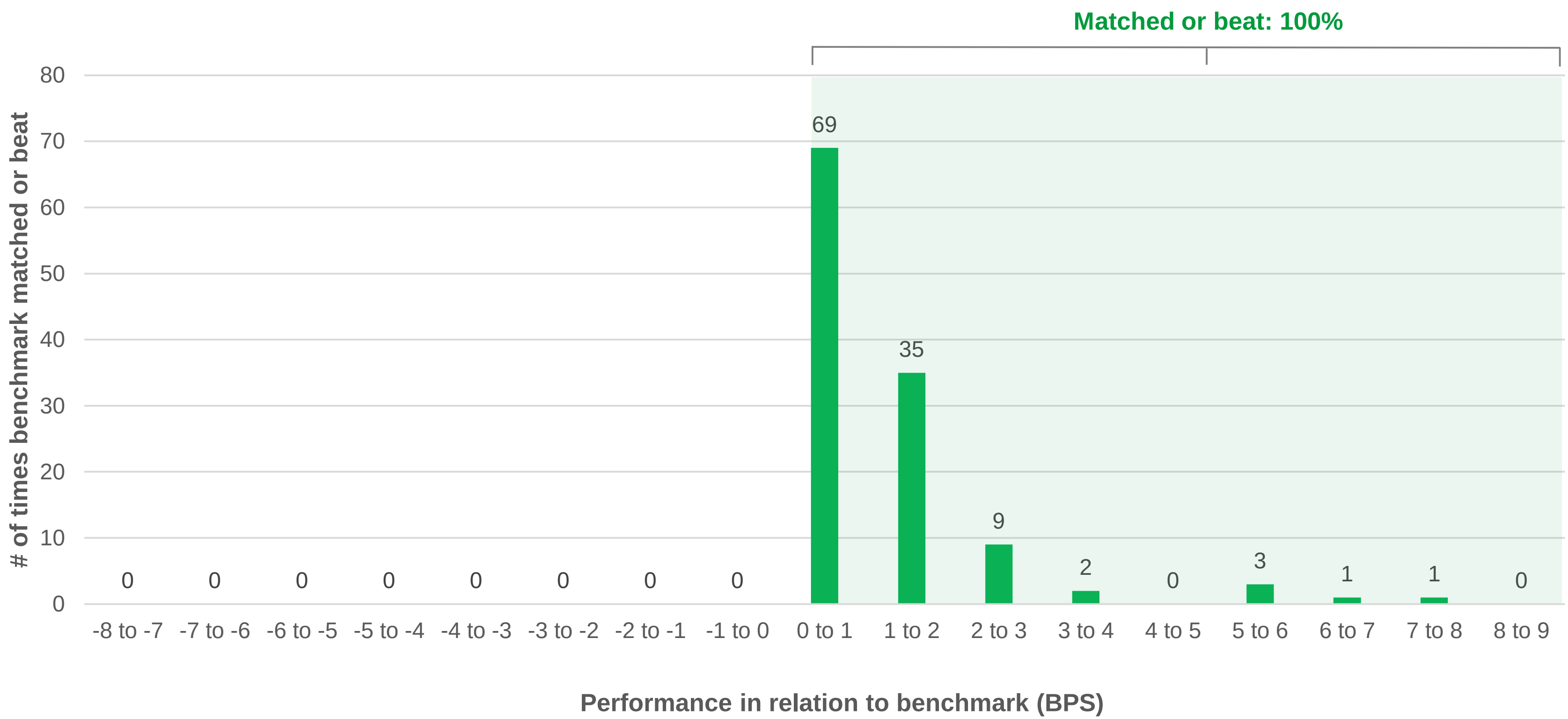
- On average, we net internally approximately 40 – 50% of client flows
- Market trades reflect the industry's most competitive commission rates

Source: BlackRock. BlackRock Flagship Index Funds shown.
1 Estimated transaction costs includes commissions and taxes based on BlackRock's current standard negotiated rates
Netting of client flows is not guaranteed, and may depend on several other factors, including but not limited to, client flows and external trading markets. BlackRock's size facilitates potential ability to net client flows and realize transaction cost savings.

Precision performance, as planned

Over the past 10 years, BlackRock's S&P 500® Index Equity Collective Fund matched or beat the benchmark 100% of the time

S&P 500 Index Fund A annualized performance — Excess gross returns



Source: BlackRock, Inc. and S&P, as of 31 December 2015. Reported on an annual basis and gross of fees.
The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. Past performance is not necessarily an indicator of future performance.

Key takeaway
Our approach to Beta: anything but passive

Investors today demand more reliable, precise returns and innovative ways to use beta

BlackRock Beta Strategies' approach is focused on:

People	Performance	Process	Platform	Products
Team combines skill and ingenuity in seeking to enhance outcomes	Seek to provide consistent performance as planned	Rooted in deep understanding of benchmarks and capital markets	Scale and technology innovations enhance ability to deliver consistent performance and minimize costs	Flexible spectrum of solutions featuring more than 1,000 funds covering 350+ benchmarks

i. Performance and Characteristics

Equity Index

BlackRock MSCI ACWI ex-US IMI Index℠ Non-Lendable Fund Characteristics

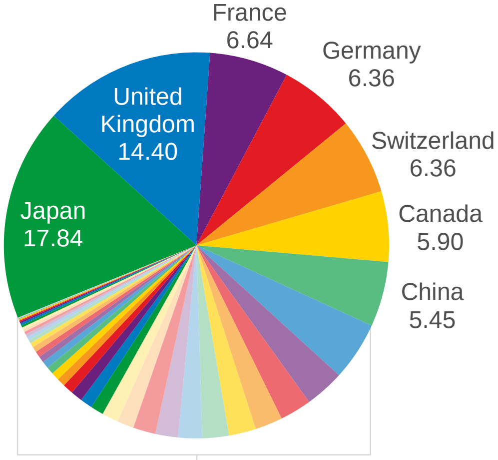
As of 31 December 2015

Characteristics	
Strategy	**MSCI ACWI ex-US IMI℠**
Total fund value	$2.25B
Number of issues in fund	6,228
Number of issues in index	6,160

Top 10 holdings

	Country	Weight (%)
Nestle S.A.	Switzerland	1.22
Novartis AG	Switzerland	1.01
Roche Holding Ltd Genusssch.	Switzerland	0.99
Toyota Motor Corp.	Japan	0.87
HSBC Holdings plc	United Kingdom	0.80
Samsung Electronics Co., Ltd.	Korea	0.60
Novo Nordisk A/S Class B	Denmark	0.58
Taiwan Semiconductor Manufacturing Co., Ltd.	Taiwan	0.55
Commonwealth Bank of Australia	Australia	0.54
British American Tobacco p.l.c.	United Kingdom	0.54

Country allocation (%)



Australia	4.92	Singapore	0.99	Chile	0.23
Korea	3.31	Mexico	0.88	New Zealand	0.21
Taiwan	2.66	Finland	0.70	Austria	0.20
Sweden	2.31	Malaysia	0.68	Qatar	0.19
Spain	2.27	Russia	0.61	United Arab Emirates	0.18
Hong Kong	2.23	Israel	0.60	Portugal	0.13
Netherlands	2.01	Indonesia	0.52	Greece	0.10
Italy	1.90	Norway	0.51	Colombia	0.08
India	1.89	Thailand	0.46	Peru	0.06
South Africa	1.40	Ireland	0.38	Egypt	0.05
Denmark	1.38	Philippines	0.29	Hungary	0.05
Belgium	1.09	Turkey	0.28	Czech Republic	0.04
Brazil	1.02	Poland	0.26		

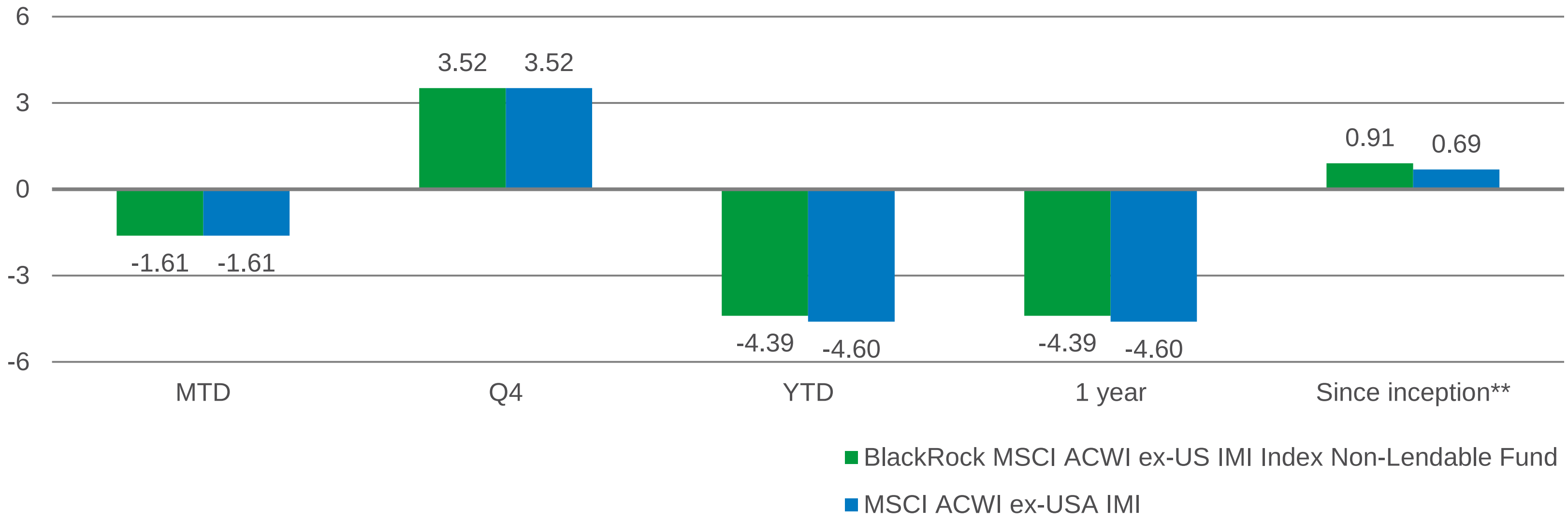
ACWI-ex-US-IMI-NL-A-Ch

This information is unaudited and intended for analytical purposes only. The above information is based on the BlackRock MSCI ACWI ex-US IMI Index Collective Trust Fund 's portfolio characteristics. Sources: BlackRock, FactSet

Alaska Public Employees’ Retirement System – Defined Benefit Plan
MSCI ACWI ex-US IMI Index Non-Lendable Fund Performance

As of 31 December 2015

Gross total return in USD (annualized* %)



	MTD %	Q4 %	YTD %	1-yr %	Since incept %
Tracking difference (Gross vs. Benchmark)	0.00	0.00	0.21	0.21	0.22

* Period returns for less than a year are cumulative

** Client inception date 31 January 2013 for Alaska Public Employees’ Retirement System – Defined Benefit Plan

The Fund’s net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund’s net asset value did include an accrual for the investment management fee, the Fund’s returns would be lower. Past performance is not necessarily an indicator of future performance. Performance is for Alaska Public Employees’ Retirement System – Defined Benefit Plan’s investment in the BlackRock MSCI ACWI ex-US IMI Index Non-Lendable Collective Trust Fund.

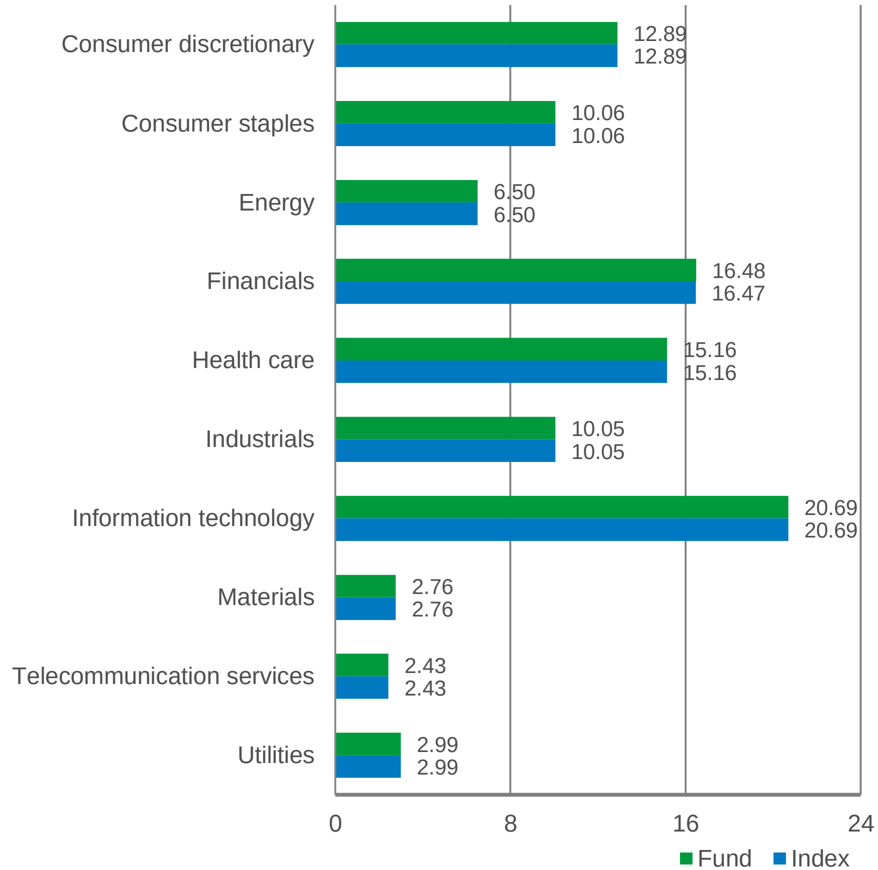
Equity Index Non-Lendable Fund Characteristics

As of 31 December 2015

Characteristics	
Strategy	**S&P 500® Index**
Total fund assets	$29.91B
Number of holdings	504

Top 10 holdings	Fund %	Index %
Apple Inc.	3.28	3.28
Microsoft Corporation	2.48	2.48
Exxon Mobil Corporation	1.81	1.81
General Electric Company	1.64	1.64
Johnson & Johnson	1.59	1.59
Amazon.com, Inc.	1.45	1.45
Wells Fargo & Company	1.41	1.41
Berkshire Hathaway Inc. Class B	1.38	1.38
JPMorgan Chase & Co.	1.36	1.36
Facebook, Inc. Class A	1.33	1.33

Sector diversification



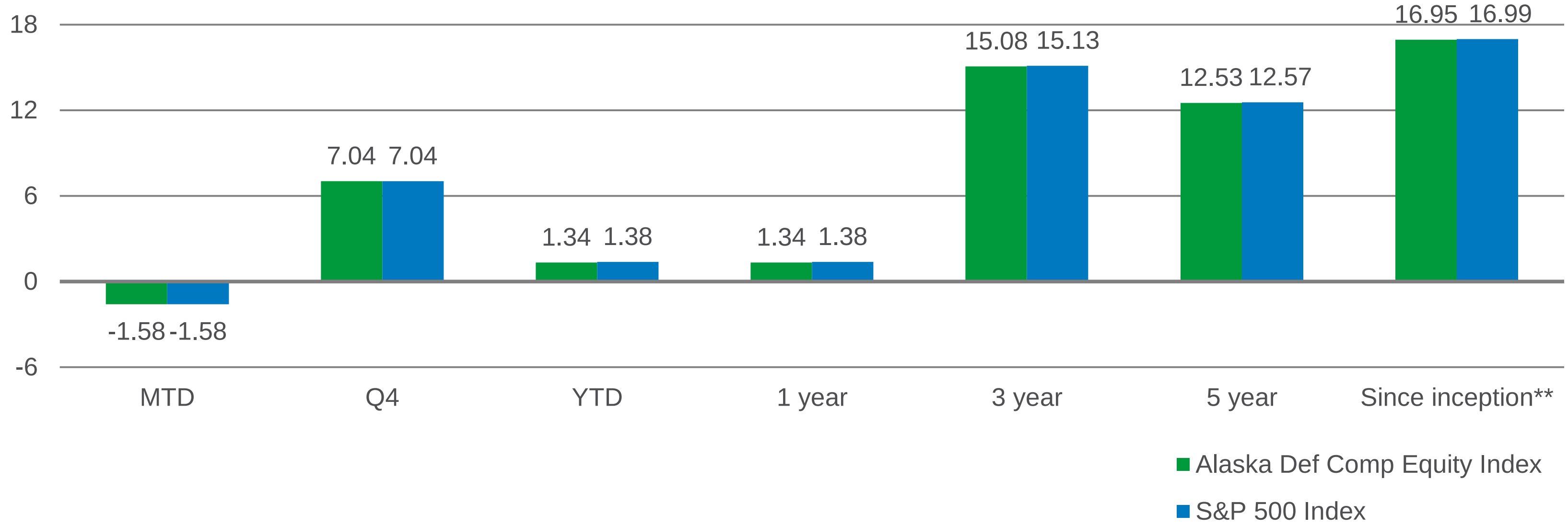
Eq-Idx-NL-A-Ch

Portions of the above characteristics are based on benchmark data as the portfolio fully replicates benchmark and is for analytical purposes only. Index data may differ to those published by the Index due to different classification criteria. Breakdowns may not sum to total due to rounding, exclusion of cash, STIF, and statistically immaterial factors. The above information is based on the Equity Index Non-Lendable Collective Trust Fund 's portfolio characteristics. Sources: BlackRock, FactSet

Alaska Deferred Compensation Equity Index Performance

As of 31 December 2015

Net total return in USD (annualized* %)



	MTD %	Q4 %	YTD %	1-yr %	3-yr %	5-yr %	Since incept %
Tracking difference (Gross vs. Benchmark)	0.00	0.00	-0.04	-0.04	-0.05	-0.04	-0.04

* Period returns for less than a year are cumulative

** Client inception date 27 March 2009

Performance is net of fees. Past performance is not necessarily an indicator of future performance. Performance is for Alaska Def Comp Equity Index, which holds the Equity Index Non-Lendable Fund EX.

Appendix

i. Presenter Biographies

Presenter Biographies

Douglas McNeely, Managing Director, is Head of the Institutional Focus Group which is responsible for developing and maintaining strategic relationships with institutional investors, specifically public and corporate pension plans.

Prior to joining BlackRock in 2012, Mr. McNeely was President of the Commonfund Securities, Inc., where he was responsible for leading a 60-person sales force in covering over 1500 clients, overseeing business development affairs, broadening global investor base, and building Strategic Partnerships. He worked with a broad array of clients, including pension funds, endowments, foundations, family offices and select sovereign wealth funds. Previously, he was Managing Director at Morgan Stanley where he was responsible for the distribution of global asset management products and services to large institutional investors. Before then, Mr. McNeely founded Cameron Capital Management, an institutional quality hedge fund platform. Prior to founding Cameron Capital, Mr. McNeely spent 8 years at Goldman Sachs in Equities Sales and Trading as well as in Equities Management. Mr. McNeely began his career at Donaldson, Lufkin & Jenrette in Equity Sales and Trading.

Mr. McNeely earned a BA degree in economics from Duke University in 1984 and was also a member of the Duke Men's Varsity Basketball Team (1980-1984) and Team Captain in 1984. He has formerly held a number of Trustee positions for non-profit organizations and currently serves as a Trustee of Duke University Perkins Library Board.

***

Corin Frost, CFA, Managing Director, is Global Head of Index Strategy in BlackRock's Beta Strategies Group. He is responsible for Index Equity product strategy and client relationships for all institutional equity products globally.

Mr. Frost's service with the firm dates back to 1998, including his years with Barclays Global Investors (BGI), which merged with BlackRock in 2009. At BGI, he was the Global Head of Index Strategy within the Equity Index Portfolio Management Group. Before moving to the US, Mr. Frost headed the International Index Equity team in BGI's London office. Previously, Mr. Frost was an Index Portfolio Manager for Norwich Union Investment Management.

Mr. Frost earned a BSc degree in economics from Cardiff University in 1991 and an MSc degree in economics from Warwick University in 1992.

***

Laura Champion, Vice President, is a member of the US and Canada Institutional team within BlackRock's Institutional Client Business. She is responsible for developing and maintaining relationships with institutional investors, including public and private pension plans, foundations and endowments.

Ms. Champion’s service with the firm dates back to 2011. Before assuming her current responsibilities, Ms. Champion previously worked as a Business Development Associate in iShares within the Wealth Advisory channel where she was responsible for developing and maintaining relationships with financial advisors across the retail business. Prior to joining BlackRock in 2011, Laura worked for Bank of America Merrill Lynch in Institutional Equity Research Sales in San Francisco where she focused on developing and maintaining relationships with institutional investors, corporate management teams and research analysts with an emphasis on regional roadshow coordination and marketing.

Ms. Champion received a B.A. in Global and International Studies and a B.A. in French Literature from the University of California Santa Barbara.

***

Kathryn Donovan, Associate, is a member of the Model-Based Product Strategy Team within Americas Fixed Income.

Ms. Donovan’s service with the firm dates back to2011. Prior to joining the Product Strategy team, Ms. Donovan was a member of the US and Canada Institutional team within BlackRock's Institutional Client Business. She was responsible for developing and maintaining relationships with institutional investors, including public and private pension plans, foundations and endowments.

Ms. Donovan earned a BA degree in Political Economy from the University of California, Berkeley.

i. Disclosures

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Callan

February 18, 2016

2016 Capital Market Projections

Capital Markets Research Group

Paul Erlendson
Senior Vice President

Steve Center, CFA
Vice President

Agenda

- Process Overview
  – How and why does Callan create capital market expectations?
- 2016 Expectations
  – What are our expectations and where have changes been made?
- Current Environment
  – Economic data and charts
- Detailed 2016 Expectations and Resulting Portfolio Mixes
- Implications for Investors

Why Make Capital Market Projections?

Guiding Objectives

- Cornerstones of strategic planning—expectations and time horizon.
- Projections represent our best thinking regarding the long-term (5- to 10-year) outlook, recognizing our median projections represent the midpoint of a range, rather than a specific number.
- Develop results that are readily defensible both for individual asset classes and for total portfolios.
- Be conscious of the level of change suggested in strategic allocations for long-term investors: DC participants, wealthy families, DB plan sponsors, foundations, endowments, and trusts.
- Reflect common sense and recent market developments.
- Balance conflicting goals and conflicting opinions.

How are Capital Market Projections Constructed?

- Annual Process to update 10-Year Projections
  - Evaluate current environment and economic outlook
  - Examine relations between economy and historical asset class performance
  - Create 10-year risk, return, and correlation projections
  - Test projections for reasonable results
- Cover Most Broad Asset Classes and Inflation
  - Broad Domestic Equity
    - *Large Cap*
    - *Small Cap*
  - International Equity
    - *Developed Markets*
    - *Emerging Markets*
  - Domestic Fixed Income
  - International Fixed Income
  - Real Estate
  - Alternative Investments
  - Cash
  - Inflation
- Incorporates both advanced quantitative modeling as well as qualitative feedback and expertise of Callan consulting professionals.

Themes Explored in Setting the 2016 Expectations

- Despite sideways capital markets during 2015, most asset classes appear to be at least fairly valued or overpriced.
- Things were looking up for the economy as 2015 progressed, but market sentiment turned back sharply, twice (mid year and as the year ended). Is this pessimism warranted?
  - Current U.S. economic data and the outlook are positive, but long-term growth expectations are lower.
  - Anemic growth and the fear of deflation hang over Europe and Japan, yet both regions show positive response to continuing stimulus.
  - Emerging markets appear to be one of the few areas of the capital markets to show compelling value, both equity and debt. Is it time? Economic growth will be muted relative to past cycles, given weakness in developed ex-U.S. and reliance on commodities.
  - China, now the second largest economy, is adjusting to slower growth, with attendant volatility.
- How far can yields in the U.S. rise?
  - Stimulus in Europe and elsewhere has led to even lower yields overseas; U.S. yields even more attractive.
  - Market is debating how long the Fed will take to raise rates, and how high they can go. Divergent economic progress and rate policies between U.S. and other central banks challenge U.S. policy effectiveness.
  - Do rising rates doom the return expectations for fixed income?
- Are Non-U.S. equity markets poised to rebound, or will they continue to re-price to reflect weakening expectations?
- Are low oil prices good or bad? Is prolonged distress in the commodity complex cause for concern?
- Sharp contrast remains between a long term, strategic vision for an investor (10+ years), the short term (1-3 years) reality, and the path from the current conditions to the long term expectations.

The Capital Markets at January 2016

U.S. and Global Capital Markets Rattled by Investor Uncertainty

- Results for 2015 show impact of increased investor uncertainty, as volatility returned to the equity markets. Underlying economic data remain positive, and tell a story of persistent modest growth in the U.S. and recovery in Europe. Emerging markets continue to suffer.

- Five-year US equity returns through 2015 are very strong, driven by 2012-14. Ten-year returns no longer include the 2000 – 2002 downturn, nor the robust 2003-04 results. Fifteen-year equity returns are still below long-run averages, and are equal to those of fixed income.

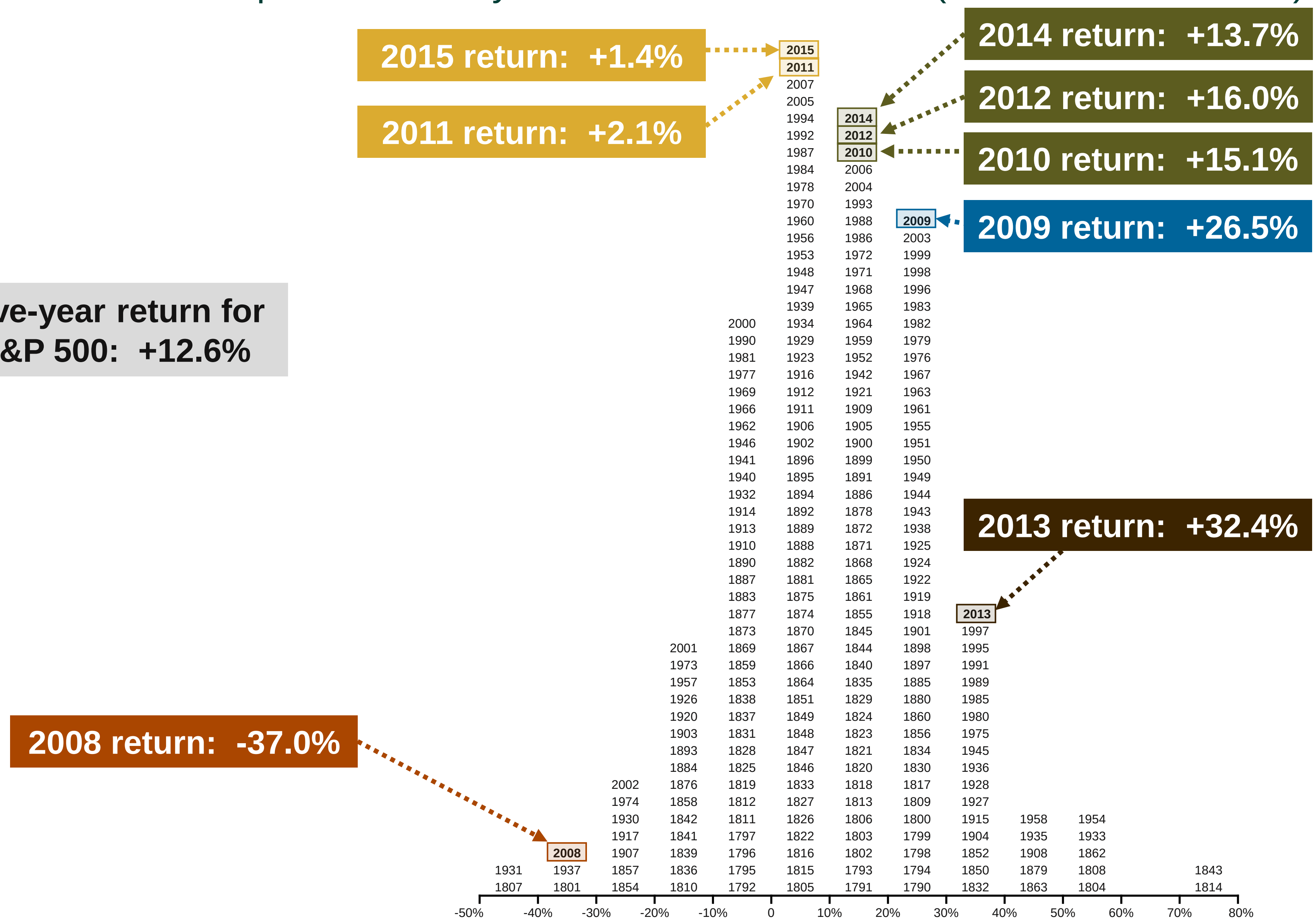
	2010	2011	2012	2013	2014	2015	Average Annual Returns for periods ended 12.31.2015 5 Years	10 Years	15 Years
Broad U.S. Stock Market									
Russell 3000	16.93	1.03	16.42	33.55	12.56	0.48	12.18	7.35	5.39
Large Cap U.S. Stocks									
S&P 500	15.06	2.11	16.00	32.39	13.69	0.92	12.57	7.31	5.00
Small Cap U.S. Stocks									
Russell 2000	26.85	-4.18	16.35	38.82	4.89	-4.41	9.19	6.80	7.28
Non-U.S. Stock Markets									
MSCI EAFE US$	7.75	-12.14	17.32	22.78	-4.90	-0.81	3.60	3.03	3.54
MSCI Emerging Markets	19.20	-18.17	18.63	-2.27	-1.82	-14.60	-4.47	3.95	8.87
Fixed Income									
Barclays Aggregate	6.54	7.84	4.21	-2.02	5.97	0.55	3.25	4.51	4.97
Barclays Glbl Agg ex USD	4.95	4.36	4.09	-3.08	-3.09	-6.02	-0.84	3.10	4.59
Barclays Long Gov/Credit	10.16	22.49	8.78	-8.83	19.31	-3.30	6.98	6.45	7.07
Real Estate									
NCREIF	13.11	14.26	10.54	10.98	11.82	13.52	12.22	7.77	8.97
Hedge Funds									
CS Hedge Fund Index	10.95	-2.52	7.67	9.73	4.13	-0.71	3.55	4.97	5.95
Private Equity									
Cambridge Private Equity*	19.46	11.00	13.33	22.13	12.75	7.10*	16.03*	12.65*	7.91*
Commodities									
Bloomberg Commodity	16.67	-13.37	-1.14	-9.58	-17.04	-24.70	-13.52	-7.49	-2.49
Cash Market									
90-Day T-Bill	0.13	0.10	0.11	0.07	0.03	0.05	0.07	1.24	1.61
Inflation									
CPI-U**	1.50	2.96	1.74	1.50	0.76	0.86	1.94	1.91	1.95

* Private equity data is time-weighted return series for periods ended 6.30.2015 rather than 12.31.2015 in select columns due to a reporting lag.
** CPI-U data are measured as year-over-year change through 12.31.2015.

Source: Callan Associates

Stock Market Returns by Calendar Year

2015 Performance in Perspective: History of the U.S. Stock Market (227 Years of Returns)

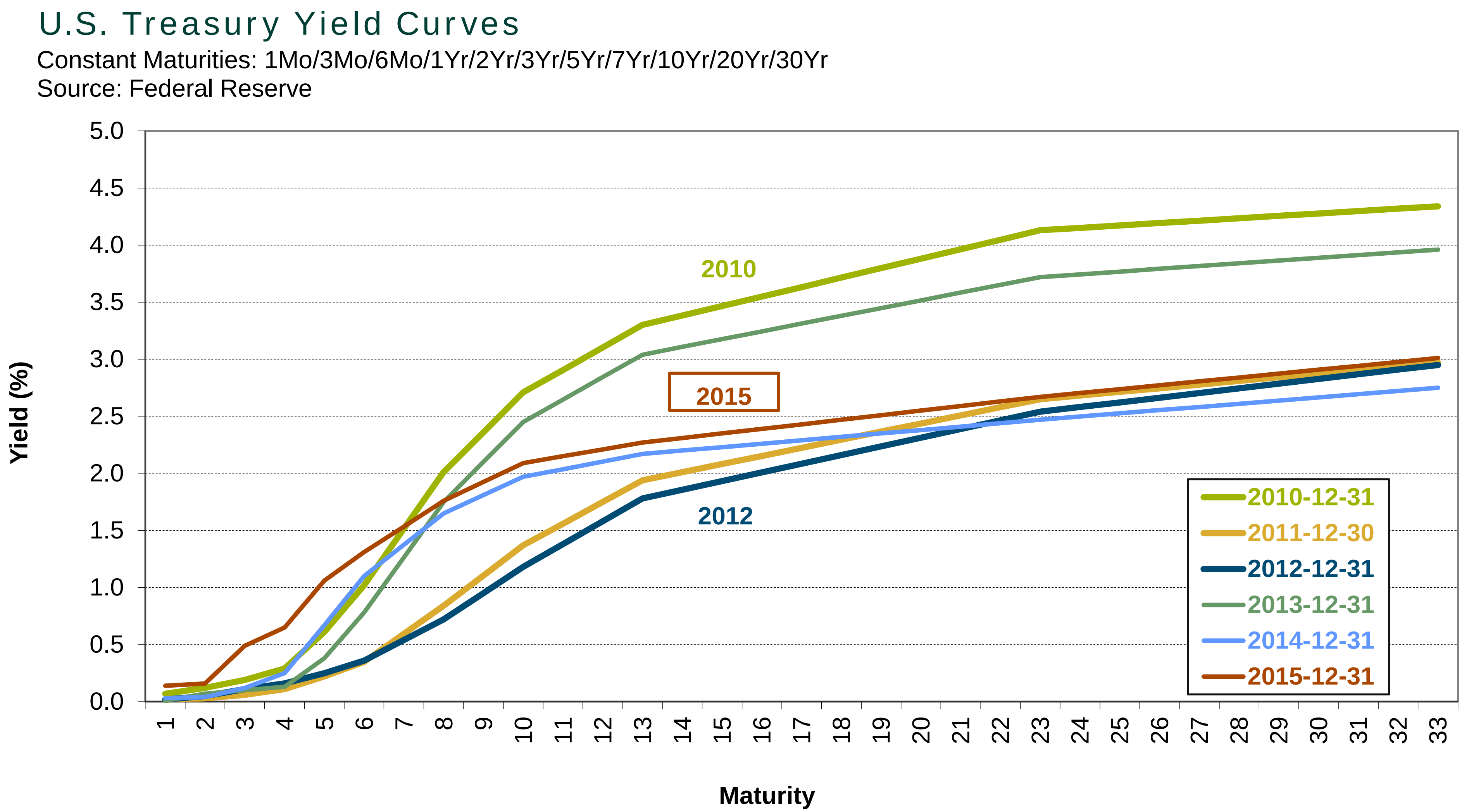


Five-year return for S&P 500: +12.6%

Source: Ibbotson

Treasury Rates Barely Moved in 2015

U.S. Treasury Yield Curves



Source: Federal Reserve and Callan

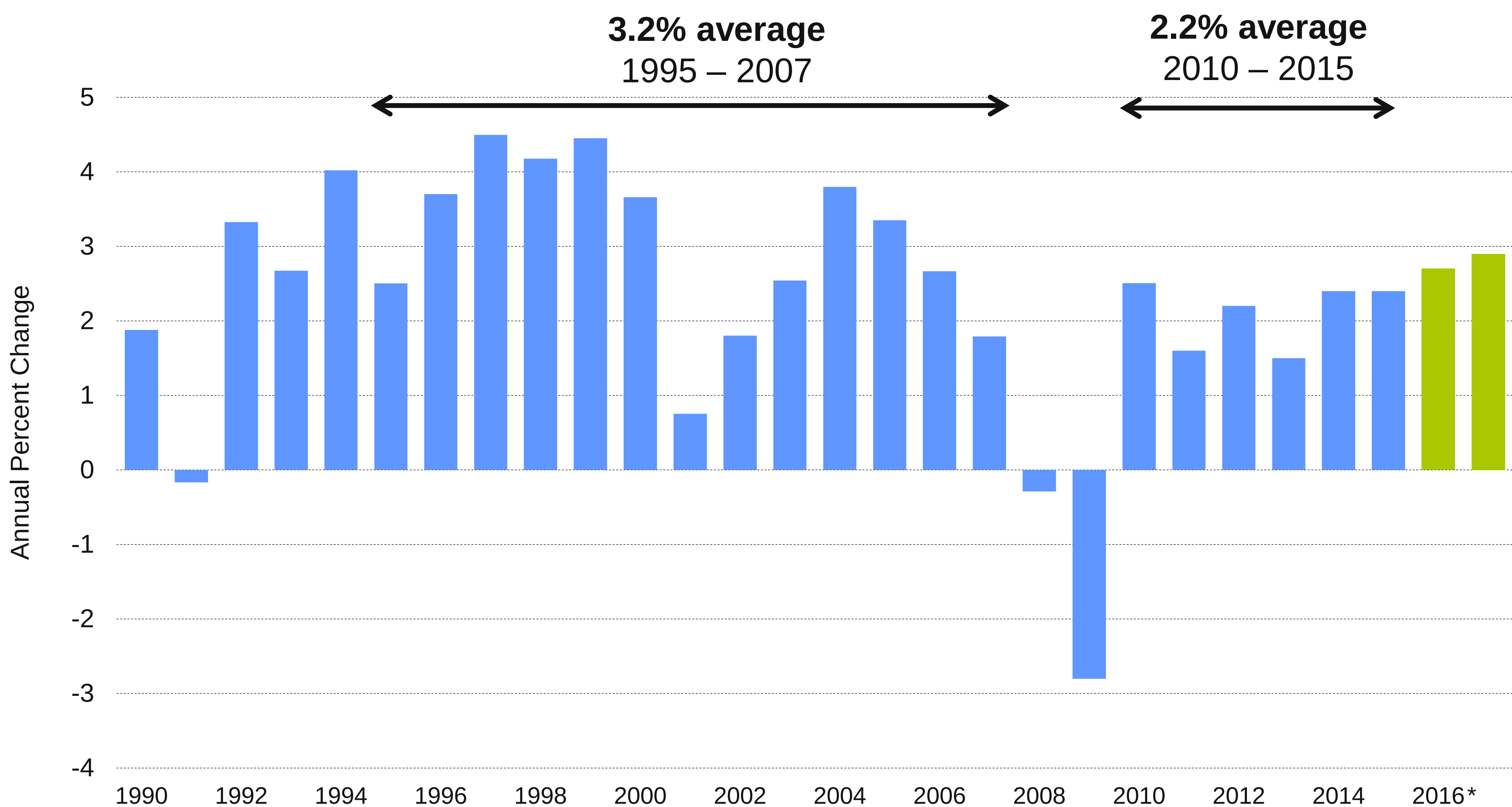
Economy Update Through December 2015

Rebound Continues in the US; Concerns Remain Elsewhere

- Defying market sentiment that turned sharply negative as 2015 progressed, signs from the global economy are actually positive.
- The US economy continues to show strength.
  - Second quarter GDP growth came in strong at 3.9%, third quarter at 2.0%, slowing to 0.7% in the fourth; annual growth for 2015 year will average 2.4%, the same rate as 2014.
  - Job market is front and center. Job growth has been very strong – consistent monthly gains in excess of 200,000 in 2015, hitting 300,000 in October. Unemployment rate down to 5%.
  - Labor force participation remains a problem. Labor force matters because it determines the unemployment rate, a variable the Fed is keying on for policy moves.
  - Consumer spending is strong, driving GDP growth. Auto sales set a new peak in 2015, housing robust through the summer. However, inventories were built in anticipation of even stronger spending, which points to weaker Q4 GDP and a slower start to 2016.
- Modest recovery is taking shape in Europe in response to continued stimulus.
  - Progress on the recovery in Europe may be clouded by refugee crisis.
- Capital markets simply shrugged at end of Fed accommodation and the first rate hike in 9 years in the fourth quarter. However, markets do not buy Fed's articulated pace of rate hikes: futures market predicts fewer hikes and a slower pace.
- Energy prices took another dive, dragging inflation back down.
- Slowing growth in China a major source of negative sentiment and market volatility.
  - Context matters: China is now the second largest economy, slowing growth means dropping below 7%.
  - US economic exposure to China is relatively small compared to Europe and emerging markets.

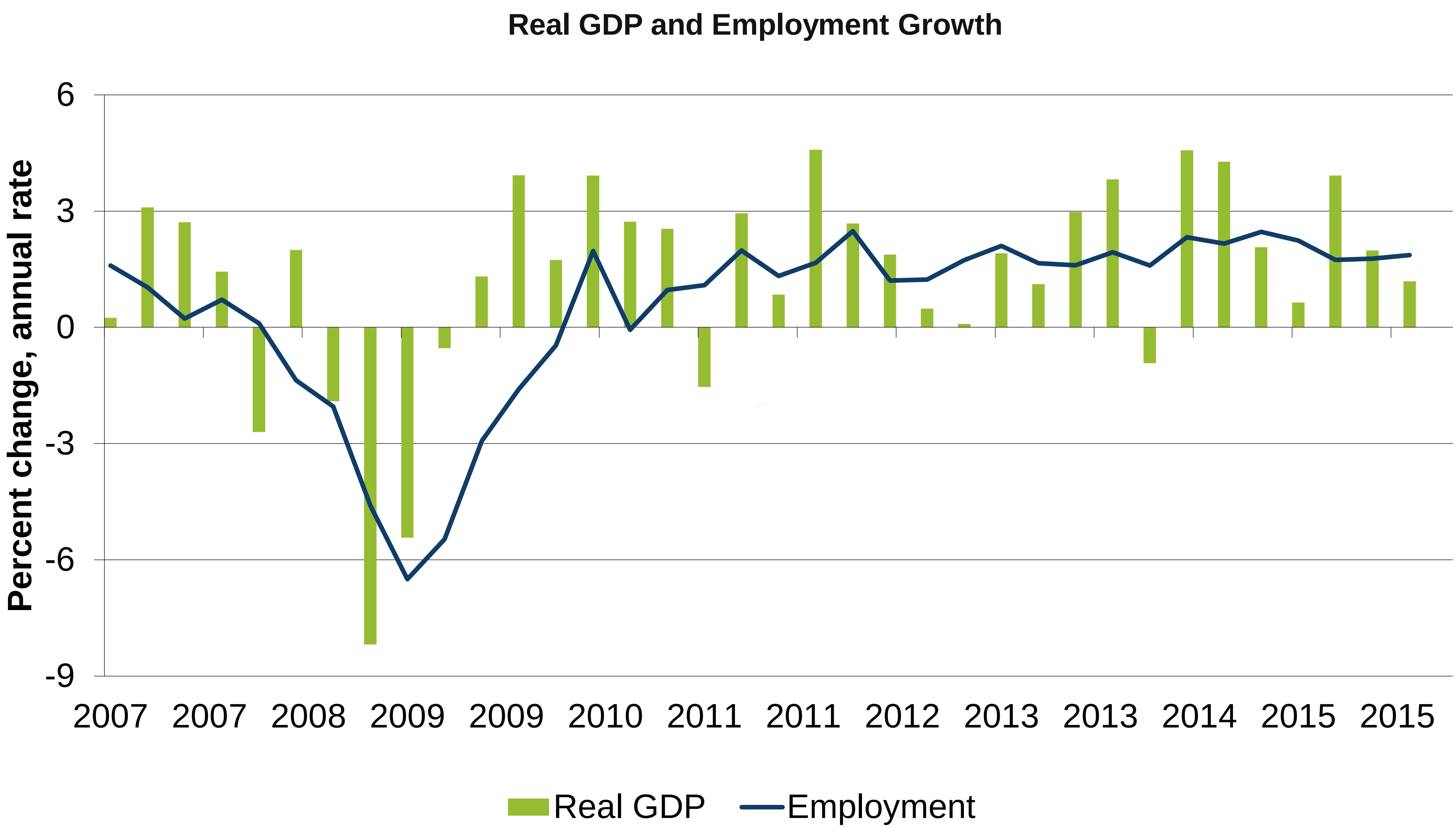
U.S GDP Growth on a Slower Trajectory

Real GDP Growth



* 2016-17 forecast – IHS Global Insight
Source: IHS

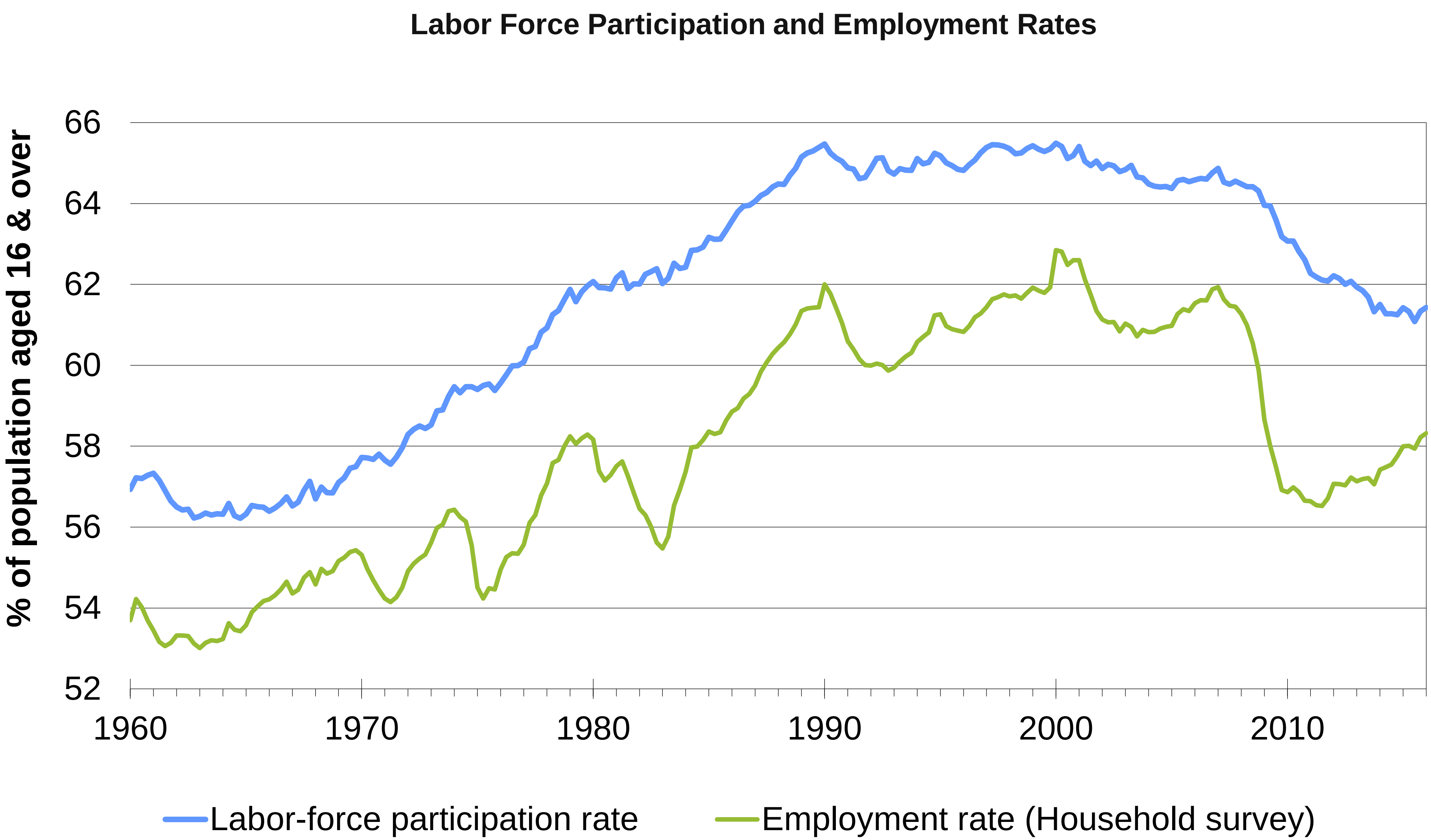
Job Market Gains Have Been Steadier Than Real GDP Growth



Source: IHS

Labor-Force Participation and Employment Rates Suppressed

Aging of the Baby Boomers Keep Rates Below Pre-Recession Levels



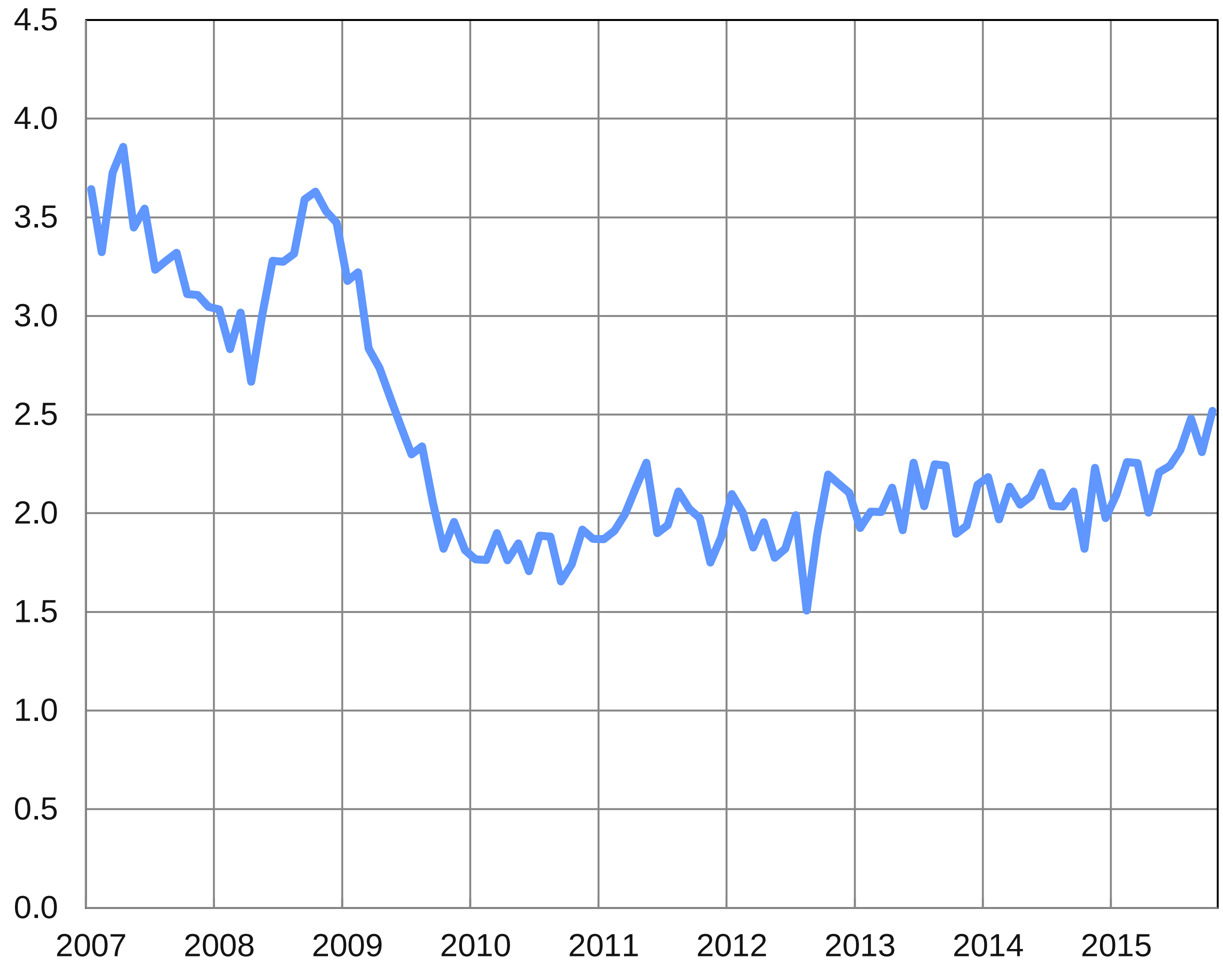
Source: IHS

Nascent Inflation Pressures From Wages

Wages flat until recently

- Sector mix
  - new jobs created in lower-paying fields
- Experience displacement
  - more experienced employees being replaced by less experienced ones
- "Pent up wage deflation"
  - sticky wages prevented full wage adjustments from occurring during the recession
- Substantial job gains and unemployment at 5% is beginning to put pressure on wages
  - still sector and region specific

Average Hourly Earnings

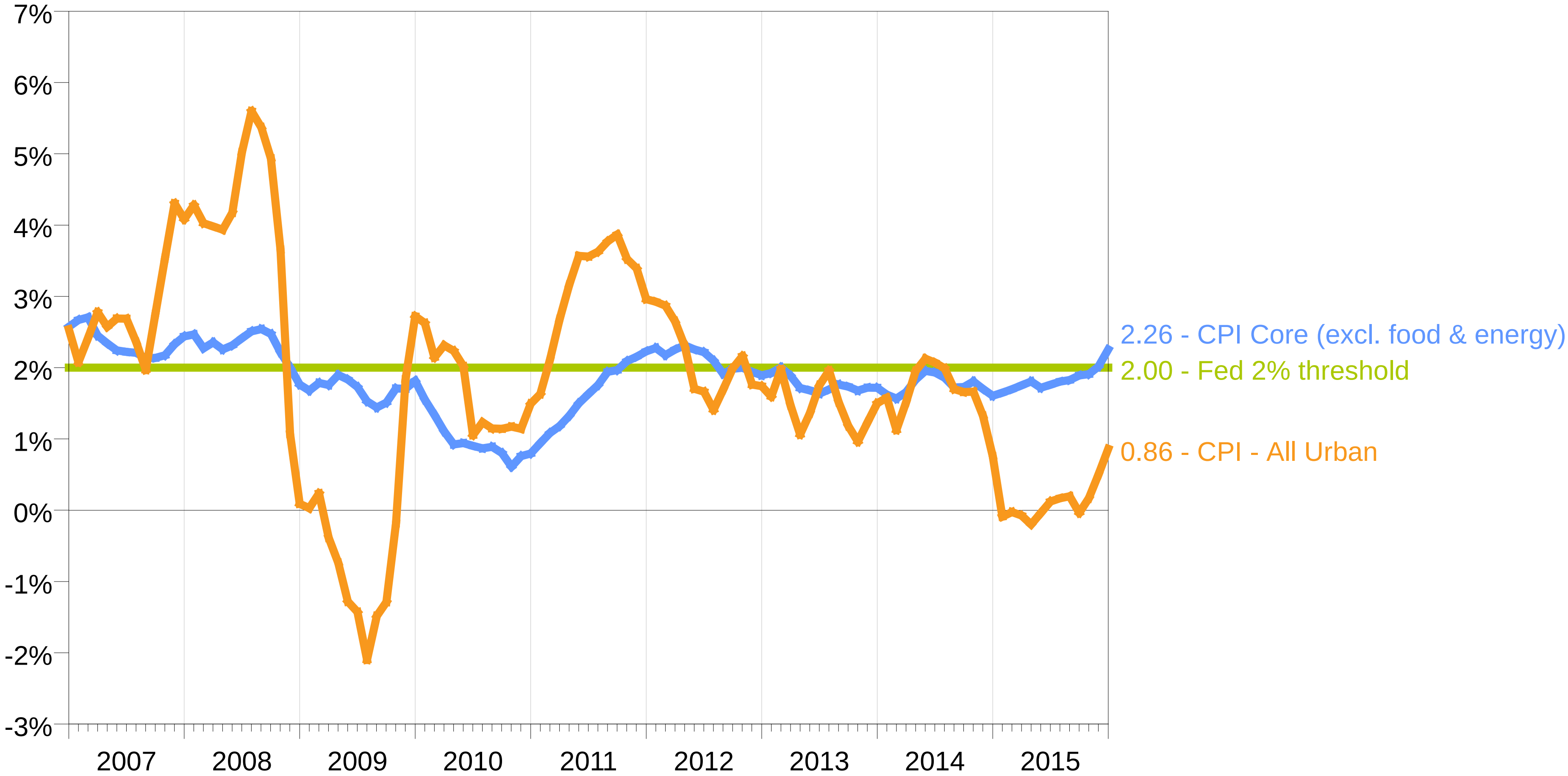


Source: IHS, US BLS, Callan Associates

Are Fears of Deflation Warranted?

CPI Took a Dive With Oil Prices in the Second Half of 2014

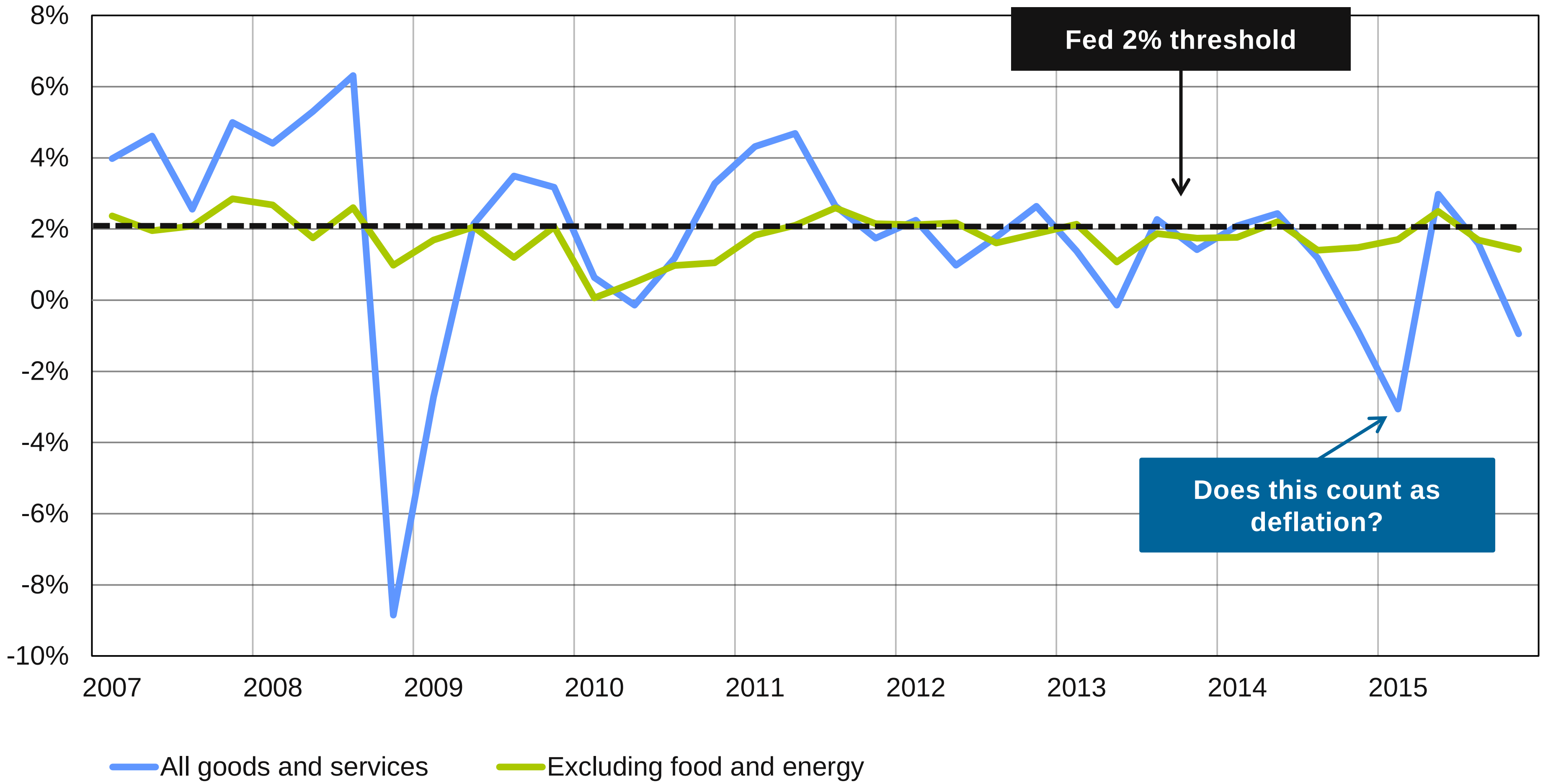
Headline CPI Measures of Inflation (percent change versus year-ago)



Source: Bureau of Labor Statistics and Callan

What the Fed Looks at to Determine Inflation

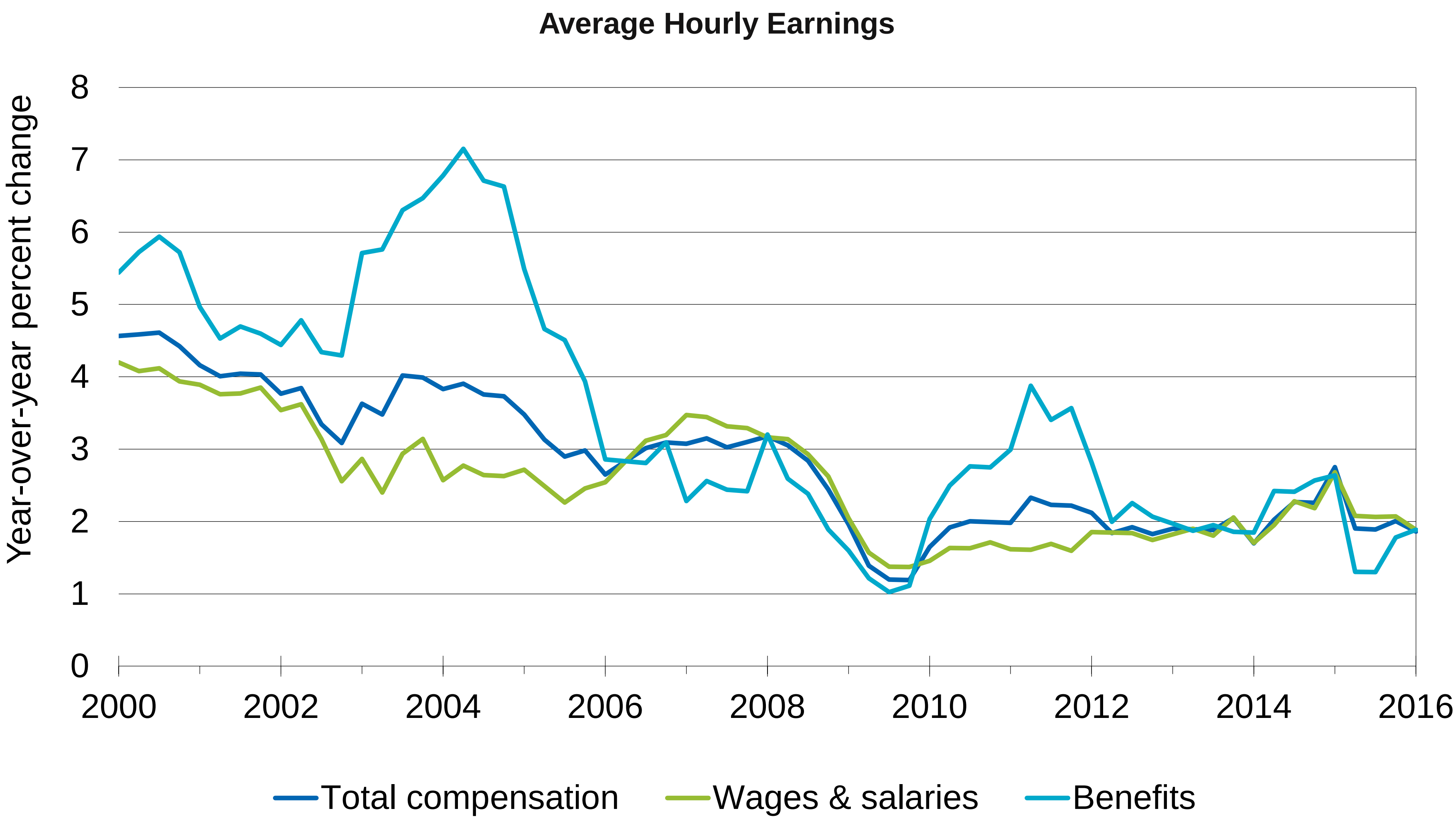
Personal Consumption Price Deflators (percent change, annual rate)



Source: IHS

Worker Comp Could Accelerate as Labor Markets Tighten

Affordable Care Act Will Boost Cost of Benefits



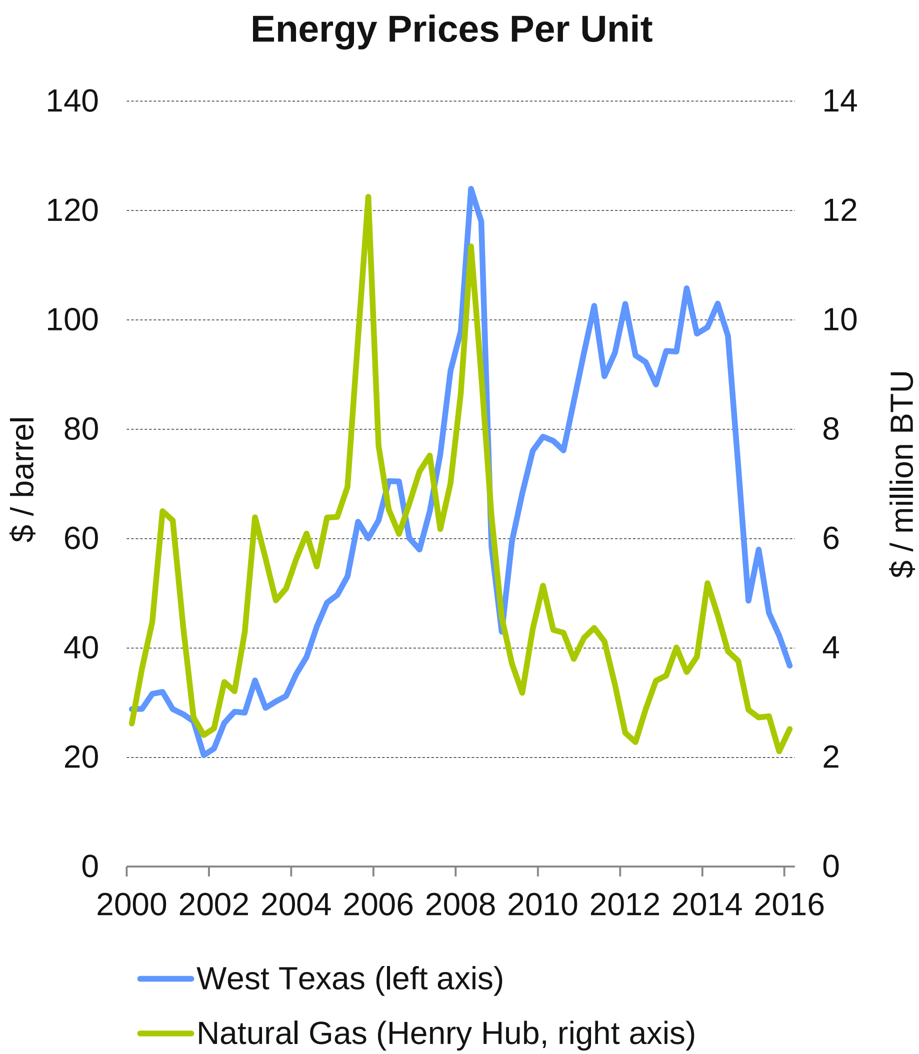
Source: IHS

Oil Price Plunged Continues

End of the Energy Super-Cycle

Impact of a drop in oil prices from $112 per barrel in June 2014 to below $40:

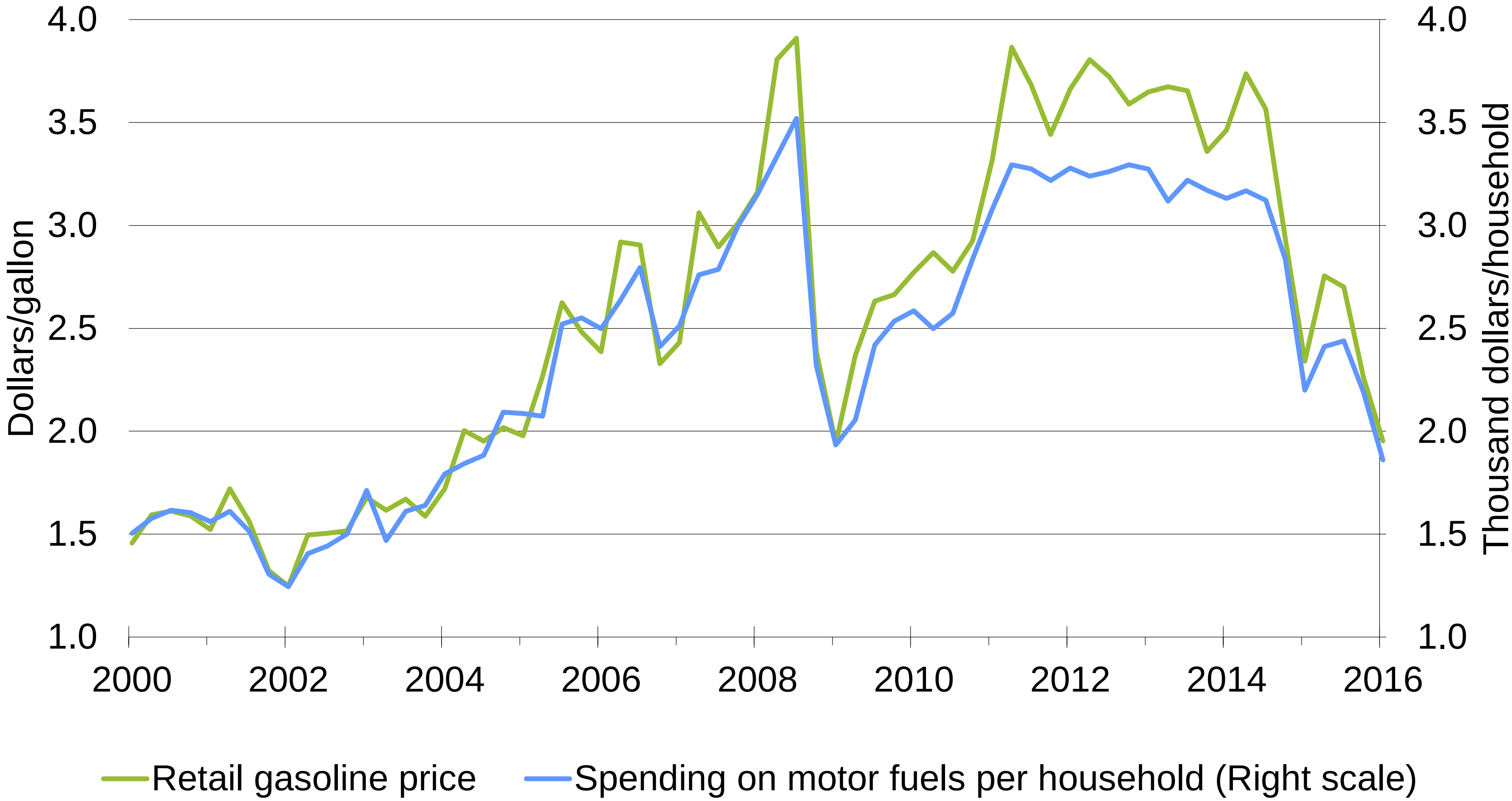
- Most from redeployed consumer spending, particularly to lower- and middle-income households
- Additional effects from improved consumer sentiment and reduced business costs
- Includes offsetting impact of reduced drilling investment and increased imports
- Economic benefits not linear as additional declines in prices have triggered disproportionate production impact



Source: Global Insight

Lower Gasoline Prices = Substantial Savings to Households

Retail Gasoline Price and Annualized Spending on Motor Fuels



Source: IHS

Markets, Not OPEC, Will Determine Energy Prices

- OPEC's December 2015 meeting made it clear there will be no cuts in production and market forces will determine prices.
- Elevated OPEC production will lead to a further buildup of global oil stocks in the first half of 2016, keeping prices weak.
- As sanctions end, Iran's oil exports are assumed to increase 400,000 barrels/day by the end of 2016, but the amount is highly uncertain.
- Global oil demand growth will slow from the strong 2015 increase of 1.7 million barrels/day (MMb/d), but remain above 1.0 MMb/d.
- Low prices will drive down non-OPEC production (primarily US shale oil) through mid-2016, leading to a roughly balanced global market.
- Reduced production costs and increased productivity in oil continue to push break-even prices lower, limiting upside price risks.
- Gas inventories are very high, keeping prices low through 2016.
- The first liquefied natural gas (LNG) exports from the US lower-48 states are set to begin in late January.

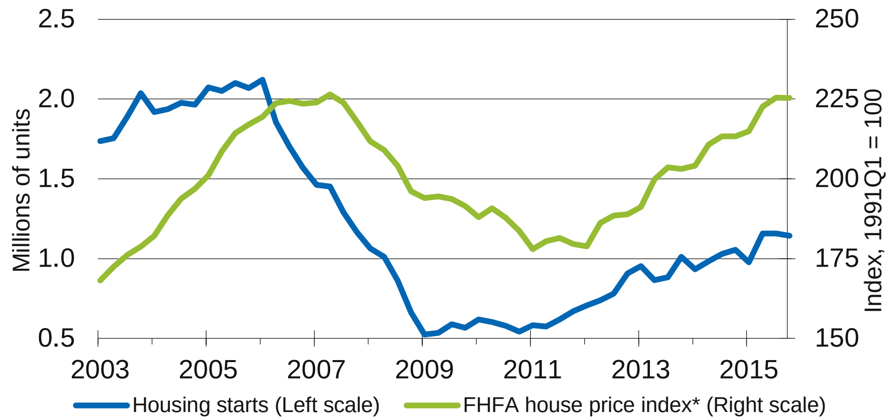
The Recovery in Housing Markets Seems to Have Arrived

- **Pluses:**
  - Reasonable mortgage rates
  - Rates of mortgage default and foreclosure continue to decline
  - Sustained job creation
  - Improving credit availability for builders and buyers
  - Consumer de-leveraging helps with home price affordability
  - Supplies of new and existing homes are tight, spurring home price appreciation
  - Rental markets tight, spurring multi-family starts
  - Young adults have postponed homeownership; potential pent-up demand
- **Minuses:**
  - Adverse household formation among under-35 and 35-44 year-old households; overall HH formation has slowed
  - Greater perceived risk of holding real estate
  - Higher input prices for builders squeezing margins
  - Shortage of buildable lots
  - Job mobility stuck at recession levels
  - Significant student loan burden
  - Lack of distressed properties for sale, impacting investor demand
  - Baby boomers are downsizing

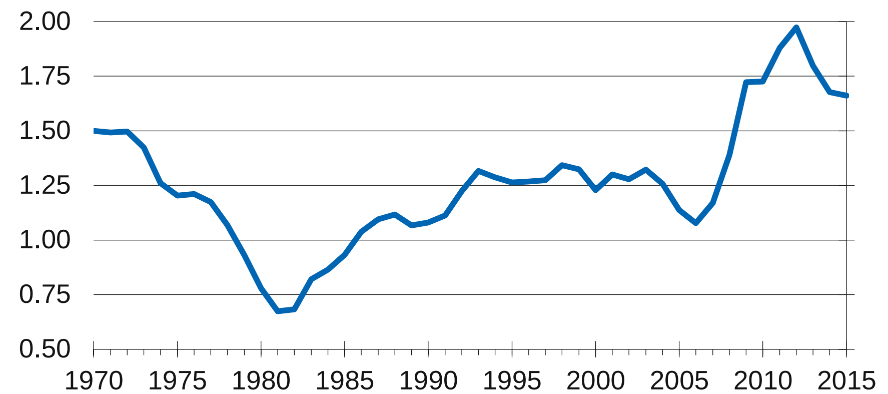
Single-Family Housing Improving, But Slowly

Sales and Starts Well Below Pre-Recession Levels; Affordability Eroding

Housing Starts and Home Prices

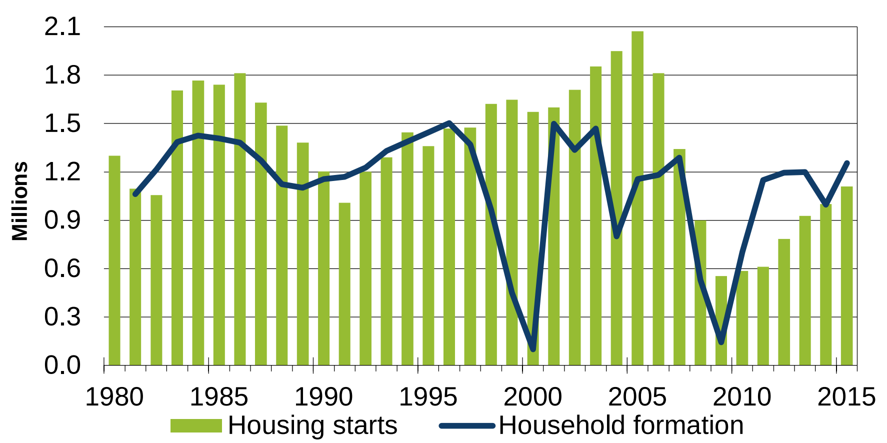


Home Price Affordability Index*

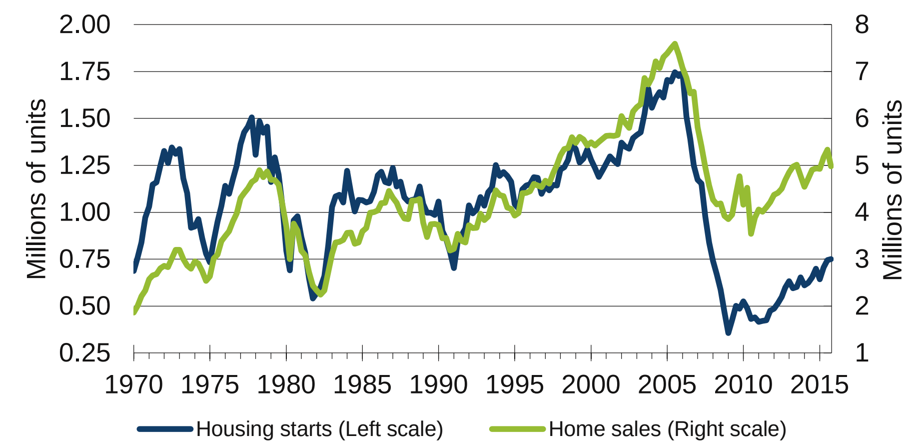


* A value of 1.00 indicates a household earning the median income can afford a median-priced single-family home.

Housing Starts and Household Formation



Single Family Housing Starts and Sales



Source: IHS

Consumer Spending: Regaining the Leading Role

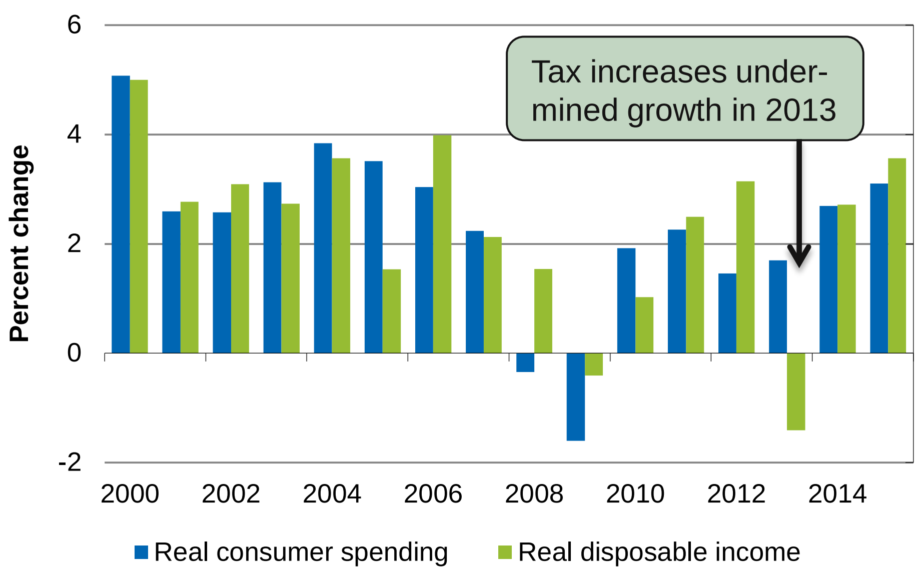
Positives Outweigh the Negatives

Negative Forces	Positive Forces
Slow wage growth	Pent-up demand for homes and durable goods (autos)
Debt burdens still high, student debt burdens	Jobs growth
Low fertility rates and population growth rates	Consumer confidence elevated
Real median household income flat, income inequality up	Lower energy prices helping with higher food prices
Poverty rates elevated	Household asset values surpassed pre-crisis levels (for some)
Saving for retirement	Rising disposable income

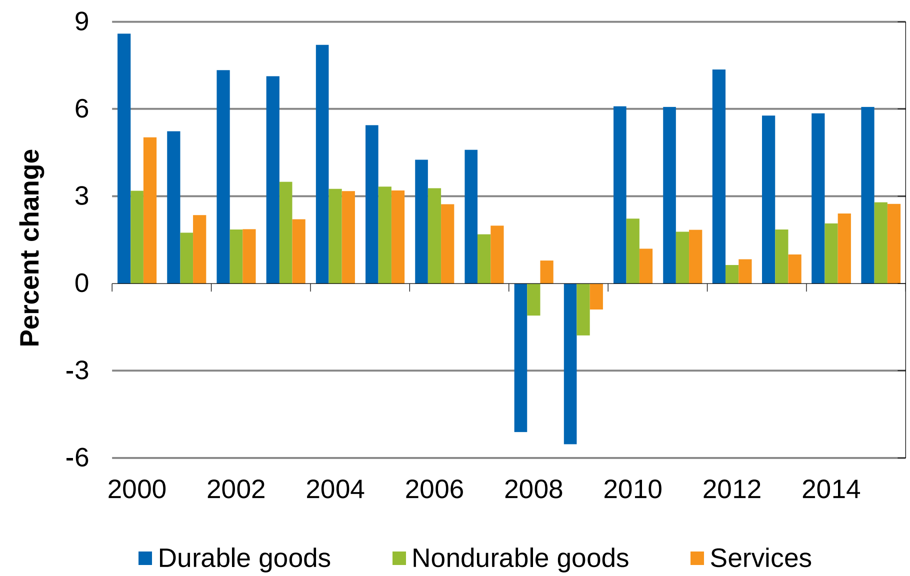
Durable Goods Leads Growth in Real Consumer Spending

Supported by Solid Growth in Real Disposable Income

Real Consumer Spending and Disposable Income

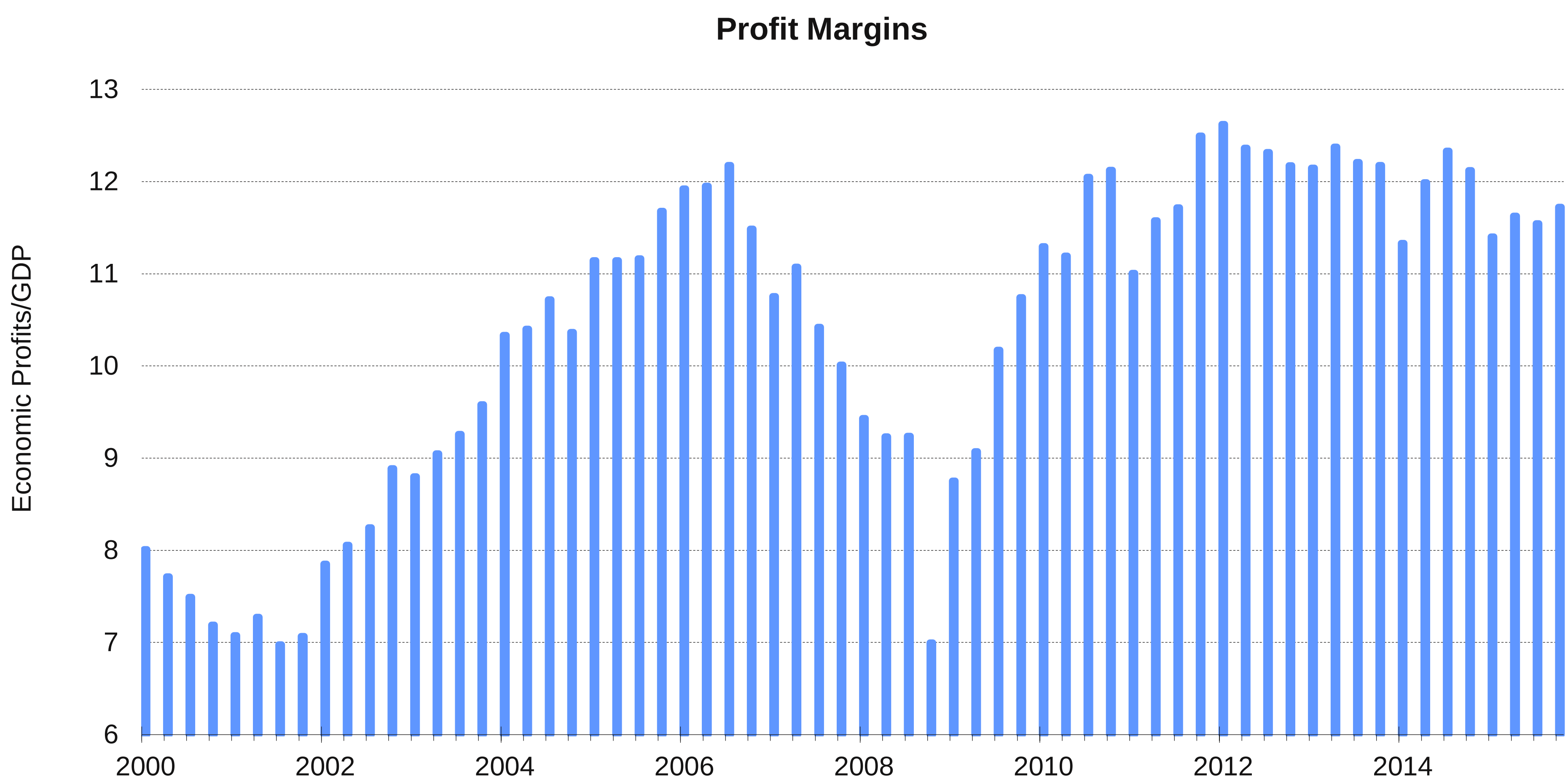


Real Consumer Spending



Source: IHS

Corporate Profit Margins Remain Near All-Time Highs



Source: Global Insight

U.S. Economic Growth by Sector

Annual Percentage Change

	12/31/2006 Share of GDP	12/31/2014 Share of GDP	2007	2008	2009	2010	2011	2012	2013	2014	2015	Direction of Change
Real GDP	100.0%	100.0%	1.8	-0.3	-2.8	2.5	1.6	2.2	1.5	2.4	2.4	Stable above 2% (reaching for 3%?)
Consumption	67.2%	68.2%	2.2	-0.3	-1.6	1.9	2.3	1.5	1.7	2.7	3.1	Back above GDP growth
Residential Investment	5.5%	3.1%	-18.8	-24.0	-21.2	-2.5	0.5	13.5	9.5	1.8	8.6	Recovered in 2015
Bus Fixed Investment	12.6%	13.1%	5.9	-0.7	-15.6	2.5	7.7	9.0	3.0	6.2	3.4	Healthy growth slowed in 2015
Federal Government	7.3%	7.0%	1.7	6.8	5.7	4.3	-2.7	-1.9	-5.7	-2.4	-0.4	End of stimulus
State & Local Government	12.4%	11.0%	1.5	0.3	1.6	-2.7	-3.3	-1.9	-1.0	0.6	1.5	Modest gains as economy improves
Exports	10.3%	13.0%	9.3	5.7	-8.8	11.9	6.9	3.4	2.8	3.4	1.0	Weakened by strong $
Imports	15.7%	15.7%	2.5	-2.6	-13.7	12.7	5.5	2.2	1.1	3.8	5.0	Consumption improving plus strong $

- Recovery has been modest by historical standards. U.S. GDP suffered a hiccup in first quarters of 2014 and 2015, but regained momentum as each year progressed.
- Housing market found a bottom, and new home construction surged following a slump in 2014. Consumer spending moved back into a driving force as the job market solidified and consumer wealth rebounds. Housing remains challenged by demographics.
- Government spending as a percent of GDP peaked in 2011, receded in 2012-14 without further stimulus.
- Note: Imports are a negative number in the calculation of GDP.

Source: IHS Global Insight and Callan

Gradual Acceleration in the Global Economy Still in the Cards

- The world economy remains in low gear; only a modest pickup in growth is expected in 2016.
- Eurozone growth will improve slightly, aided by monetary stimulus, currency depreciation, and pent-up demand.
- China's economic growth will slow further in 2016 because of imbalances in credit, housing, and industrial markets, and the evolution of its economy from building things to buying things, from massive investment to consumption.
- The plunge in materials prices across the commodity complex is restraining growth in the commodity-exporting countries of the Americas, Africa, and Asia-Pacific.
- Prospects for emerging markets will depend in part on structural reforms that raise productivity and allocate capital more efficiently.
- Geopolitical risks abound, threatening both sentiment and actual economics.

Summary of Economic Analysis

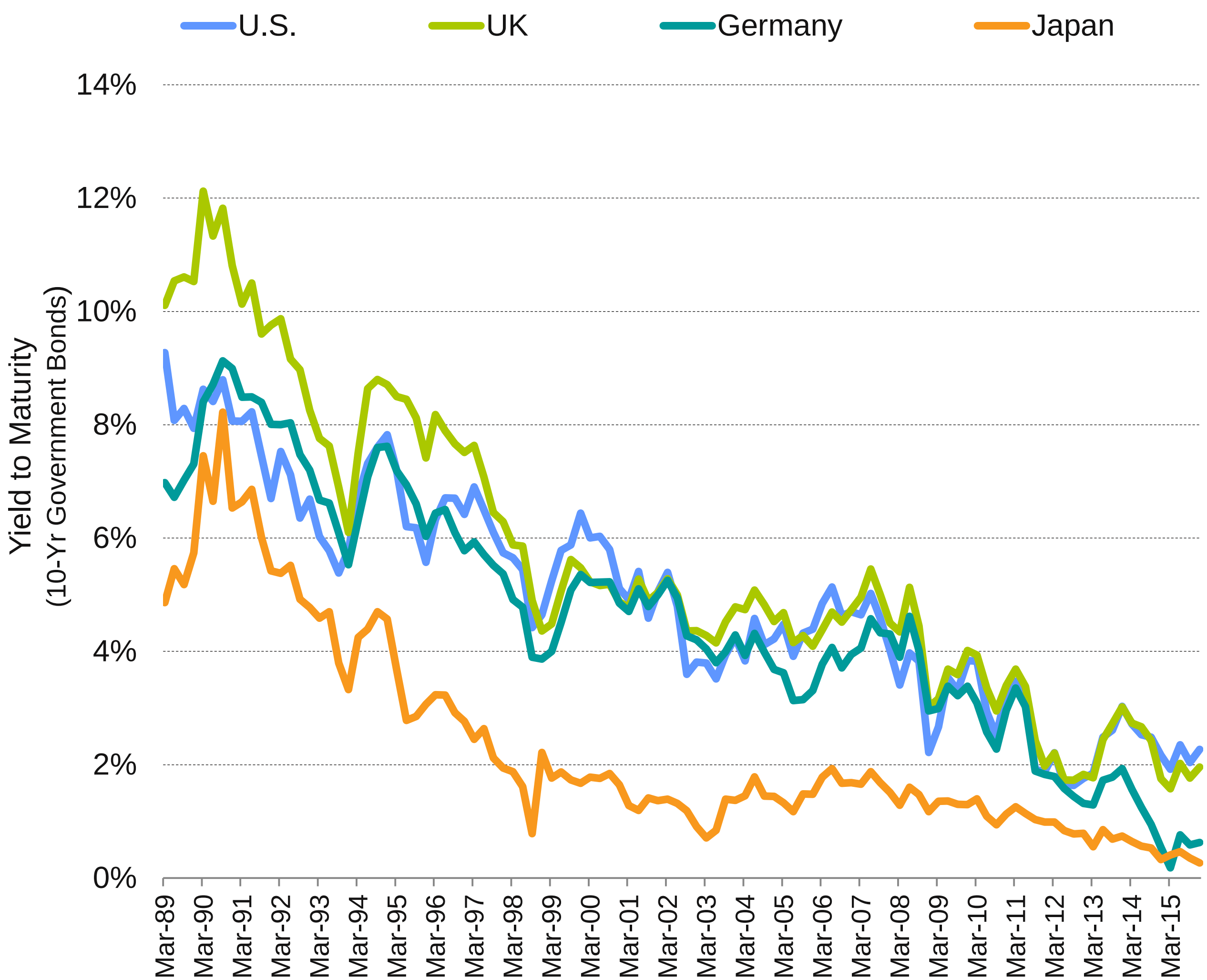
Return to More Normal Economic Conditions

- Economic growth has been subdued in the wake of the Global Financial Crisis
- Geographically dispersed signs of solid economic growth
  - Growth rates in the U.S. and the UK have rebounded strongly
  - Emerging markets growth slowing to “less high” rates
  - Monetary stimulus in Europe and Japan has already shown fruit
    - *U.S. policies ultimately seem to have been successful*
    - *Geopolitical uncertainty weighing on Europe (Syrian refugees, Russia and its interaction with neighbors)*
- Inflation will remain muted (but positive) given spare productive capacity, energy & commodities
  - Labor and capital still underutilized
  - Wage expectations anchored at low levels
  - Energy and raw materials prices suppressed and unlikely to accelerate quickly
- U.S. finally embarked on a path to increase interest rates, countercyclical to other developed economies and just as the capital markets grew jittery, ostensibly over China
- U.S. Forecasts: Real GDP Growth = 2.5 - 3%, Inflation = 2.25%
- Non-U.S. Forecasts: Developed Real GDP Growth = 2%, Inflation = 2%
- Emerging Markets Forecasts: Real GDP Growth = 5%, Inflation = 5%

Have Interest Rates Hit Bottom, At Least in the U.S.?

Government Interest Rates

- Interest rates reached lows not seen in many decades, for a number of reasons including:
  - Central bank intervention including quantitative easing ("QE")
  - Low inflation
  - Flight to quality investments
  - Expanded or new roles for debt (bank capital, long-term liability hedging)
- Low rates can stimulate growth and inflation if there is sufficient loan volume.
  - Both supply and demand will increase as lenders and borrowers improve their balance sheets.



Monetary Policy and Interest Rates

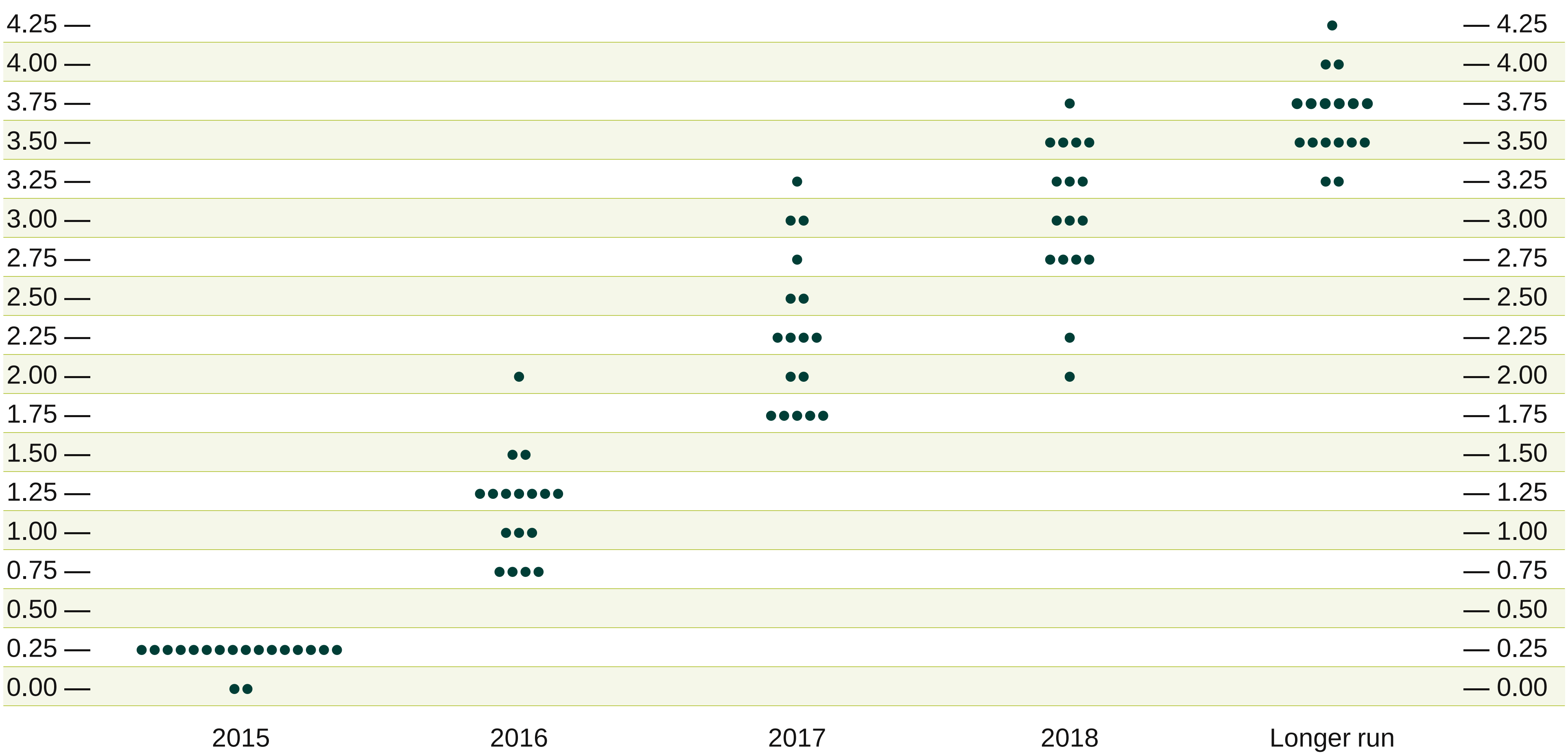
What Will the Fed Do Next?

- Forward guidance stresses that the timing and pace of rate hikes are data dependent in a symmetric way.
- Policymakers happy with progress in the labor market, but likely see greater downside risks to inflation as inflation and inflation expectations have deteriorated, thanks to plunging energy and commodity prices.
- Oil prices believed to be a net positive for U.S. and global economies, and not a source of deflation – until now. How does sustained distress on the commodity complex weigh into Fed deliberations?
- Labor market and inflation moving in different directions. What matters more for the Fed? Probably the labor market.
- Fed has stated it does not have to achieve its 2% inflation goal to raise interest rates, which is good, given recent oil price plunge.
- Fed rate hike was delayed to December 2015. Market expects the Fed to move slowly than the Fed's expressed timetable.
- Long credit yields blew out in the U.S. during 2015, after denying potential the ate hike in previous years.

The Famous (Infamous?) Dot Chart

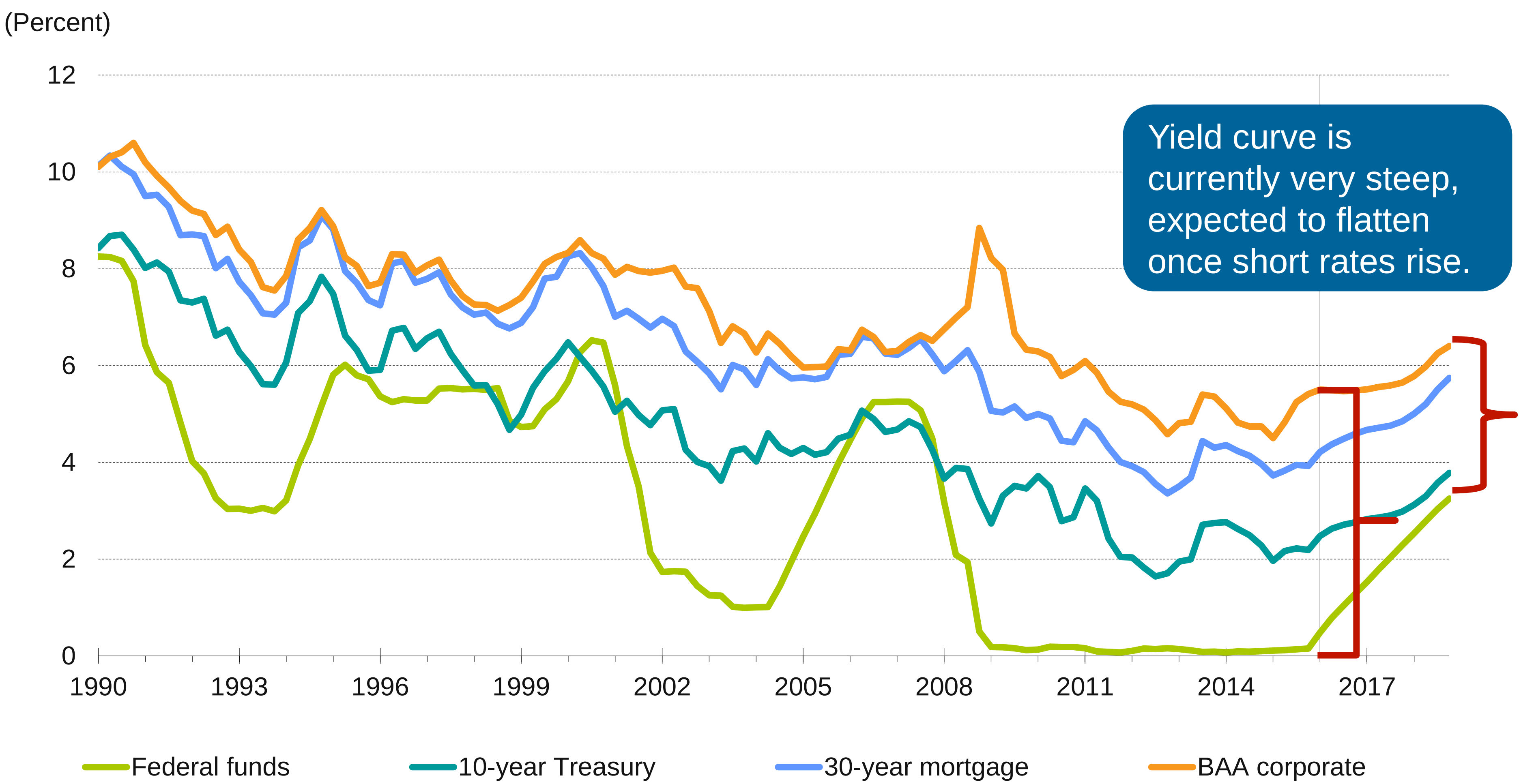
Longer Term Target has Consensus Within the FOMC, But Not the Path to Get There

Target fed funds rate at year-end (December projections)



Each shaded circle indicates the value of an individual participant's judgment of the midpoint of the target federal funds rate at the end of the specified calendar year and over the longer run. The number in each column represents the lower bound of an 0.25 percentage point range.

Interest Rates Will Rise From Exceptionally Low Levels



*** 2016-18 estimate – IHS**

Source: IHS

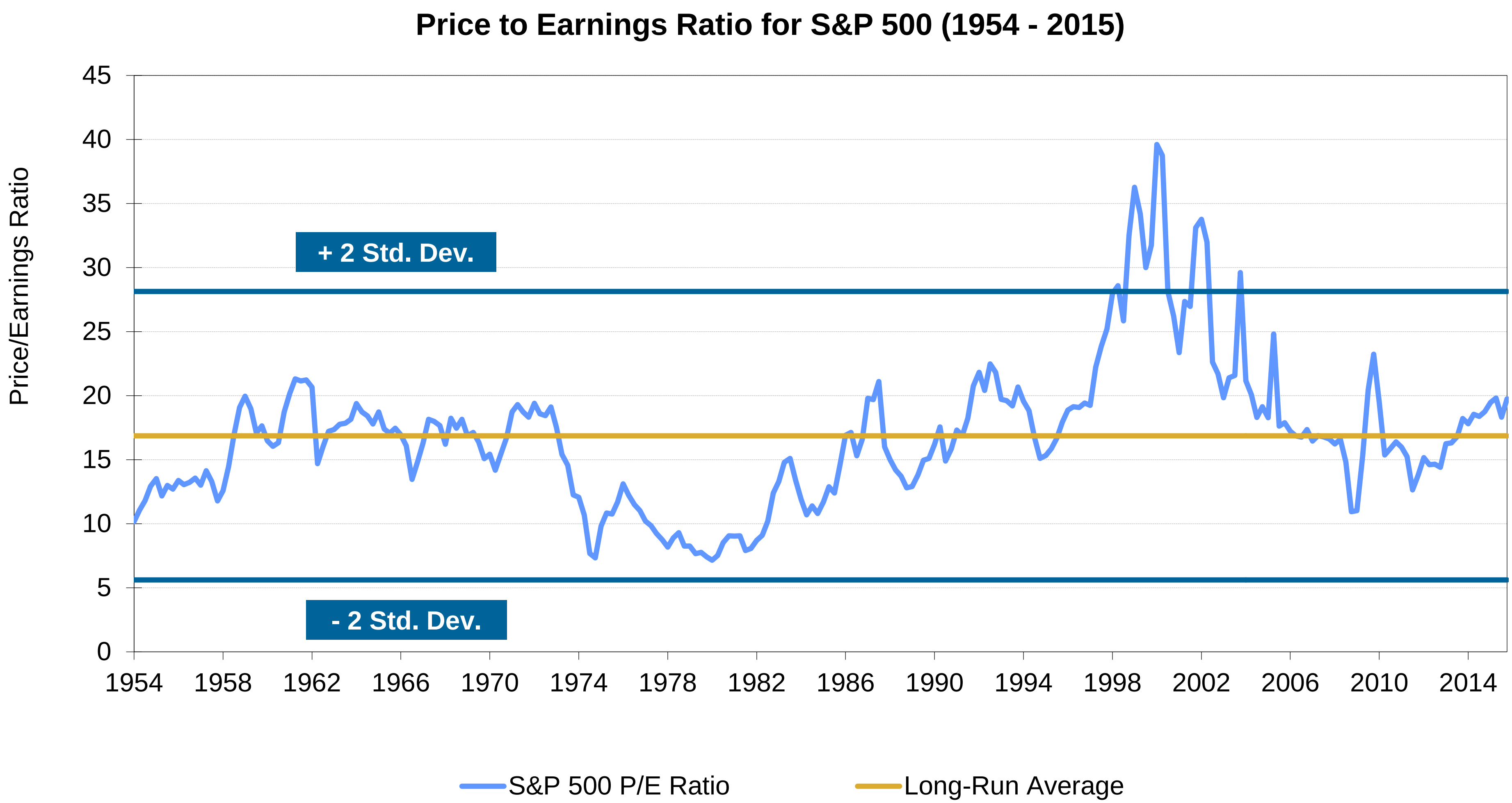
Will Rising Rates Crush U.S. Fixed Income Markets?

Return to More Normal Yield Curve Will Be Painful Before Profitable

- The rise in long yields in 2015 will make the return to normal at the long end of the yield curve less painful.
  - Long bonds suffered losses last year as yields blew out.
  - Lesser yield increases starting today mean lower capital losses especially for long duration securities.
  - Relative to last year there is one less year of low yields and one more year of higher yields in our 10-year projection.
- Yields in the intermediate portion of the curve held up in 2015.
  - Stable yields led to more yield-like returns.
  - Smaller yield increases to reach normal rates will make returns over the next few years more tolerable.
- Cash returns likely to experience gain without pain.
  - The shortest term securities will increase in yield the most over the next few years.
  - Their near-zero duration means that they will increasingly harvest returns without the pain of lost capital.
- Interest rates will rise over approximately the same period as the FOMC expects Fed Funds to rise.
  - Most of the capital losses likely to be realized in the next three years.
  - Higher yields in subsequent years expected to make long-term annualized returns more tolerable.
- The Barclays Capital Aggregate Index is expected to return 3% per year on average.
  - Embedded in the projection is an expectation that we'll reach 2.5% yield for cash and 3.3% for 10-Year Treasury by the end of the 10-year forecast period.

Equity Is Not Yet Egregiously Overpriced

Trailing P/E Caught Up to Its Long Run Average, Moved Sideways in 2015

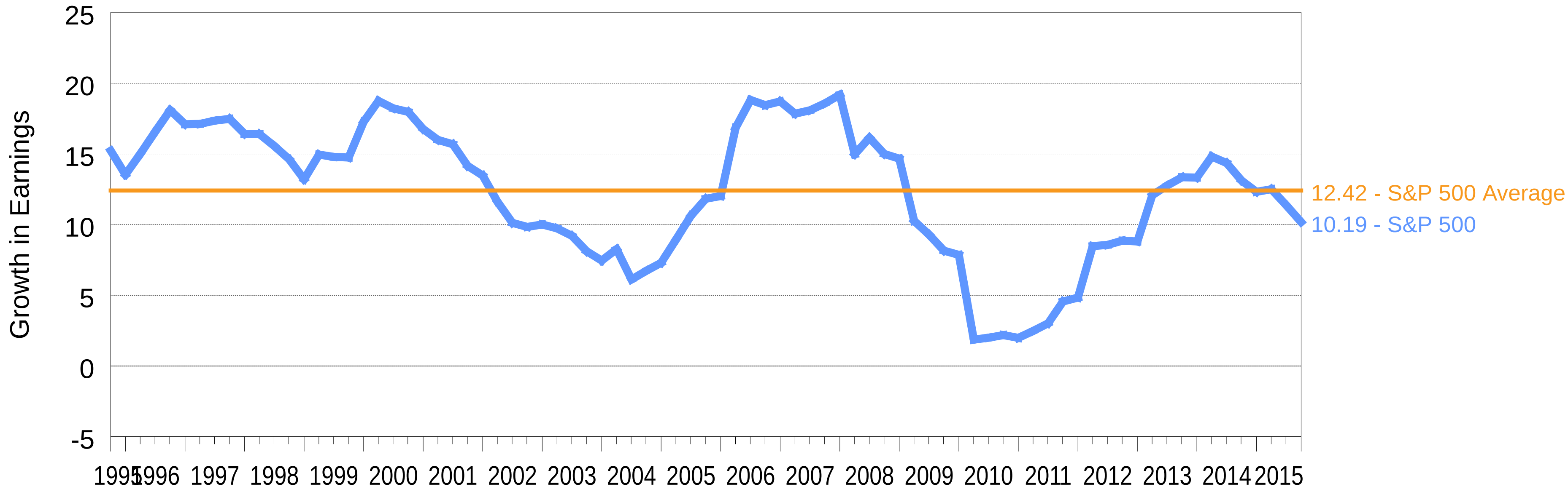


Trailing earnings as reported for the fiscal year; includes negative earnings from 1998 onward.
Source: Standard & Poor's and Callan

Are U.S. Equity Markets Overvalued?

Corporate Profits Are Still Growing Strongly, Although They May Have Peaked

Growth in Earnings for 20 Years ended September 30, 2015



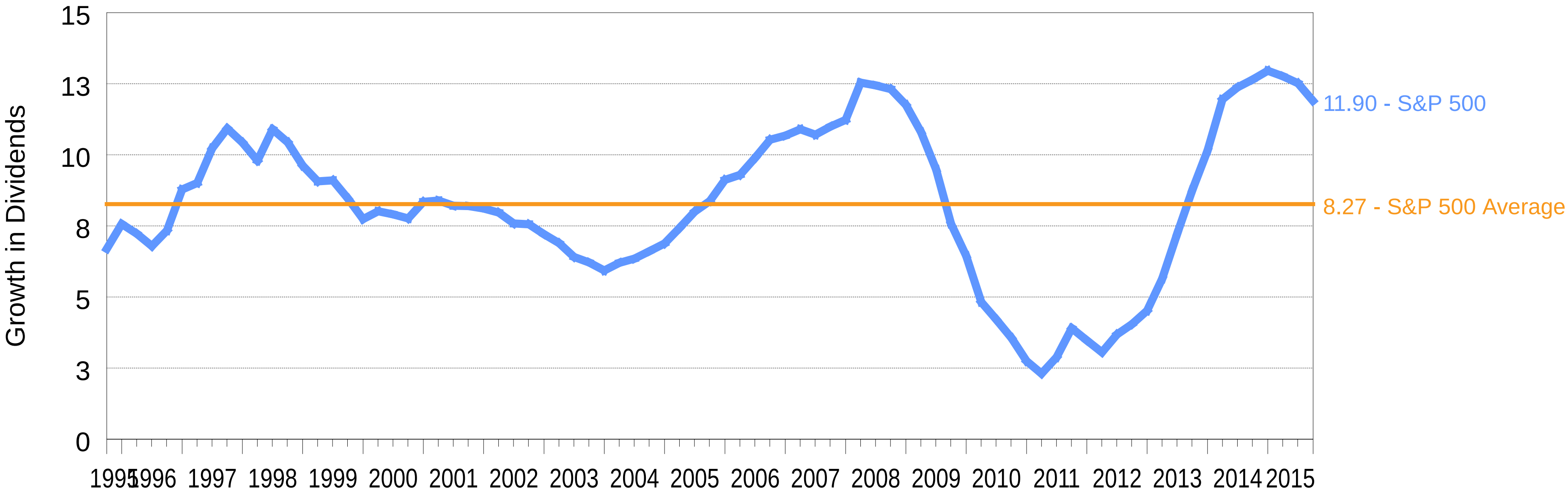
- Corporate profit growth has recovered from the levels experienced soon after the Financial Crisis.
- Current growth is near the long-term average which is at a double digit level.
- Profit growth is forecast to improve with recovering economy.

Source: Standard and Poor's and Callan Associates

Are U.S. Equity Markets Overvalued?

Dividends are Growing at Rates Well Above Average

Growth in Dividends for 20 Years ended September 30, 2015



- The amount of capital that firms are returning to shareholders as ordinary dividends has been growing at an above average pace.

Source: Standard and Poor's

Are U.S. Equity Markets Overvalued?

Future Returns Driven by Economic Performance

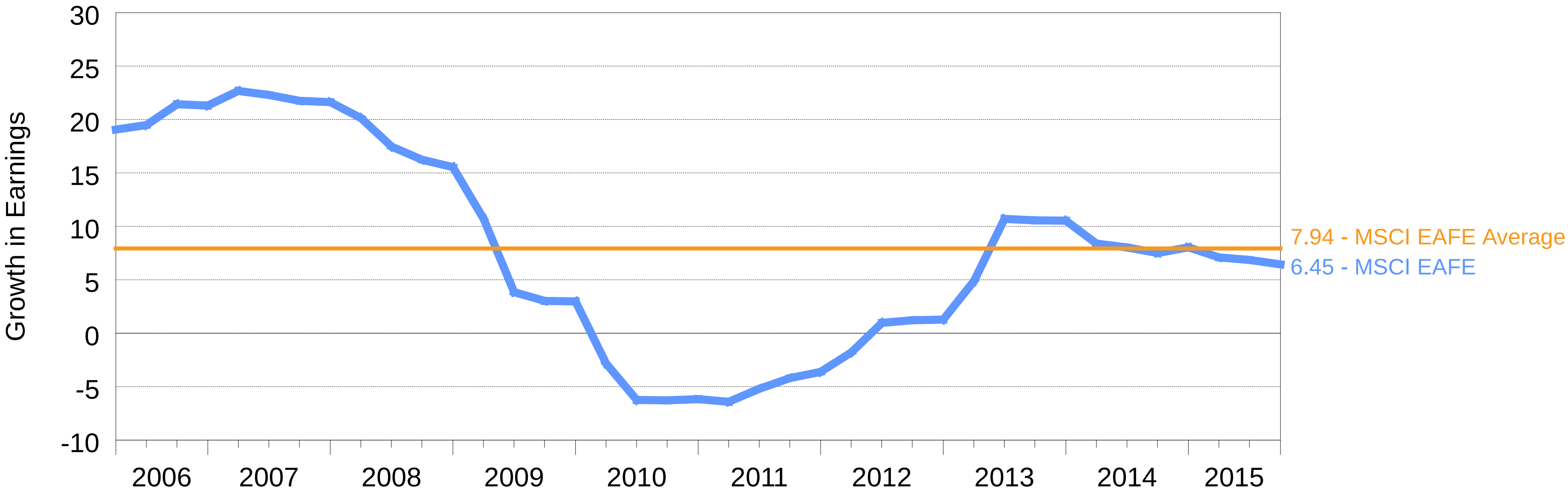
- Current strong dividend growth is expected to return to a more moderate pace.
- Firms are expected to return more capital to moderate the level of cash on their balance sheets.
  - Increases in dividends paid from earnings.
  - Real free cash flow returns (e.g., special dividends and share buybacks).
- Strong profit growth has kept U.S. valuations reasonable.
- Expectations for moderate economic growth should support future corporate profits.
- Continued strong earnings supported by the recovering economy means that valuations can return to average with moderate stock returns rather than a bear market.

Factor	Large Cap	Small/Mid Cap
Real Capital Appreciation		
Real Dividend Growth	5.50%	1.75%
Payout Ratio Growth	1.00%	-2.25%
P/E Growth (multiple expansion)	-0.50%	1.00%
Real Price Return	3.93%	5.13%
Yield		
Real Dividend Growth	5.75%	1.75%
Current Real Dividend Yield	0.25%	-0.35%
2025 Real Dividend Yield	0.25%	-0.34%
Average Real Dividend Yield	0.25%	-0.34%
Real Free Cash Flow Return	0.70%	0.40%
Real Return	4.88%	5.19%
Inflation	2.25%	2.25%
Mean Nominal Compound Return	**7.24%**	**7.56%**

Can Non-U.S. Equities Overcome Economic Issues?

Developed Markets Corporate Profits are Likely to Grow Faster

Growth in Earnings for 9 1/2 Years ended September 30, 2015



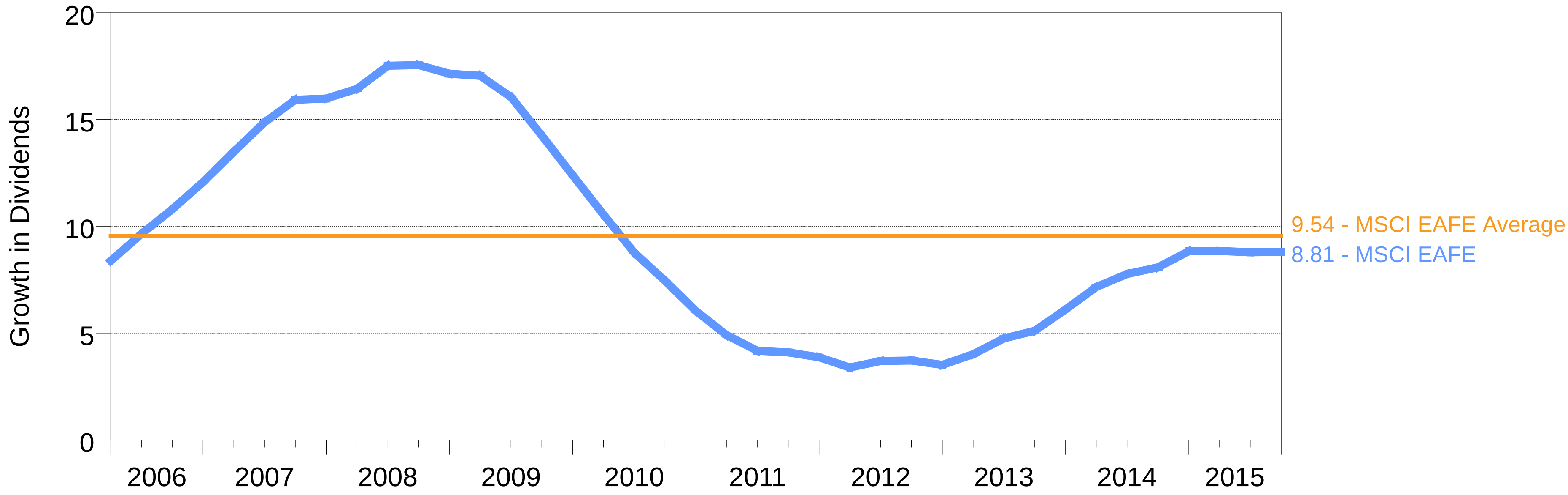
- Corporate profit growth has recovered to the longer-term average.
- Forecast profit growth expected to improve as uncertainties are resolved.
  - Greek bailout
  - European Central Bank Quantitative Easing
  - Japanese stimulus and reforms

Source: MSCI

Can Non-U.S. Equities Overcome Economic Issues?

Developed Markets Dividends are Growing Strongly

Growth in Dividends for 9 1/2 Years ended September 30, 2015



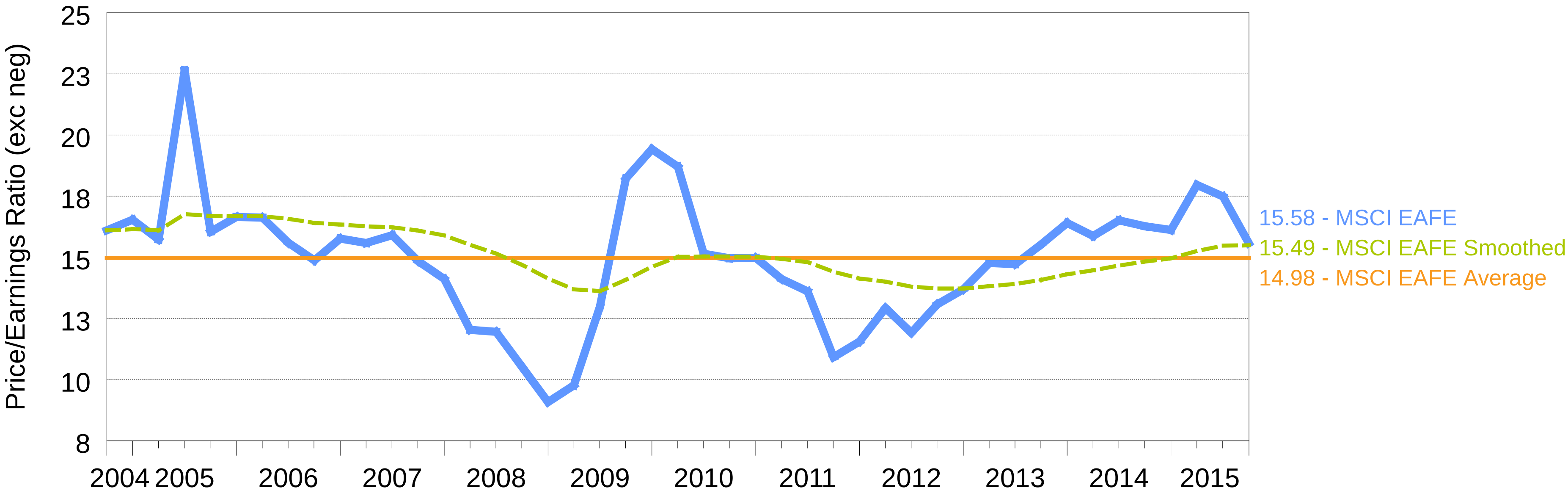
- High dividend growth rate overseas consistent with historical emphasis on the yield component of returns.

Source: MSCI

Can Non-U.S. Equities Overcome Economic Issues?

Developed Markets Valuations are Reasonable

Price/Earnings Ratio (exc neg) for 11 Years ended September 30, 2015



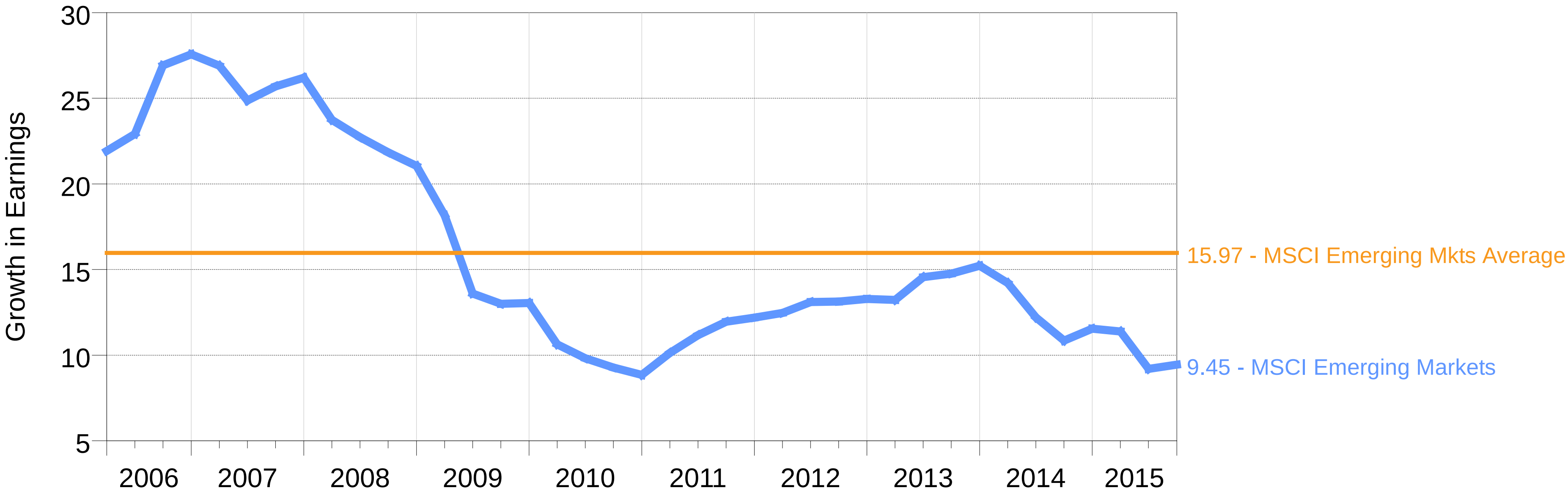
- Valuations are consistent with history.
- Stock prices can increase as earnings increase without creating valuation issues.

Source: MSCI

Can Non-U.S. Equities Overcome Economic Issues?

Emerging Markets Corporate Profits Have Stabilized

Growth in Earnings for 9 1/2 Years ended September 30, 2015



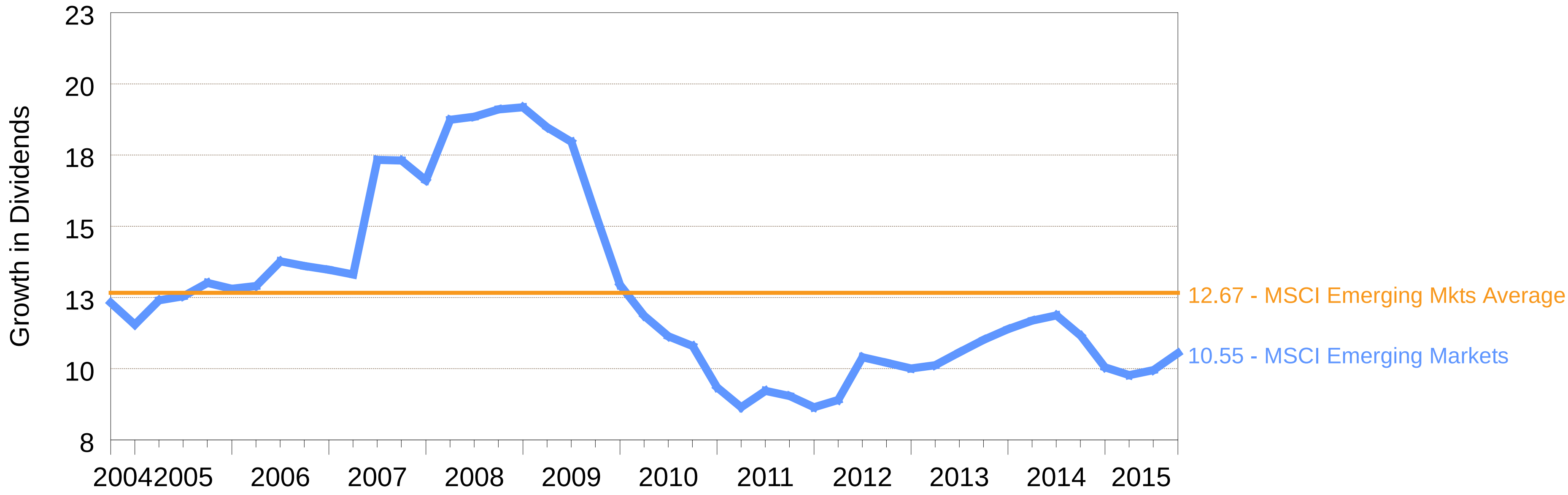
- Corporate profit growth has not yet recovered to levels experienced before the Financial Crisis.
- Profits are likely to grow faster as global demand increases.

Source: MSCI

Can Non-U.S. Equities Overcome Economic Issues?

Emerging Markets Dividends Down but Still Robust

Growth in Dividends for 11 Years ended September 30, 2015



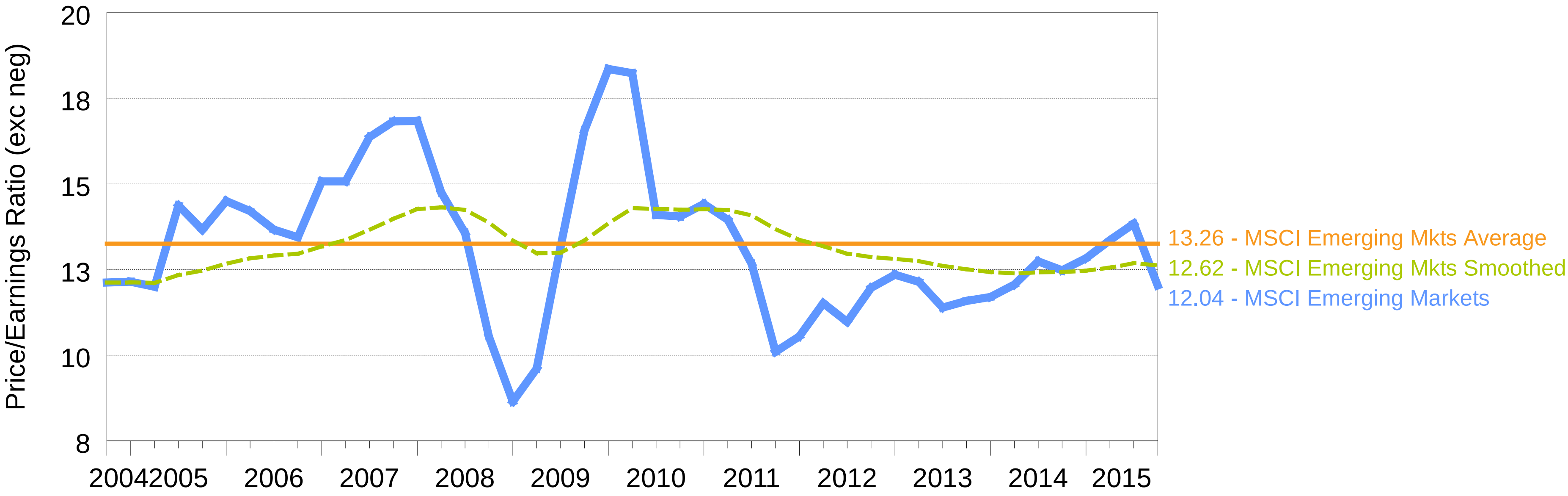
- Dividend growth will follow profit growth higher as internal as well as external demand improves.

Source: MSCI

Can Non-U.S. Equities Overcome Economic Issues?

Emerging Markets Valuations Should Improve

Price/Earnings Ratio (exc neg) for 11 Years ended September 30, 2015



- Valuations are generally lower than developed markets to account for additional risk.
- There is significant room for growth in both earnings and stock prices but a slightly higher growth rate for prices is expected to move valuations closer to historical averages.

Source: MSCI

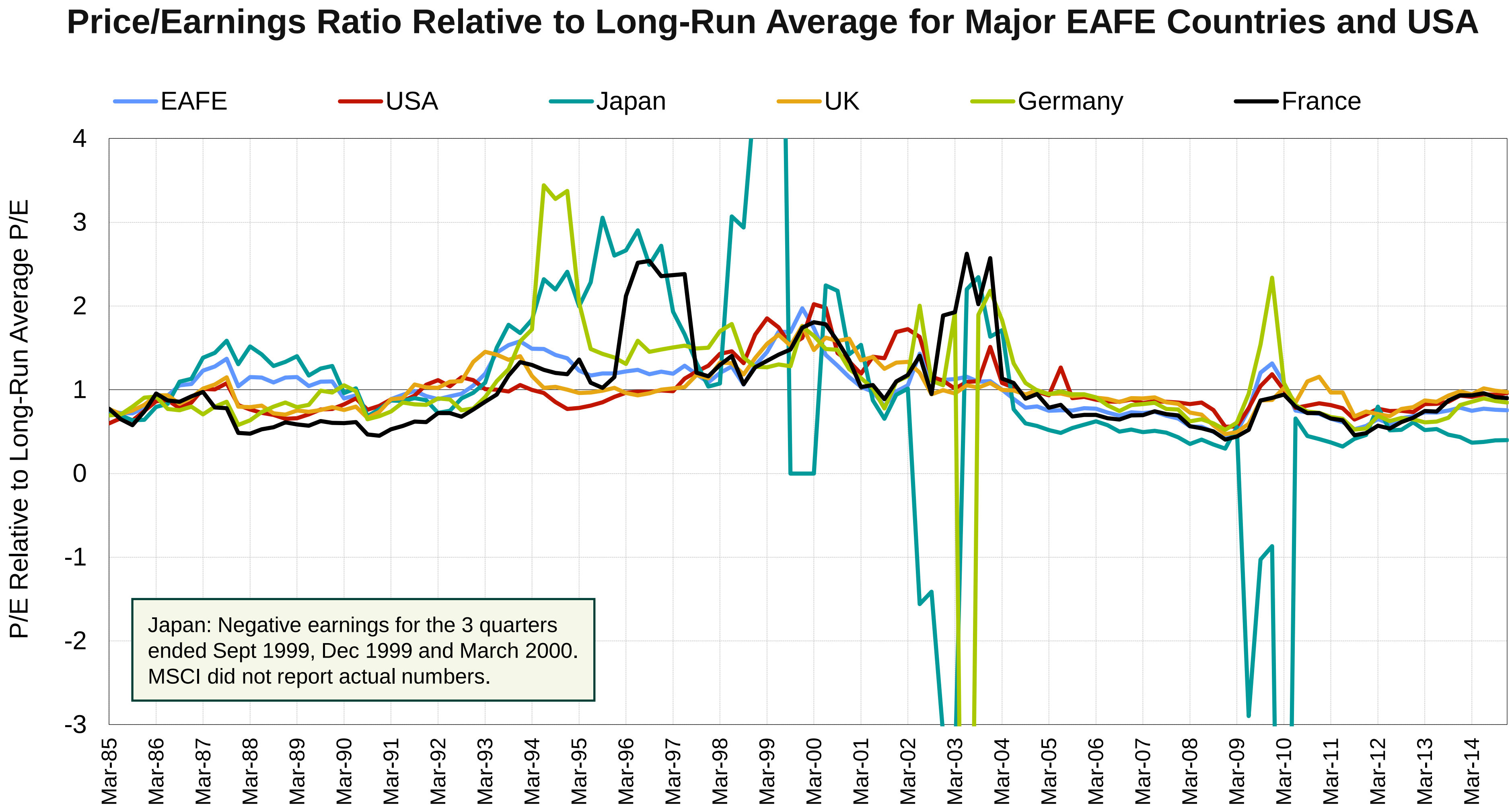
Can Non-U.S. Equities Overcome Economic Issues?

Future Returns Driven by Economic Performance

- Improved developed non-U.S. market economic performance will translate into equity returns.
  - Earnings will improve as economic issues resolved.
  - History of relatively high dividends to continue.
  - Better conditions will lead to more corporate activity.
- Low developed non-U.S. inflation will limit the size of nominal returns.
- Emerging market economic growth is falling but still high.
- Emerging market returns will benefit from growth as well as market factors.
  - Below average valuations
  - Higher dividends
- Emerging market inflation supports nominal returns.
  - Inflation rates are lower and more stable than in decades past.
  - Future price growth depends on government policies as well as economics.

Factor	Developed	Emerging
Real Capital Appreciation		
Real Dividend Growth	5.25%	5.70%
Payout Ratio Growth	1.75%	0.30%
P/E Growth (multiple expansion)	0.00%	0.25%
Real Price Return	3.44%	5.65%
Yield		
Real Dividend Growth	5.50%	6.00%
Current Real Dividend Yield	1.00%	-3.15%
2024 Real Dividend Yield	1.02%	-3.15%
Average Real Dividend Yield	1.01%	-3.15%
Real Free Cash Flow Return	0.70%	0.00%
Real Return	5.15%	2.50%
Inflation	2.00%	5.00%
Mean Nominal Compound Return	**7.26%**	**7.65%**

International Equity Valuations



Source: MSCI except for the USA which is represented by the S&P 500 Index in Callan's database (trailing earnings as reported for the fiscal year; includes negative earnings from 1998 onward).

2016 Capital Market Expectations

- **Broad market bond returns held at 3.0%.**
  - We expect interest rates to rise, especially if the economy continues to expand and the Fed executes on its stated monetary policy. Bonds will suffer capital loss before higher yields kick in. We expect cash yields to move toward 2.5% and 10-year Treasury yields to reach 3.3% over the ten-year projection – a reversion to mean, but lower than the long run averages.
  - Project an upward sloping yield curve, but a very slim risk premium for bonds over cash (0.75%).
  - Cash returns held at 2.25%, reflecting an expected rise in Fed Funds rate.
  - Longer duration returns raised, reflecting sharp reduction in yields in 2014.
- **Domestic Equity reduced to 7.35%, Non-U.S. Equity to 7.55%, both 25 bps reductions.**
  - U.S. markets went sideways in 2015, but the U.S. economic outlook is more muted; fundamentals remain reasonable.
  - Building equity returns from long-term fundamentals, we can build an expectation to just shy of 7.5%:
    - *2.5-3.0% real GDP growth, which means roughly 4.75-5.25% nominal earnings growth,*
    - *2.5 % dividend yield,*
    - *Expect something more from return on free cash flow, besides dividends (The "buyback yield" has been exceptional, one good use of all that cash), perhaps 50-100 bps,*
    - *Small premium for Non-U.S. over Domestic, largely due to Emerging Markets.*
- **Real Estate return held to 6.0%.**
  - Reflects downward pressure on income returns at 4-5% with increased competition for investment.
  - Asset class eyed by those hungering for yield.
- **Hedge Fund return held at 5.25%**
  - Expectations of T-bill plus 3%.

2016 Capital Market Expectations—Return and Risk

Summary of Callan's Long-Term Capital Market Projections (2016 – 2025)

Asset Class	Index	PROJECTED RETURN 1-Year Arithmetic	PROJECTED RETURN 10-Year Geometric*	PROJECTED RETURN Real	PROJECTED RISK Standard Deviation	Sharpe Ratio	Projected Yield	2015 - 2024 10-Year Geometric*	2015 - 2024 Standard Deviation	Geometric* Delta
Equities										
Broad Domestic Equity	Russell 3000	8.85%	7.35%	5.10%	18.70%	0.353	2.40%	7.60%	19.00%	-0.25%
Large Cap	S&P 500	8.60%	7.25%	5.00%	17.75%	0.354	2.50%	7.50%	18.30%	-0.25%
Small/Mid Cap	Russell 2500	9.85%	7.55%	5.30%	22.75%	0.334	1.90%	7.85%	22.95%	-0.30%
Global ex-U.S. Equity	MSCI ACWI ex USA	9.55%	7.55%	5.30%	21.30%	0.343	2.70%	7.80%	21.45%	-0.25%
International Equity	MSCI World ex USA	9.00%	7.25%	5.00%	20.05%	0.337	3.00%	7.50%	20.20%	-0.25%
Emerging Markets Equity	MSCI Emerging Markets	11.15%	7.60%	5.35%	27.85%	0.320	1.70%	7.90%	27.95%	-0.30%
Fixed Income										
Short Duration	Barclays G/C 1-3	2.60%	2.60%	0.35%	2.25%	0.156	2.80%	2.40%	2.25%	0.20%
Domestic Fixed	Barclays Aggregate	3.05%	3.00%	0.75%	3.75%	0.213	4.60%	3.00%	3.75%	0.00%
Long Duration	Barclays Long G/C	4.30%	3.70%	1.65%	11.40%	0.197	5.30%	3.20%	11.40%	0.50%
TIPS	Barclays TIPS	3.10%	3.00%	0.75%	5.30%	0.160	4.20%	3.00%	5.30%	0.00%
High Yield	Barclays High Yield	5.40%	5.00%	2.75%	10.50%	0.300	8.00%	5.00%	11.10%	0.00%
Non-U.S. Fixed	Barclays Global Aggregate ex US	1.80%	1.40%	-0.85%	9.20%	-0.049	4.00%	2.30%	9.40%	-0.90%
Emerging Market Debt	EMBI Global Diversified	5.00%	4.60%	2.35%	9.90%	0.278	6.50%	4.70%	10.00%	-0.10%
Other										
Real Estate	Callan Real Estate	7.20%	6.00%	3.75%	16.45%	0.301	5.00%	6.15%	16.50%	-0.15%
Private Equity	TR Post Venture Cap	13.15%	8.15%	5.90%	32.80%	0.322	0.00%	8.50%	33.05%	-0.35%
Hedge Funds	Callan Hedge FOF Database	5.55%	5.25%	3.00%	9.30%	0.355	2.25%	5.25%	9.30%	0.00%
Commodities	Bloomberg Commodity	4.40%	2.75%	0.50%	18.50%	0.116	2.25%	2.75%	18.50%	0.00%
Cash Equivalents	90-Day T-Bill	2.25%	2.25%	0.00%	0.90%	0.000	2.25%	2.25%	0.90%	0.00%
Inflation	CPI-U		2.25%		1.50%			2.25%	1.50%	0.00%

* Geometric returns are derived from arithmetic returns and the associated risk (standard deviation).

Source: Callan Associates

2016 Capital Market Expectations—Correlation Coefficient Matrix

Key to Constructing Efficient Portfolios

	Broad US Eq	Large Cap	Sm/Mid Cap	Global ex-US	Non-US Equity	Em Mkt Eq	Defens	US Fixed	Long Duration	TIPS	High Yield	Non-US Fixed	Em Mkt Debt	Real Estate	Private Equity	Hedge Funds	Comm	Cash Equiv	Inflation
Broad US Equity	1.000																		
Large Cap	0.997	1.000																	
Small/Mid Cap	0.965	0.940	1.000																
Global ex-US Equity	0.882	0.879	0.853	1.000															
Non-US Equity	0.852	0.850	0.820	0.986	1.000														
Em Mkts Equity	0.861	0.855	0.840	0.933	0.860	1.000													
Defensive	-0.240	-0.230	-0.260	-0.254	-0.230	-0.280	1.000												
US Fixed	-0.108	-0.100	-0.130	-0.123	-0.105	-0.150	0.870	1.000											
Long Duration	0.136	0.138	0.121	0.106	0.119	0.069	0.681	0.918	1.000										
TIPS	-0.050	-0.045	-0.065	-0.053	-0.045	-0.065	0.530	0.580	0.527	1.000									
High Yield	0.640	0.640	0.610	0.629	0.610	0.610	-0.170	0.020	0.220	0.060	1.000								
Non-US Fixed	0.014	0.050	-0.100	0.013	0.060	-0.090	0.480	0.510	0.542	0.340	0.120	1.000							
Em Mkt Debt	0.579	0.580	0.550	0.550	0.530	0.540	-0.120	0.030	0.159	0.150	0.600	0.010	1.000						
Real Estate	0.735	0.730	0.715	0.669	0.650	0.645	-0.140	-0.020	0.188	0.005	0.560	-0.050	0.450	1.000					
Private Equity	0.948	0.945	0.915	0.934	0.905	0.905	-0.240	-0.190	0.054	-0.100	0.640	-0.060	0.560	0.710	1.000				
Hedge Funds	0.797	0.795	0.765	0.760	0.735	0.740	-0.120	0.080	0.272	0.055	0.570	-0.080	0.540	0.600	0.770	1.000			
Commodities	0.167	0.165	0.165	0.177	0.170	0.175	-0.220	-0.120	-0.045	0.100	0.100	0.050	0.190	0.200	0.180	0.210	1.000		
Cash Equivalents	-0.043	-0.030	-0.080	-0.040	-0.010	-0.100	0.300	0.100	-0.049	0.070	-0.110	-0.090	-0.070	-0.060	0.000	-0.070	0.070	1.000	
Inflation	-0.011	-0.020	-0.020	0.010	0.000	0.030	-0.200	-0.280	-0.284	0.180	0.070	-0.150	0.000	0.100	0.000	0.200	0.400	0.000	1.000

- Relationships between asset classes is as important as standard deviation.
- To determine portfolio mixes, Callan employs mean-variance optimization.
- Return, standard deviation and correlation determine the composition of efficient asset mixes.

Source: Callan Associates

2016 Standard Capital Market Expectations – Efficient Mixes

Subdued Returns Even for Risky Portfolios

Asset Mix Alternatives
Optimization Set: 2016

Portfolio Component	Min	Max	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
US Broad Equity	0.0	100.0	12.9	16.8	20.8	24.8	28.8
Global Ex-US Equity	0.0	100.0	10.4	13.6	16.8	20.0	23.3
Domestic Fixed	0.0	100.0	52.2	43.5	34.7	26.0	17.3
TIPS	0.0	100.0	7.8	6.5	5.3	4.0	2.7
Real Estate	0.0	100.0	5.2	6.8	8.3	9.8	11.3
Hedge Funds	0.0	100.0	8.0	8.3	8.6	8.9	9.1
Private Equity	0.0	100.0	3.5	4.5	5.5	6.5	7.5
Cash Equivalents	0.0	100.0	0.0	0.0	0.0	0.0	0.0
Totals			100.0	100.0	100.0	100.0	100.0
Projected Arithmetic Return			5.25%	5.85%	6.46%	7.07%	7.68%
10 Yr. Geometric Mean Return			5.11%	5.60%	6.06%	6.47%	6.85%
Projected Standard Deviation			7.00%	8.79%	10.64%	12.54%	14.47%
Projected Sharpe Ratio			0.43%	0.41%	0.40%	0.38%	0.38%
Fixed Income			60.0	50.0	40.0	30.0	20.0

- Callan is in the process of evaluating our standard capital market assumptions to establish, as appropriate, adjustments that better reflect the customized structures of ARMB’s asset classes.
- The adjusted capital market assumptions will be optimized to create a set of alternative portfolio mixes that can be compared to the Current Policy by ARMB investment staff, Callan and the IAC.

Long-Term Vision and Short-Term Reality

- Greatest danger—Investors will take on additional risk to compensate for capital market returns that are likely to be below historical averages. We do not believe investors are likely to be compensated for such risk-taking in the shorter term.
- Fixed income is a conundrum for investors. No other investment offers the same anchor to windward and protection in a flight to quality. Yet current yields and the prospect for rising rates spell dismal total returns.
- Stocks appear to be the best spot in the capital markets given the current environment, but are not without substantial risk.
- Other strategies to manage risk:
  - Active management in equity and fixed income to take advantage of opportunities and protect in a volatile environment.
  - Global opportunities in equity and debt; yields, currency.
  - Absolute return strategies to hedge market risk, both long-only and hedged.

Portable Alpha

Gary M. Bader, CIO
February 2016

Definitions

Alpha	The risk-adjusted return in excess of the market index or benchmark. Often used to represent the value that an active portfolio manager adds to a portfolio's performance. Return from selection skill.
Beta	Measures reactions to movements in the market. Standardized measure of systematic risk. If beta is equal to 1.0, the expected return equals the expected return of the market. Return from the market.
Futures Contract	A contractual agreement generally made on an exchange in which a buyer agrees to buy from a seller an underlying asset at a pre-determined price at a pre-determined time.
Swap	A derivative contract in which two parties agree to exchange a series of cash flows.

Portable Alpha

- An investment strategy separating skill-based performance from the market (beta). The source of alpha is independent of the market and therefore can be ported or applied to a portfolio with any market exposure.
- Typical Inputs:
  - A source of consistent and reliable alpha generation
    - An alpha generating portfolio
    - A securities instrument to remove market exposure of an alpha generating portfolio.
      - Swaps
      - Futures
  - A securities instrument to gain desired market exposure.
    - Swaps
    - Futures

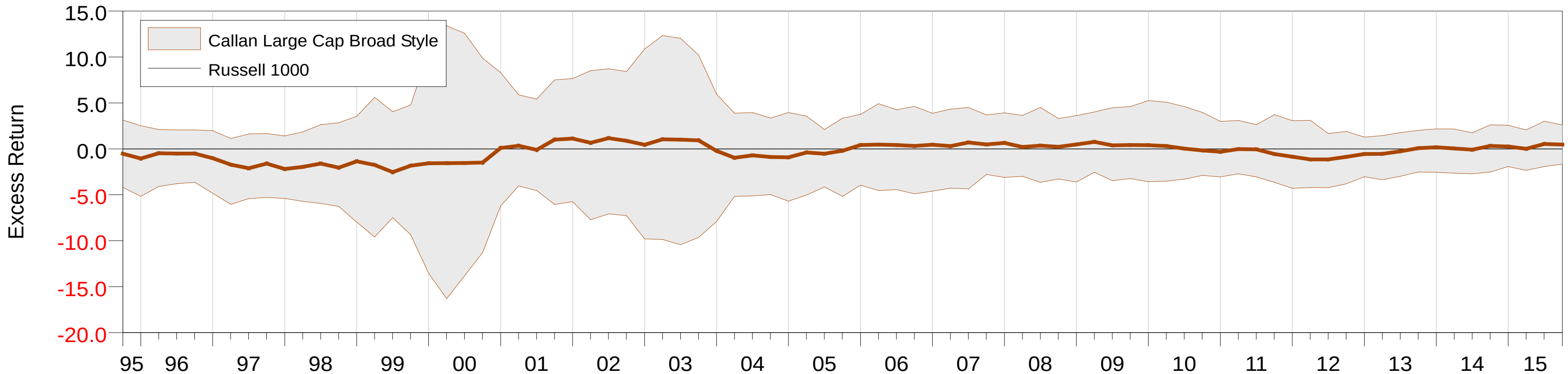
Large Cap Broad Equity Style versus Russell 1000

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%
Median	38%	36%	30%	28%	21%	15%	14%	14%	14%	10%
45th Percentile	49%	46%	46%	46%	45%	41%	39%	39%	36%	33%
40th Percentile	65%	65%	64%	60%	56%	53%	50%	48%	46%	45%
35th Percentile	76%	75%	74%	73%	71%	70%	68%	65%	65%	61%
30th Percentile	88%	86%	84%	83%	81%	81%	81%	80%	78%	75%
25th Percentile	93%	91%	90%	90%	89%	88%	85%	85%	84%	84%

Average Annualized Excess Return – Median Manager: -0.29%

Rolling 12 Quarter Excess Return relative to Russell 1000 for 20 Years ended September 30, 2015



Source: Active Passive 3Q15 presentation - Callan

Consistent Alpha Generation

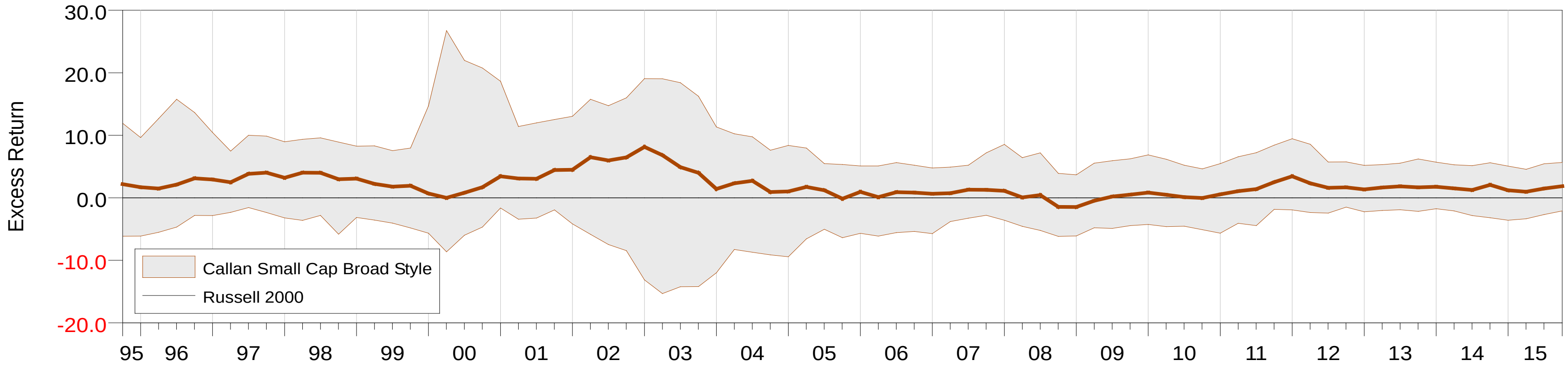
Small Cap Broad Equity Style versus Russell 2000

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%	0.95%
Median	85%	84%	83%	83%	80%	80%	79%	75%	75%	73%
45th Percentile	95%	93%	93%	91%	90%	89%	89%	89%	89%	88%
40th Percentile	98%	98%	98%	98%	98%	98%	96%	93%	93%	93%
35th Percentile	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%
30th Percentile	99%	98%	98%	98%	98%	98%	98%	98%	98%	98%
25th Percentile	100%	100%	100%	100%	100%	99%	99%	99%	99%	99%

Average Annualized Excess Return – Median Manager: 2.02%

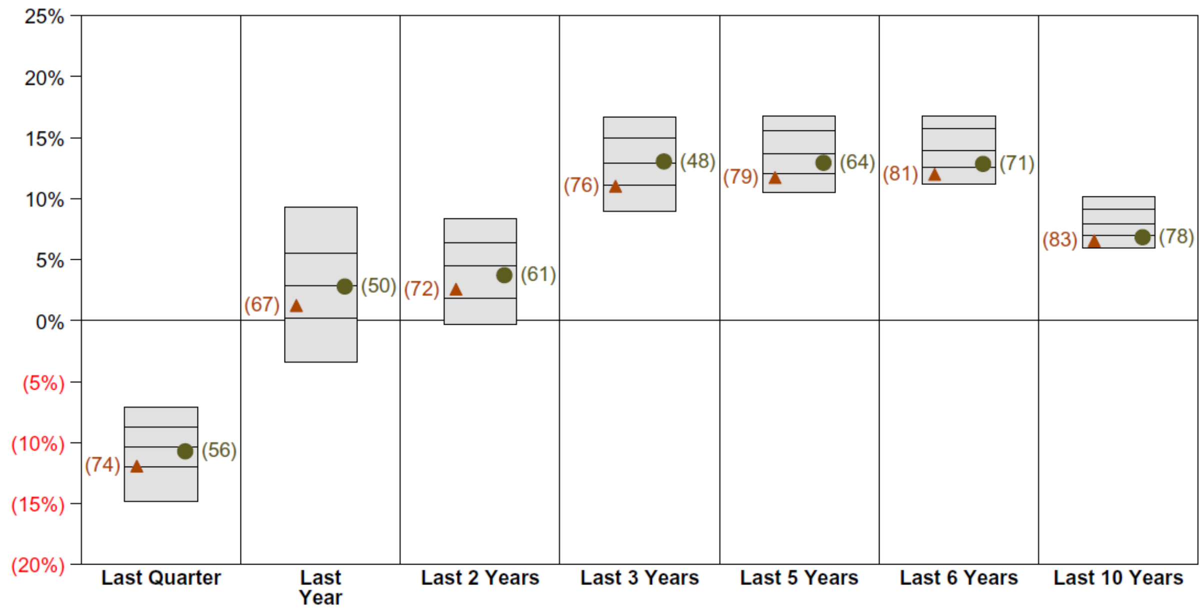
Rolling 12 Quarter Excess Return relative to Russell 2000
for 20 Years ended September 30, 2015



Source: Active Passive 3Q15 presentation - Callan

Consistent Alpha Generation
ARMB Small Cap Equity Pool

Performance vs CAI Small Capitalization Style (Gross)



	Last Quarter	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 6 Years	Last 10 Years
10th Percentile	(7.13)	9.33	8.33	16.69	16.76	16.79	10.13
25th Percentile	(8.72)	5.51	6.36	15.01	15.61	15.76	9.12
Median	(10.33)	2.86	4.51	12.88	13.70	13.91	7.92
75th Percentile	(12.02)	0.22	1.81	11.07	12.08	12.55	6.99
90th Percentile	(14.83)	(3.42)	(0.32)	8.94	10.47	11.22	5.92
Small Cap Pool ●	(10.71)	2.80	3.72	13.05	12.94	12.85	6.84
Russell 2000 Index ▲	(11.92)	1.25	2.58	11.02	11.73	12.00	6.55

Source: 9/30/2015 Staff Report - Callan

Consistent Alpha Generation

Simulated Small Cap Manager Performance

	Last Quarter	Last Year	2 Years	3 Years	5 Years	6 Years	10 Years
Small Cap Active	(10.23)	2.51	4.12	13.10	13.96	14.83	9.83
Small Cap Active (Incl. Fidelity)	(9.60)	4.38	5.22	13.91	14.35	15.00	9.95
Jennison Small Cap	(11.32)	1.44	5.80	14.41	13.91	14.71	8.92
Luther King Small Cap	(10.92)	3.51	0.65	7.79	11.73	12.87	6.76
BHMS Small Cap Value	(10.83)	1.00	3.41	14.11	13.22	14.41	10.57
Victory Small Cap Value	(5.51)	6.75	8.05	13.85	13.72	13.42	9.23
Frontier Small Cap Value	(7.27)	1.72	5.13	14.31	16.05	16.93	11.76
Lord Abbett Small Cap Growth	(15.51)	0.63	1.70	14.10	15.15	16.62	11.71
Fidelity Small Company	(5.81)	15.62	11.81	18.78	16.67	16.07	10.67
Russell 2000 Index	(11.92)	1.25	2.58	11.02	11.73	12.00	6.55
Small Cap Active Alpha	1.69	1.26	1.54	2.08	2.23	2.83	3.28
Small Cap Active Alpha (Incl. Fidelity)	2.32	3.13	2.64	2.89	2.62	3.00	3.40

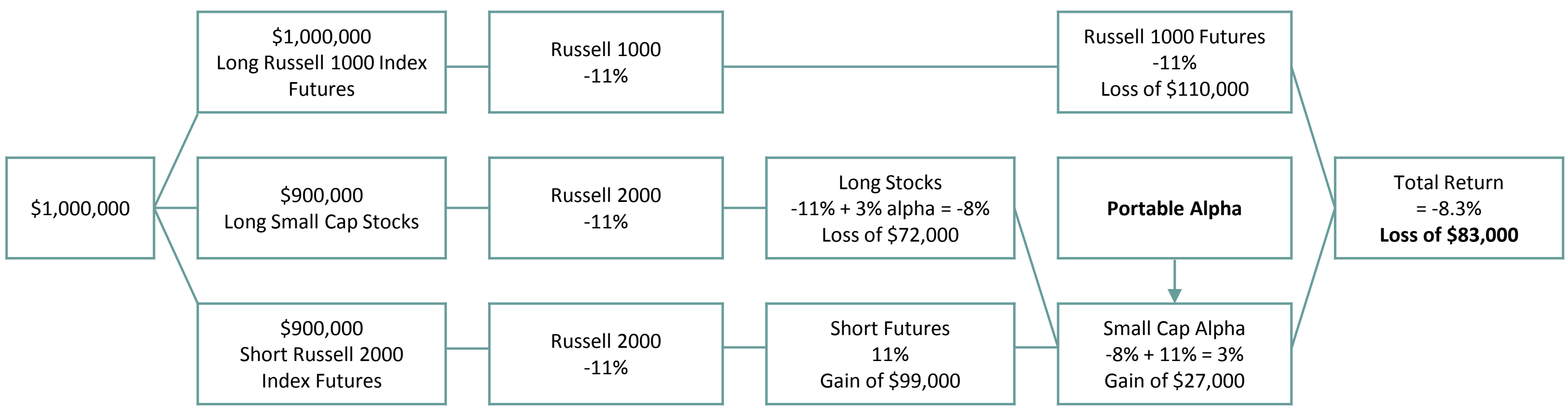
Composite returns are used for portfolios that have been with ARMB for less than 10 years. Returns are gross of fees. Returns greater than one year are annualized.

Source: Callan PEP as of 9/30/15

Example of a Simple Portable Alpha Transaction

	Steps	Large Cap Exposure	Small Cap Exposure	Cash Flow +/-	Non-Broker Cash Balance
	Existing $1,000,000 large cap portfolio	$1,000,000	-	-	-
1	Sell $1,000,000 large cap	-$1,000,000	-	+$1,000,000	$1,000,000
2	Deposit $50,000 with broker to satisfy margin. This allows for purchase of $1,000,000 in Russell 1000 Index futures, leaving $950,000 to be used for other investment.	-	-	-$50,000	$950,000
3	Purchase $1,000,000 Russell 1000 Index futures	$1,000,000	-	-	$950,000
4	Deposit $50,000 with broker to satisfy margin to short Russell 2000 Index futures.		-	-$50,000	$900,000
5	Sell (short) $900,000 Russell 2000 Index futures		-$900,000	-	$900,000
6	Small cap managers invest $900,000 in small cap stocks.		$900,000	-$900,000	-
	Final position	$1,000,000	-	-	-

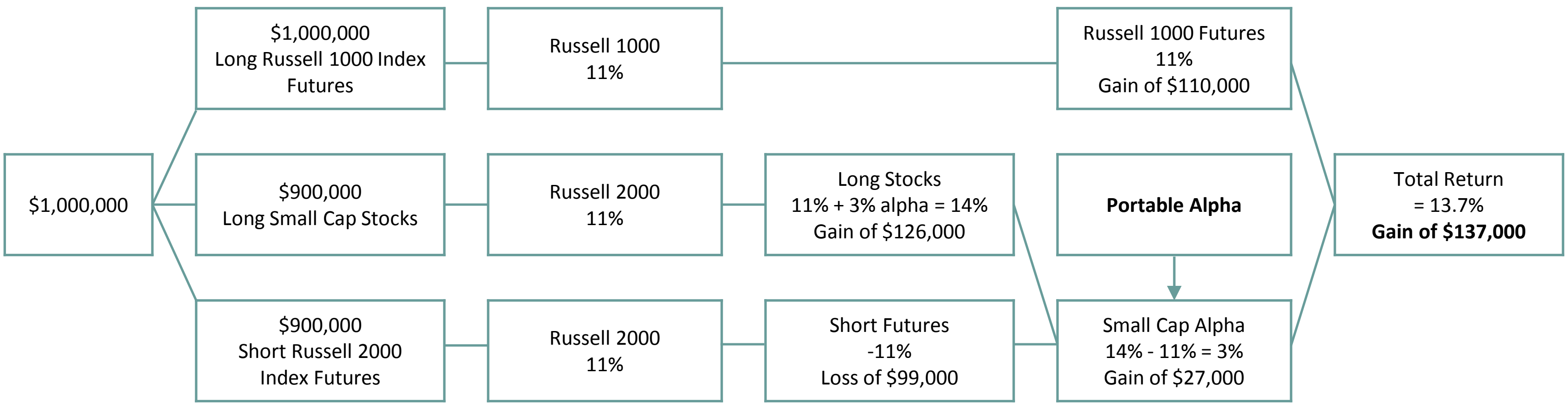
Example
Large Cap with Small Cap Portable Alpha
(Negative Equity Return)



Example

Large Cap with Small Cap Portable Alpha

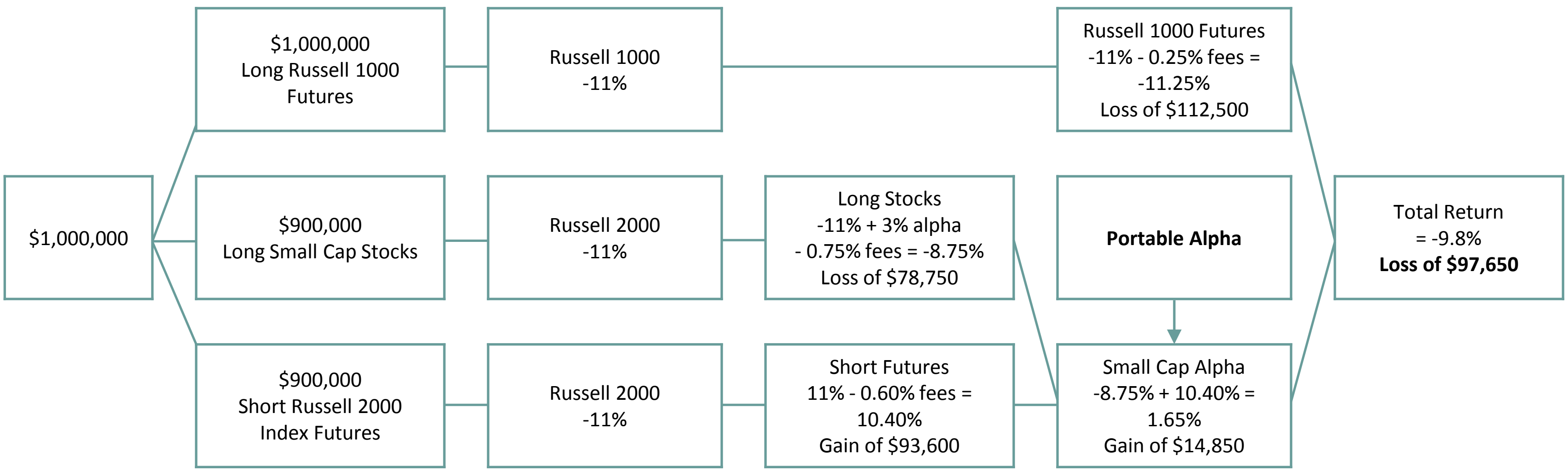
(Positive Equity Return)



Example

Large Cap with Small Cap Portable Alpha

(Negative Equity Return with Embedded Costs)

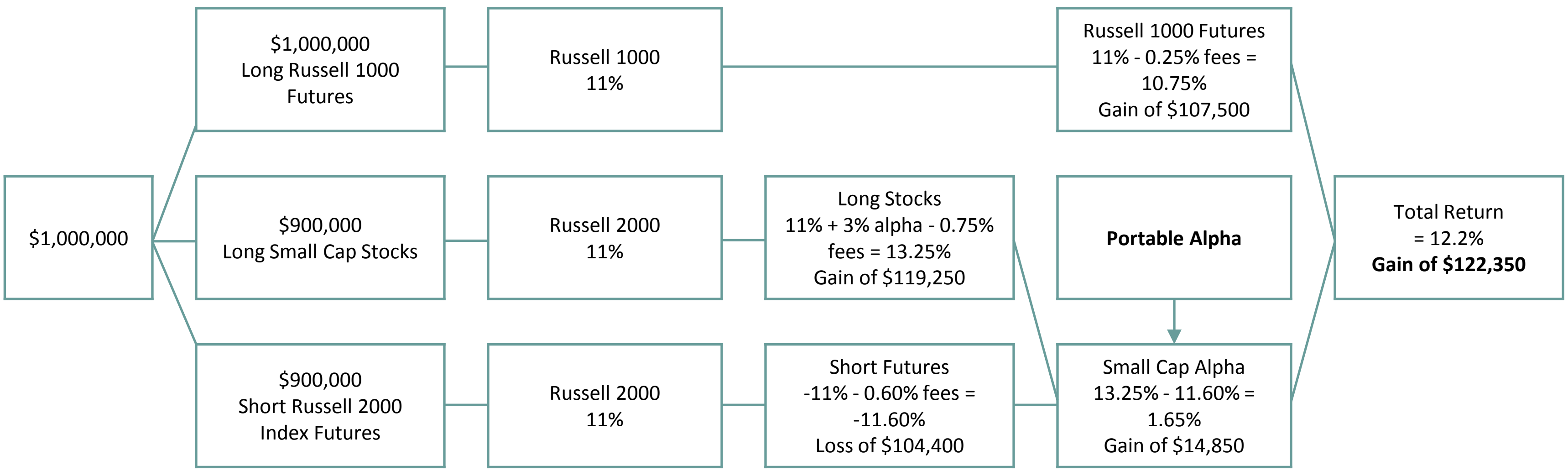


Fee assumptions: 25 bps for large cap futures, 60 bps for small cap futures, 75 bps for active small cap management

Example

Large Cap with Small Cap Portable Alpha

(Positive Equity Return with Embedded Costs)



Fee assumptions: 25 bps for large cap futures, 60 bps for small cap futures, 75 bps for active small cap management

Conclusion

- A portable alpha program can provide an additional source of excess performance to those ARMB asset classes that may otherwise prove difficult to add value through active management.
- ARMB authorize staff to engage in portable alpha strategies.

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Zebra Global Equity Fund – Beta Neutral

Alaska Retirement Management Board

February 18th, 2016

Roger Ibbotson
Chairman & CIO

John J. Holmgren, Jr.
President & COO

Agenda

Zebra Global Equity Beta Neutral

- **Objective**
  - Generate relatively non-correlated consistent absolute returns while maintaining a beta neutral position

- **Strategy Overview**
  - **Return objective:** 7-8% per annum over a market cycle
  - **Volatility expectation:** ~ 5-6% per annum
  - **Beta Target:** ~ 0
  - **Low correlations:**
    - **to the equity markets**
    - **to hedge fund indices**
  - **Avg. # of Holdings:** 600 Long / 450 Short
  - **Typical Leverage:** 1.5:1.0 (~250% gross leverage)
  - **Avg. Expected Turnover:** **~** 200% per annum
  - **Focus:** Global Mid – Small Cap Equities with minimum liquidity threshold
  - **Fees:** 1% Management and 10% Performance

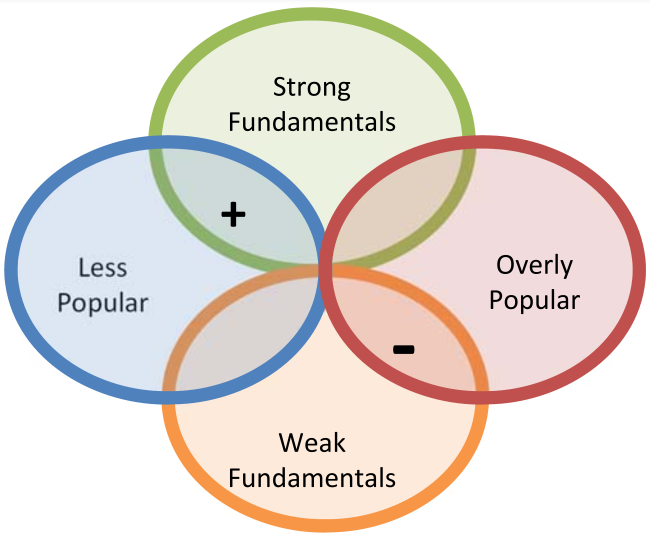
- **Strategy Characteristics**
  - Strategy implements academic and proprietary research
  - Systematic investment process combines behavioral and fundamental metrics to maximize intended characteristics while controlling risk
  - Dynamic portfolios tend to be non-correlated with other investment strategies and underlying equity markets

• See Appendix “Performance Disclosures & Notes”

Zebra Global Equity Beta Neutral

Conceptual Framework

Fundamentally strong, less popular stocks tend to outperform fundamentally weak, more popular stocks.



\+ Long

\- Short

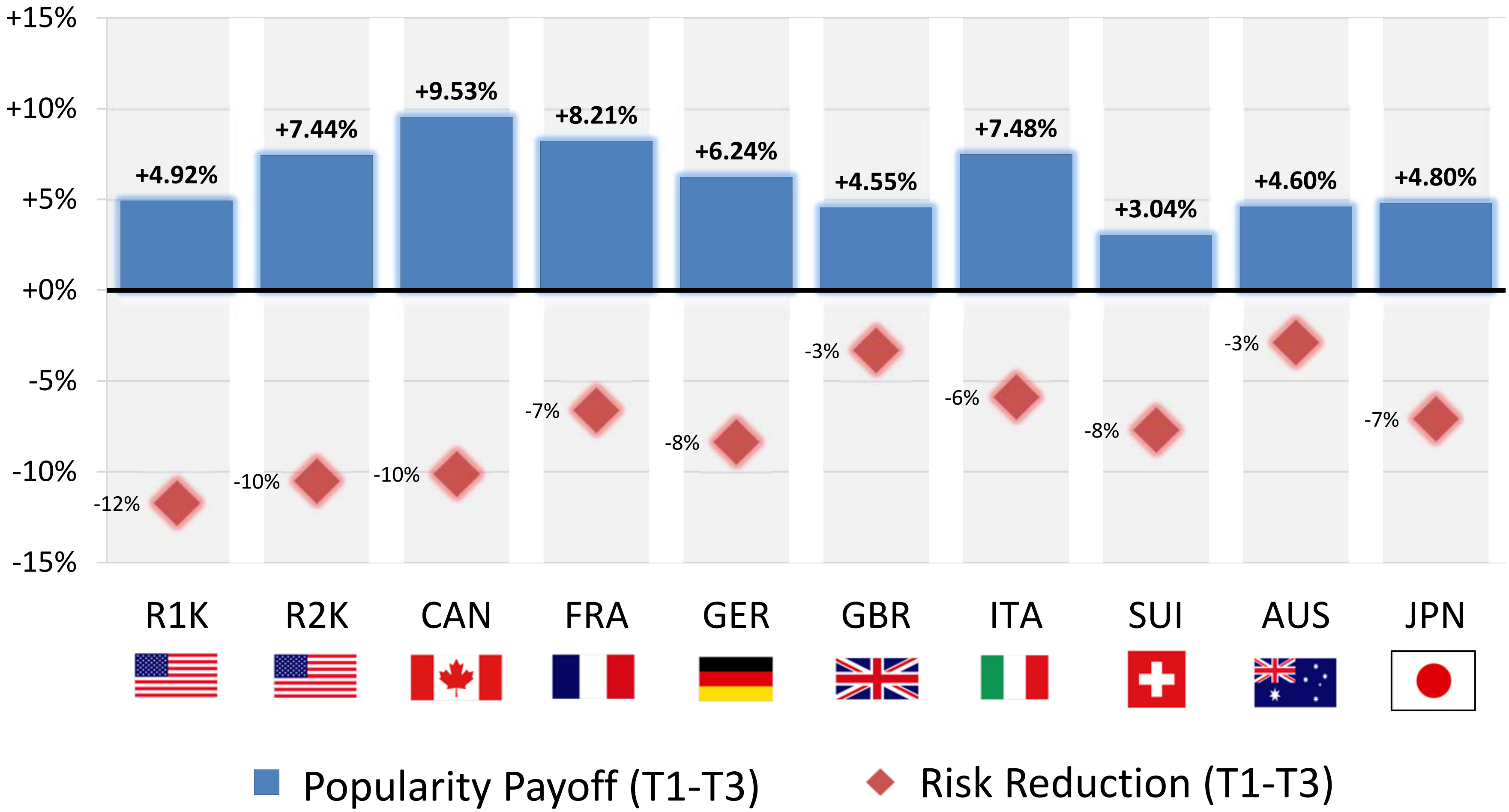
US Equities, Top 3,500 by Market Cap
Popularity vs Fundamentals
Annualized Return
(1972-2015) *

		Popularity: Low →			→ High	Popularity Premium (Low-High)
Fundamentals	Strong ↑	18.9%	16.6%	15.9%	9.9%	+9.0%
		15.2%	14.4%	12.9%	11.8%	+3.4%
		13.1%	12.4%	10.5%	6.7%	+6.4%
	Weak	10.4%	12.3%	9.0%	2.5%	+7.9%
Fundamental Premium (Strong– Weak)		+8.5%	+4.3%	+6.9%	+7.4%	

• Source: Ibbotson, Chen, Kim & Hu, "Liquidity as an Investment Style" *Financial Analysts Journal*, May/June 2013, as updated by Zebra Capital.

Global Popularity Payoffs (USD)

2000 – 2015



• Source: Zebra Capital

Zebra Global Equity Fund LP (ZGLEF)

Net Performance

June 2010 – January 2016

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	ZGLEF	HFRX EMN	+/-
2016	1.70												1.70	-0.21	+ 1.91
2015	1.27	1.82	1.23	-0.32	0.17	1.34	0.39	0.26	2.27	2.51	-0.05	-0.83	10.47	5.46	+ 5.01
2014	-3.59	0.79	4.59	0.61	0.01	-1.73	-0.73	1.43	-0.14	4.35	-0.51	1.81	6.80	3.63	+ 3.17
2013	3.26	2.07	1.76	-1.34	-2.09	2.59	1.56	-2.16	-0.80	3.10	1.41	-0.02	9.52	1.72	+ 7.80
2012	-1.16	-0.91	0.98	-0.03	-1.52	1.87	1.25	-0.10	1.07	-0.07	-0.19	0.44	1.58	-4.66	+ 6.24
2011	1.39	1.53	0.22	1.19	0.13	1.96	-1.03	2.34	-0.10	0.73	-0.30	0.78	9.15	-2.92	+ 12.07
2010						2.58	0.90	0.08	1.63	1.82	-2.01	0.61	5.68	-0.09	+ 5.77

June 2010 – Jan 2016	ZGLEF	HFRX EMN	+/-
Annualized Return	7.91	0.45	+ 7.46
Standard Deviation	5.28	3.81	+ 1.47
Return to Risk	1.50	0.12	+ 1.38
Realized Beta (MSCI World)	0.07	0.08	- 0.01

January 2016	ZGLEF	HFRX EMN	+/-
Trailing 6 Mo Cumulative Return	5.96	2.88	+ 3.08
Trailing 1 Yr Ann. Return	10.94	5.11	+ 5.83
Trailing 3 Yr Ann. Return	8.37	3.39	+ 4.98
Trailing 5 Yr Ann. Return	7.52	0.60	+ 6.92

- See Appendix "Performance Disclosures & Notes"
- Flash estimate as of 2/2/16

Zebra Global Equity Fund LP (ZGLEF)

Net Performance

June 2010 – January 2016

Historical Performance	ZGLEF	HFRX Equity Market Neutral	HFRX Equity Hedge	MSCI World
Annualized Return	7.91%	0.45%	-0.15%	8.92%
Average Monthly Gain	1.50%	0.71%	1.37%	3.42%
Average Monthly Loss	-0.91%	-0.90%	-1.53%	-2.96%
Largest Monthly Gain	4.59%	2.41%	5.19%	10.34%
Largest Monthly Loss	-3.59%	-3.78%	-5.64%	-8.64%
% Profitable Months	65%	59%	53%	59%
Beta vs MSCI World	0.07	0.08	0.41	1.00
Annualized Alpha vs MSCI World	7.36%	-0.28%	-3.76%	0.00%

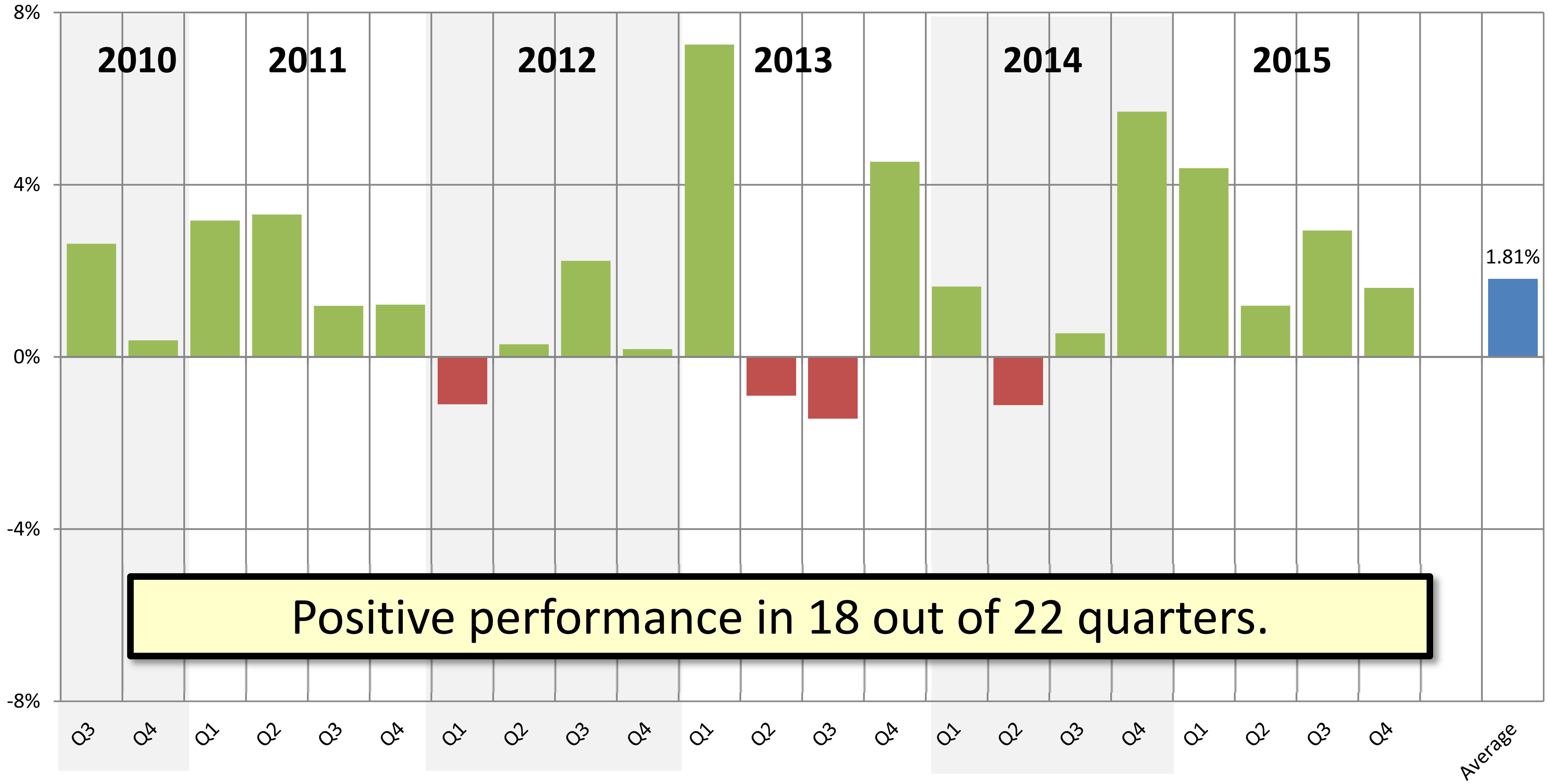
Measures of Risk	ZGLEF	HFRX Equity Market Neutral	HFRX Equity Hedge	MSCI World
Standard Deviation	5.28%	3.81%	6.68%	13.88%
Downside Deviation (0.00%)	2.61%	2.91%	5.01%	8.32%
Maximum Drawdown	-3.61%	-10.66%	-19.12%	-19.64%
Months in Maximum Drawdown	2	18	10	5
Months to Recover	2	37	-	15

• See Appendix “Performance Disclosures & Notes”
• Flash estimate as of 2/2/16

Zebra Global Equity Fund LP (ZGLEF)

Quarterly Net Performance

July 2010 – December 2015



• See Appendix "Performance Disclosures & Notes"

Zebra Global Equity Advantage

- **Objective**
  - Generate relatively non-correlated consistent absolute returns while maintaining a beta neutral position
- **Strategy Overview**
  - **Return objective:** ~12 - 15% pa over a market cycle
  - **Volatility expectation:** ~ 11 – 13 % pa
  - **Beta Target:** ~ 0
  - **Low correlations:**
    - **to the equity markets**
    - **to hedge fund indices**
  - **Avg. # of Holdings:** 600 Long / 450 Short
  - **Typical Leverage**: ~3.0 : 2.0 (~500% Gross Leverage)
  - **Avg. Expected Turnover:** **~** 400% per annum
  - **Focus:** Mid – Small Cap Global Equities with minimum liquidity thresholds
  - **Fees:** 1.50% management fee and 20% performance fee

- **Strategy Characteristics**
  - Strategy builds upon the Zebra Global Equity Beta Neutral Strategy
  - Offers investors with a higher risk budget potentially higher returns
  - The strategy leverages the Zebra Global Equity Beta Neutral Strategy's strong information ratio and relatively low correlations with other strategies

• See Appendix "Performance Disclosures & Notes"

Zebra Global Equity Advantage Strategy

Net Performance

June 2010 – January 2016

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	ZGLEAF	HFRX EMN	+/-
2016	3.20												3.20	-0.21	+ 3.41
2015	1.22	4.36	2.16	-0.25	-0.21	1.31	0.75	1.48	4.98	3.58	-0.11	-1.00	19.65	5.46	+ 14.19
2014	-7.56	1.46	10.42	1.80	-0.09	-1.56	-1.90	2.91	-1.44	8.90	-0.98	4.09	15.80	3.63	+ 12.17
2013	6.65	3.86	4.24	-1.47	-2.66	5.37	3.82	-4.20	0.28	5.85	3.25	-0.74	26.25	1.72	+ 24.53
2012	-5.14	-2.86	2.73	0.01	2.13	3.50	3.94	-0.43	1.18	0.31	0.50	0.24	5.89	-4.66	+ 10.55
2011	3.27	3.44	1.47	1.89	0.30	5.84	-1.20	9.02	2.98	1.86	2.13	3.48	39.99	-2.92	+ 42.91
2010						6.29	0.68	1.61	2.29	3.92	-3.31	-0.27	11.46	-0.09	+ 11.55

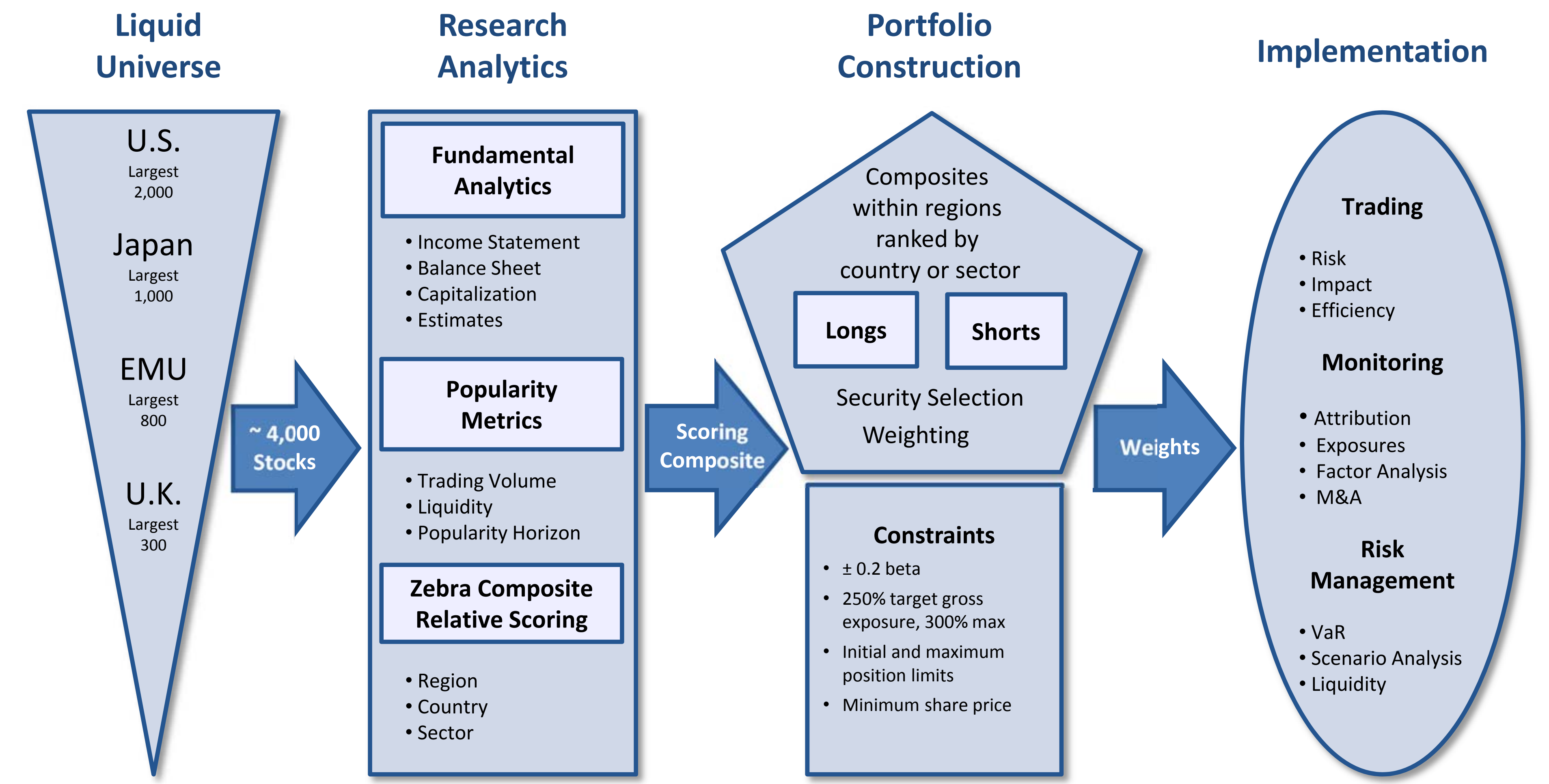
June 2010 – Jan 2016	ZGLEAF	HFRX EMN	+/-
Annualized Return	21.27	0.45	+ 20.82
Standard Deviation	11.13	3.81	+ 7.32
Return to Risk	1.91	0.12	+ 1.79
Realized Beta (MSCI World)	-0.02	0.08	- 0.10

January 2016	ZGLEAF	HFRX EMN	+/-
Since Inception (June 2015)	14.95	5.49	+ 9.46
Trailing 1 Yr Ann. Return	21.99	5.11	+ 16.88
Trailing 3 Yr Ann. Return	19.18	3.39	+ 15.79
Trailing 5 Yr Ann. Return	20.98	0.60	+ 20.38

- Actual net performance of the Zebra Global Equity Advantage Fund LP (“ZGLEAF”). Flash estimate as of 2/2/16. See Appendix “Performance Disclosures & Notes”
- Estimation of increased leverage of actual performance of the Zebra Global Equity Fund LP – See Appendix “Performance Disclosures & Notes”

Zebra Global Equity Fund LP (ZGLEF)

Investment Process



Zebra Global Equity Fund LP (ZGLEF)

Sample Long/Short Positions

As of May 2015

	ZGLEF LONG	ZGLEF SHORT
	FlowersFoods	WhiteWave
Ticker	FLO US Equity	WWAV US Equity
Classification	Cons Staples / Food Products	Cons Staples / Food Products
Portfolio Weight	0.44%	-0.62%
Trailing 12M Share Turnover	121%	252%
Market Cap USD	\$4.8 B	\$8.5 B
P/E	26x	56x
Forward P/E	23x	43x
Div Yield	2.2%	-
P/S	1.3	2.4
P/B	4.1	7.9
Debt / Equity	68%	141%
Beta	0.91	1.11

- Source Zebra Capital, Bloomberg. See Appendix “Performance Disclosures & Notes”

Zebra Global Equity Fund LP (ZGLEF)

Regional Gross Performance & Correlation

June 2010 – December 2015

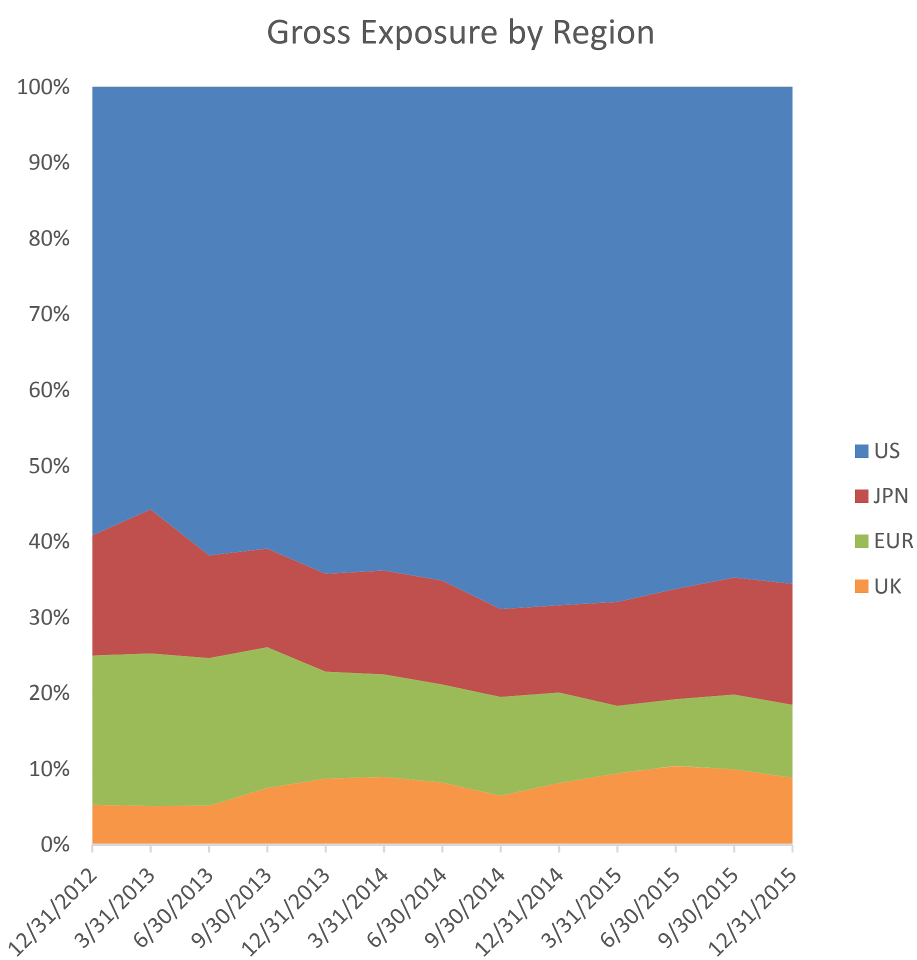
	Gross Exposure (Dec)	2015 Gross	Since Inception: Annualized ROR Gross	Since Inception: Standard Deviation	Since Inception: Return To Risk
ZGLEF US	66%	14.15%	12.74%	7.79%	1.64
ZGLEF JPN	16%	8.40%	14.05%	12.92%	1.09
ZGLEF EMU	10%	15.86%	9.30%	9.04%	1.03
ZGLEF UK	9%	24.15%	12.39%	9.38%	1.32

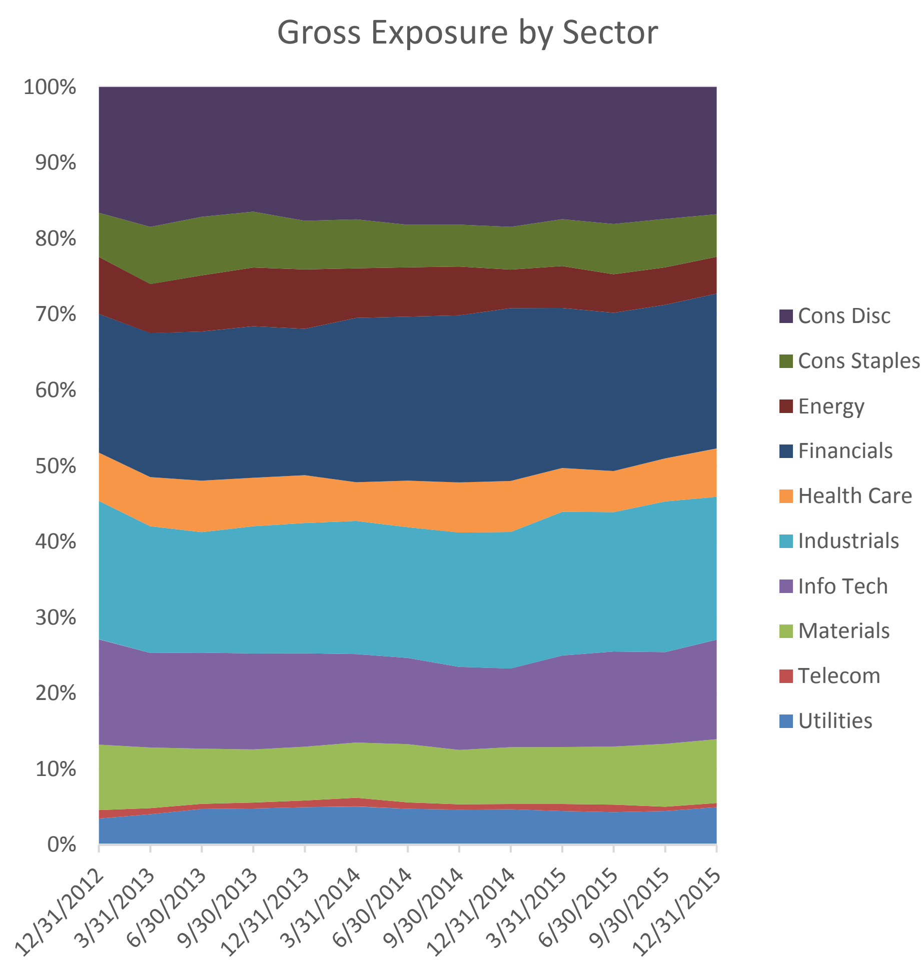
Monthly Correlation	ZGLEF US	ZGLEF JPN	ZGLEF EMU	ZGLEF UK
ZGLEF US	1.00	0.07	0.23	0.07
ZGLEF JPN	0.07	1.00	0.04	-0.09
ZGLEF EMU	0.23	0.04	1.00	0.23
ZGLEF UK	0.07	-0.09	0.23	1.00

* See Appendix “Performance Disclosures & Notes”

Zebra Global Equity Fund LP (ZGLEF)

Gross Exposure by Region & Sector





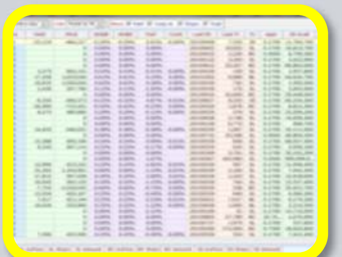
* See Appendix “Performance Disclosures & Notes”

Risk Management Platform

- Proprietary and 3rd Party Applications
- Crosschecks and confirmation

Z Tracker

- P&L
- Major Movers
- Borrows
- Cash Forecasts
- Corp Actions
- Reconciliation



ZOOM

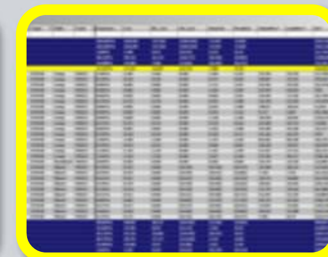
- Contribution
- Attribution
- Characteristics
- Exposures

Bloomberg

- P&L
- Attribution
- Exposures
- Characteristics
- VaR
- Scenario Analysis

MS Matrix

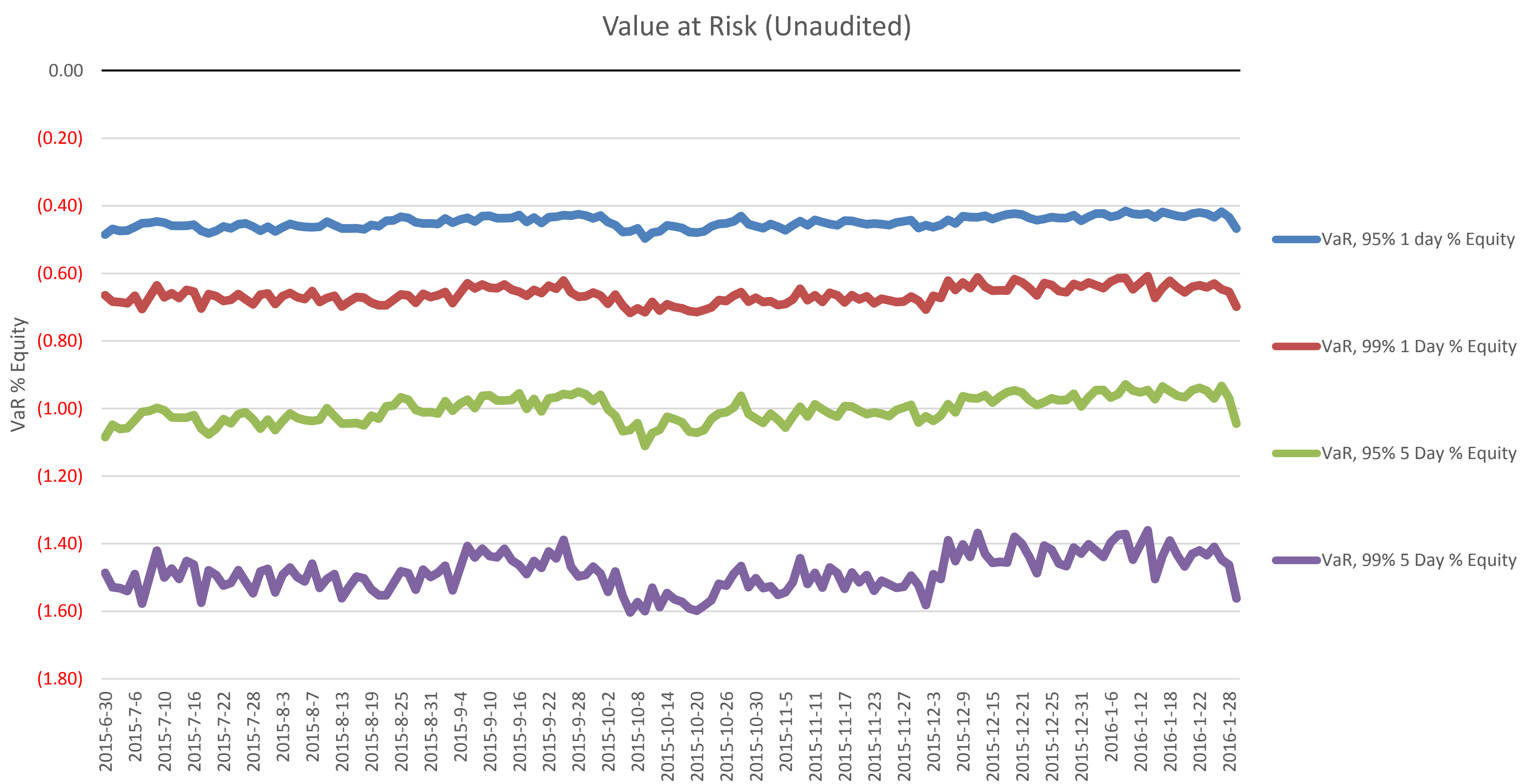
- VaR
- Beta
- Scenario Analysis
- Leverage
- Margin
- Liquidity
- Corp Actions



Eze OMS

- Leverage
- Beta
- Borrow Rates
- Liquidity Risk
- Trading Costs
- Currency Risk
- Corp Actions

Consistent Risk Exposure



* Source: Zebra Capital, Morgan Stanley. See Appendix “Performance Disclosures & Notes”

Zebra Global Equity Fund LP (ZGLEF)

Portfolio Median Characteristics

As of December 31st, 2015

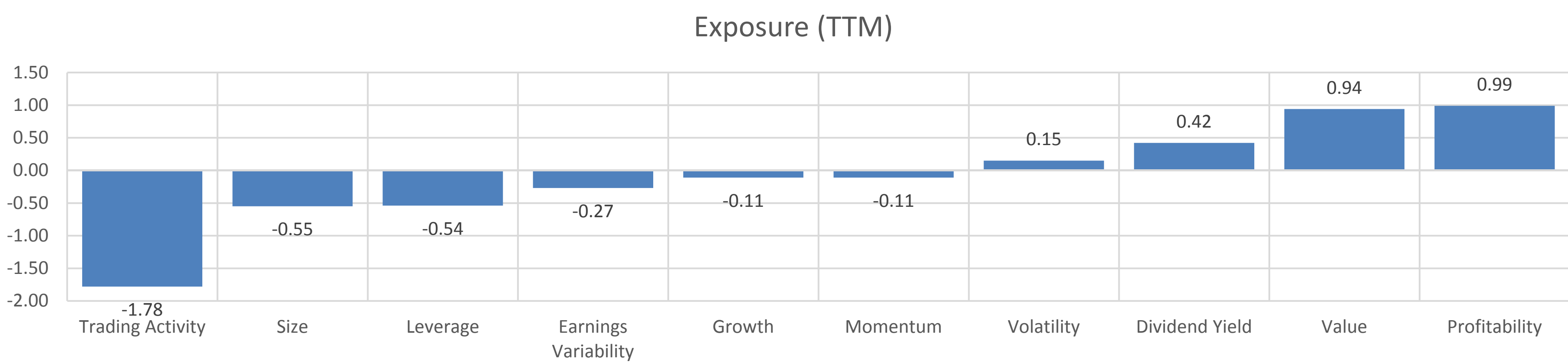
	ZGLEF Long	ZGLEF Short
Market Cap	$1.3 B	$2.9 B
Beta	0.94	1.03
P/E	15x	29x
P/B	1.9	2.1
P/S	1.2	1.4
Div Yld	2.2%	1.7%
ROE	12.3%	5.2%
Profit Margin	6.9%	2.7%

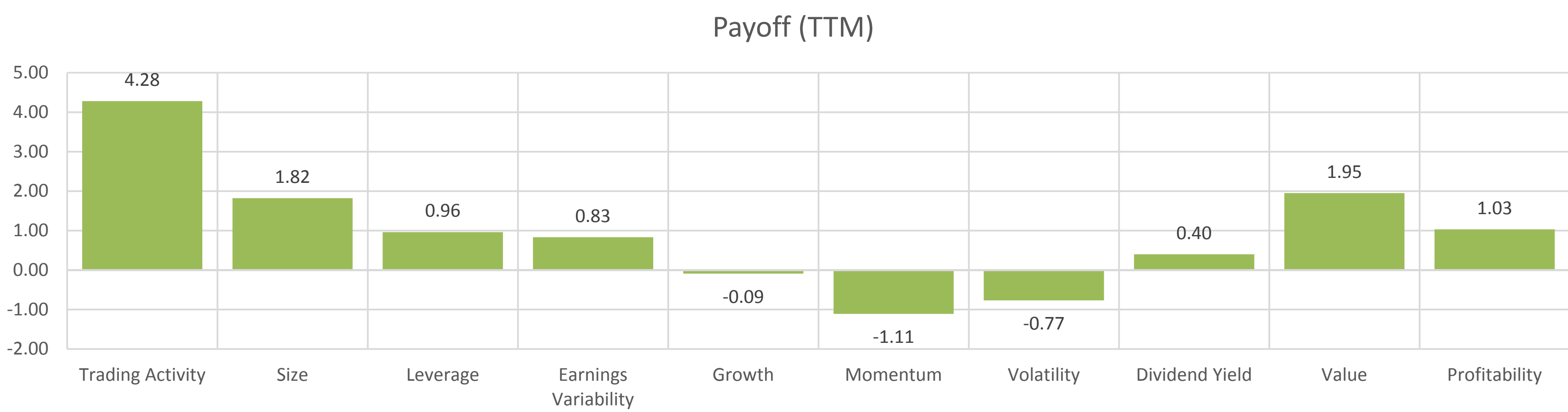
Source: Zebra Capital, Bloomberg. Median Ratio Calculation Methodology. See Appendix "Performance Disclosures & Notes"

Zebra Global Equity Fund LP (ZGLEF)

Global Bloomberg Factor Exposures & Gross Payoffs

Trailing 12 Months (Jan 2015 – Dec 2015)





- Source: Bloomberg. See Appendix "Performance Disclosures & Notes"

Zebra Global Equity Fund LP (ZGLEF)

Net Performance

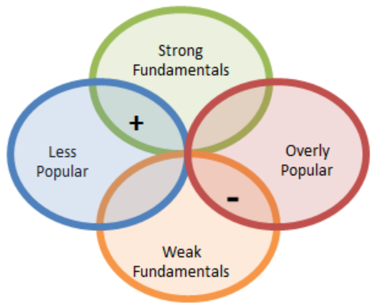
June 2010 – December 2015

Monthly Correlation Coefficients

	Monthly Correlation	1	2	3	4	5	6	7	8	9
1	Zebra Global Equity Fund LP	1	0.22	0.19	0.20	(0.07)	0.01	(0.00)	0.10	0.15
2	Russell 1000 Index (DRI)	0.22	1	0.91	0.97	(0.14)	(0.21)	0.82	0.83	0.37
3	Russell 2000 Index (DRI)	0.19	0.91	1	0.85	(0.10)	(0.27)	0.73	0.77	0.44
4	MSCI WORLD - Net - USD	0.20	0.97	0.85	1	(0.10)	(0.14)	0.85	0.85	0.31
5	ML 3-month T-Bills	(0.07)	(0.14)	(0.10)	(0.10)	1	(0.06)	(0.11)	(0.17)	(0.12)
6	Barclays Aggregate Bond Index	0.01	(0.21)	(0.27)	(0.14)	(0.06)	1	(0.14)	(0.23)	(0.17)
7	HFRX Global Hedge Fund Index	(0.00)	0.82	0.73	0.85	(0.11)	(0.14)	1	0.93	0.26
8	HFRX Equity Hedge Index	0.10	0.83	0.77	0.85	(0.17)	(0.23)	0.93	1	0.31
9	HFRX EH- Equity Market Neutral Index	0.15	0.37	0.44	0.31	(0.12)	(0.17)	0.26	0.31	1
	Average Correlation	**0.10**	**0.47**	**0.44**	**0.47**	**(0.11)**	**(0.15)**	**0.42**	**0.42**	**0.19**

* See Appendix "Performance Disclosures & Notes"

Reasons To Invest in Zebra's Popularity Style



- Unique, behavioral finance based investment style

Monthly Correlation Coefficients

	Monthly Correlation	1	2	3	4	5	6	7	8	9
1	Zebra Global Equity Fund LP	1	0.22	0.19	0.20	(0.07)	0.01	(0.00)	0.10	0.15
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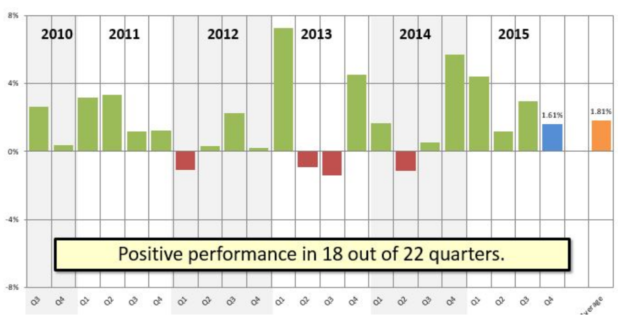
	Average Correlation	0.10	0.47	0.44	0.47	(0.11)	(0.15)	0.42	0.42	0.19

- Relatively non-correlated



- Historically consistent and high risk-adjusted returns

* See Appendix "Performance Disclosures & Notes"

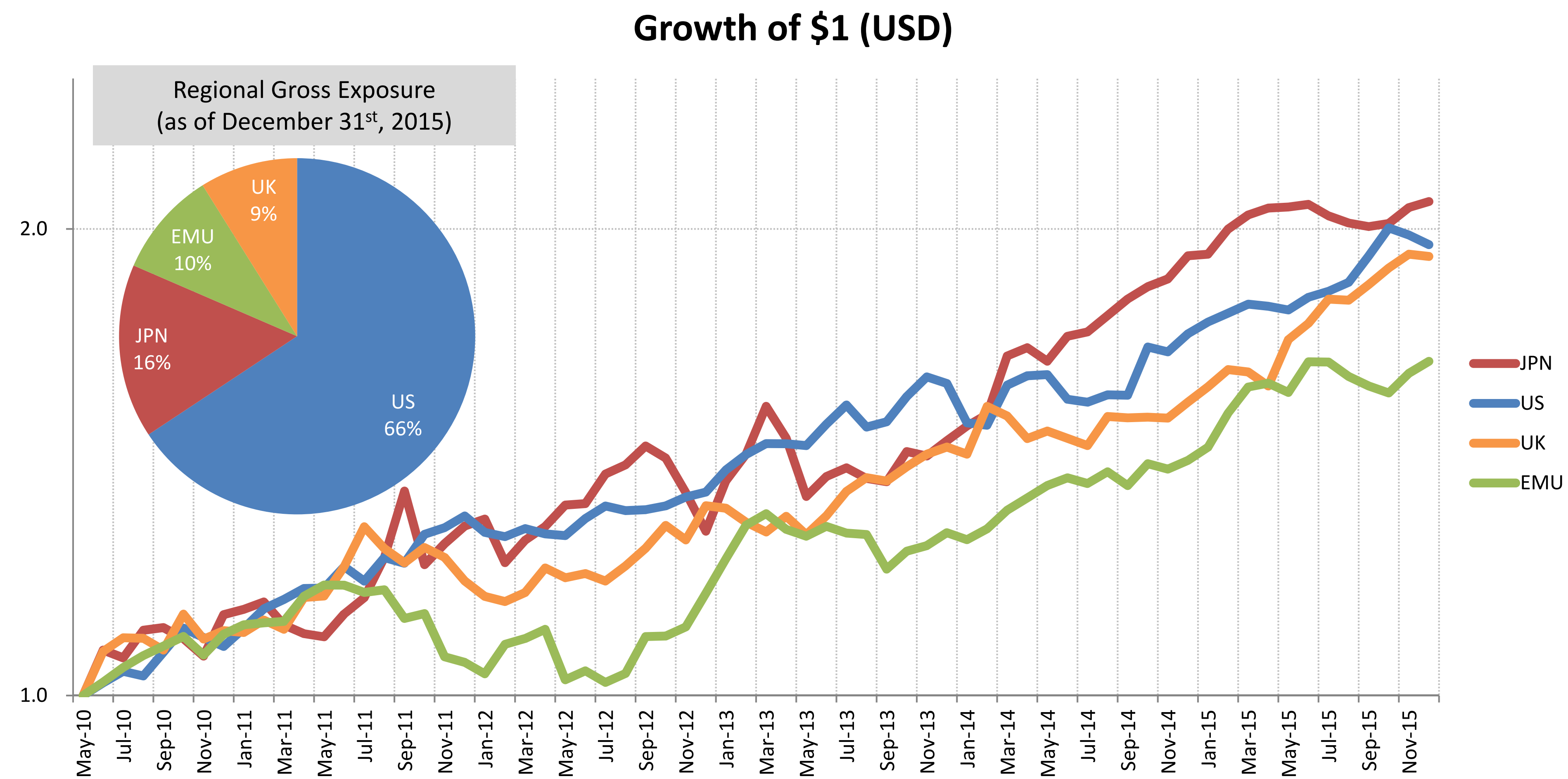
Appendices

I Research

Zebra Global Equity Fund LP (ZGLEF)

Regional Gross Performance

June 2010 – December 2015

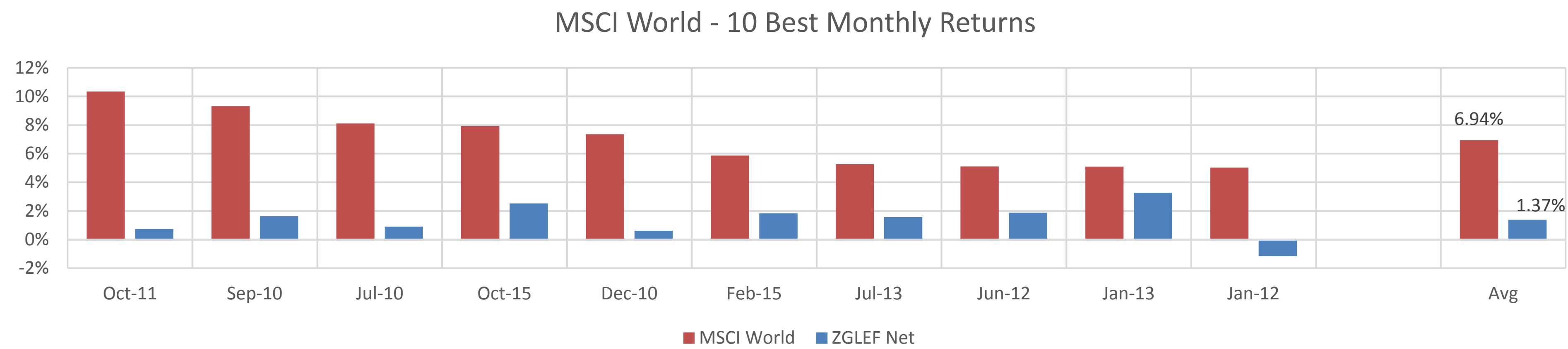


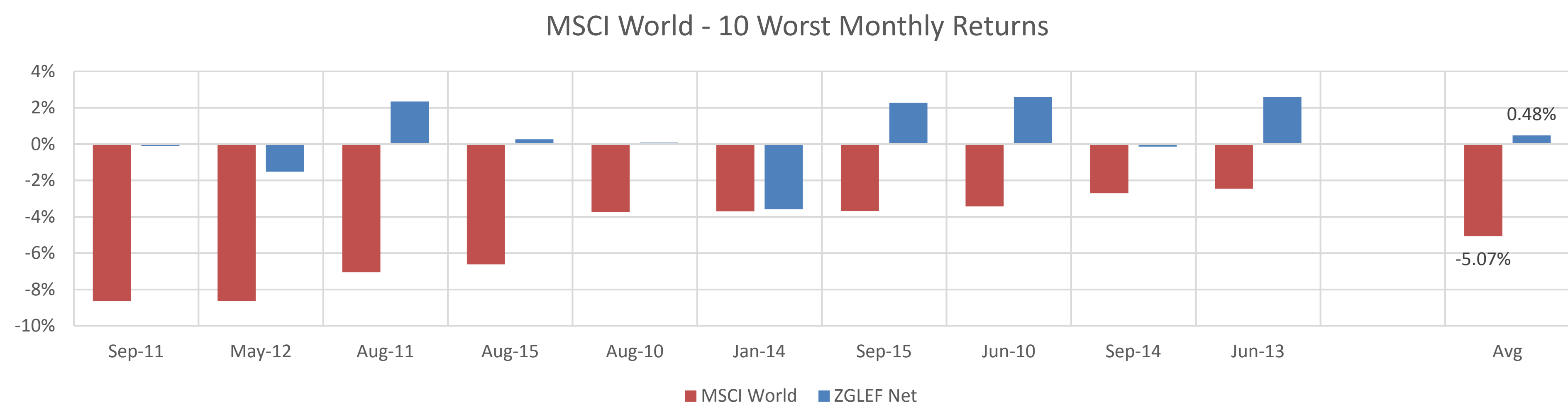
• See Appendix "Performance Disclosures & Notes"

Zebra Global Equity Fund LP (ZGLEF)

MSCI World's 10 Best & Worst Monthly Returns

June 2010 – December 2015





• See Appendix "Performance Disclosures & Notes"

Popularity vs. Size

US Equities, Top 3,500 by Market Cap, Annualized Return

1972 – 2015

		Popularity					Popularity Premium (Low-High)
		Low			High		
Size	Micro	15.9%	15.8%	9.5%	-0.2%		+16.1%
	Small	15.3%	14.1%	12.0%	5.5%		+9.8%
	Mid	13.9%	13.7%	12.6%	7.9%		+6.0%
	Large	11.2%	12.0%	11.7%	8.8%		+2.4%
Size Premium (Micro – Large)		+4.7%	+3.8%	–2.2%	–9.0%		

Popularity has dominated size as a predictor of returns.

- Source: Ibbotson, Chen, Kim & Hu, “Liquidity as an Investment Style” *Financial Analysts Journal*, May/June 2013, as updated by Zebra Capital.

Popularity vs. Beta

US Equities, Top 3,500 by Market Cap, Annualized Return

1972 – 2015

		Popularity: Low			Popularity: High	Popularity Premium (Low-High)
Beta	Low	15.0%	13.8%	11.3%	4.7%	+10.3%
		15.9%	14.5%	13.4%	9.7%	+6.2%
		13.0%	14.0%	12.8%	9.3%	+3.7%
	High	12.4%	11.1%	9.9%	5.6%	+6.8%
Beta Premium (Low – High)		+2.6%	+2.7%	+1.4%	–0.9%	

Popularity has dominated beta as a predictor of returns.

Source: Zebra Capital Management.

II Zebra Capital - Firm and Biographies

Zebra Capital Management, LLC

Firm Overview

Zebra Capital Management
is a fundamental systematic equity manager specializing in the liquidity / popularity investment style.

Smart Beta

Active

Absolute Return

- Founded by Roger Ibbotson, Zebra Capital has combined academic research and analytical methods with direct trading, risk management, and operational experience.

- Research and development of liquidity/popularity began in 2007.

- Total regulatory assets under management approximately $987 million USD as of January 31st, 2016.

Zebra Capital Management, LLC

Core Investment Strategies

Performance through January 31st, 2016

	Active Long Only			Absolute Return	
Strategy	**Zebra Japan Liquidity Return Asset Weighted Composite**	**Zebra US Small Cap Equity Strategy**	**Zebra US Micro Cap**	**Zebra Global Equity Beta Neutral**	**Global Equity Advantage Beta Neutral**
Performance	Actual Gross JPY	Estimated Gross USD	Actual Gross USD	Actual Net USD	Actual Net USD
Performance Inception Date	March 2010	June 2010	July 2015	June 2010	June 2015
Regulatory Capital (USD)	270.9	18.9	66.8	472.1	157.8
Annualized Return	11.89	12.54	-11.27 (cumulative)	7.91	14.95 (cumulative)
Standard Deviation	15.04	16.03	N/A	5.28	N/A
Benchmark	TOPIX TR	Russell 2000 TR	Russell Microcap TR	Cash (T Bills)	Cash (T Bills)
Beta	0.78	0.89	N/A	0.07 (MSCI World)	N/A
Annualized Excess Return	**1.29**	**2.84**	**8.53 (cumulative)**	**7.83 (T Bills)**	**14.92 (T Bills cumulative)**
Annualized Alpha	3.32	3.62	N/A	7.36 (MSCI World)	N/A
Information Ratio	0.20	0.64	N/A	1.37 (T Bills)	N/A

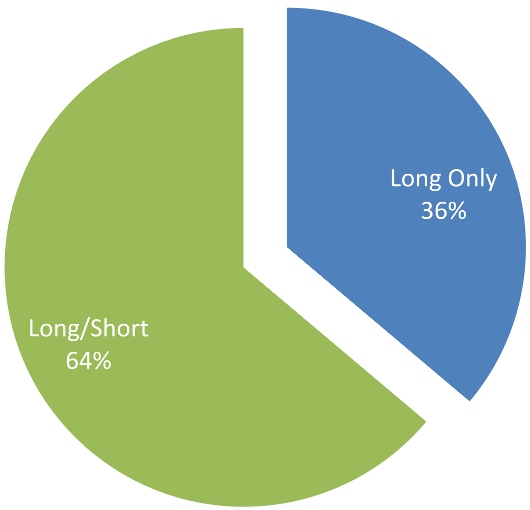
- See appendix “Performance Disclosures & Notes”
- Flash estimates as of 2/2/16

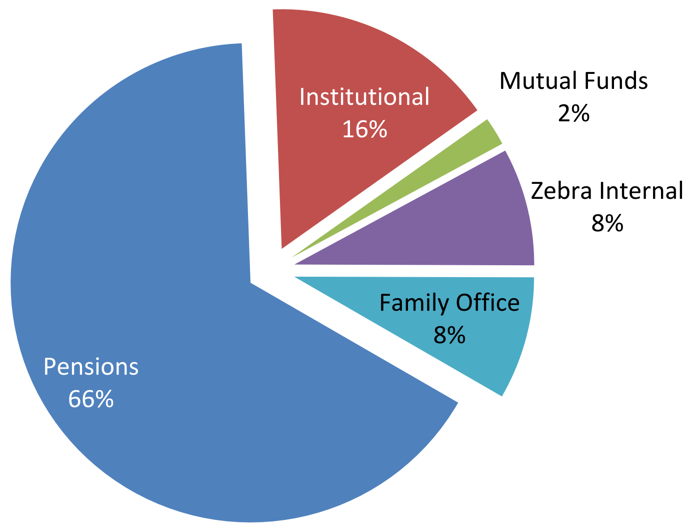
Zebra Capital Management, LLC

Strategy & Investor Breakdown

As of January 31st, 2016

$987 million of Regulatory AUM



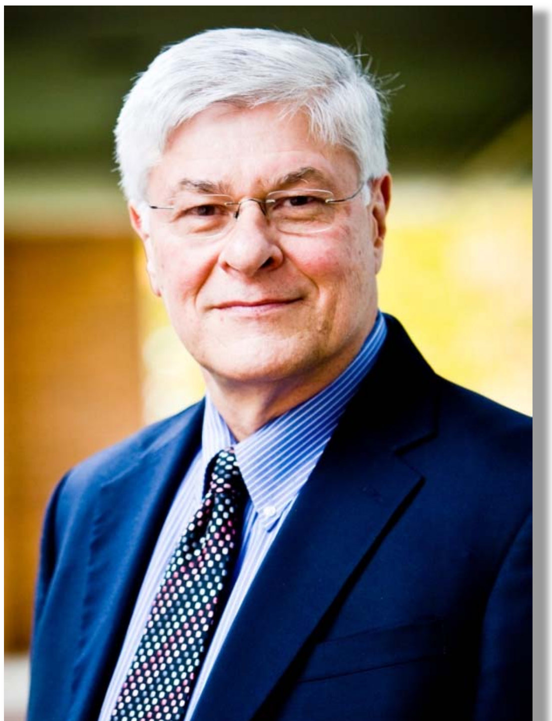


Strategy Breakdown

Investor Breakdown

Roger G. Ibbotson, Ph.D.

Chairman & Chief Investment Officer



Roger Ibbotson is Chairman & Chief Investment Officer of Zebra Capital. He is a member of the Zebra Capital portfolio management team having served in this role since the firm was founded in 2001. He is also Professor in the Practice Emeritus of Finance at Yale School of Management. Professor Ibbotson is Founder, Advisor and former Chairman of Ibbotson Associates, now a Morningstar Company with in excess of $100 billion under advisement. He has written numerous books and articles including *Stocks, Bonds, Bills, and Inflation* with Rex Sinquefield (updated annually) which serves as a standard reference for information on capital market returns.

Professor Ibbotson conducts research on a broad range of financial topics, including investment returns, mutual funds, international markets, portfolio management, and valuation. He has published *The Equity Risk Premium* with William Goetzmann and *Lifetime Financial Advice* with Milevsky, Chen, and Zhu. He has also co-authored two books with Gary Brinson, *Global Investing* and *Investment Markets*. In addition, he has co-authored a textbook with Jack Clark Francis, *Investments: A Global Approach*. He is a regular contributor and editorial board member to both trade and academic journals. He is the recipient of many awards including Graham and Dodd Scrolls in 1979, 1982, 1984, 2001, 2004, 2007, 2011, 2012, and best *Financial Analysts Journal* article of 2013. He received the Harry M. Markowitz Award for “Momentum, Acceleration, and Reversal”, the 2015 best paper in the *Journal of Investment Management.*

Professor Ibbotson served on numerous boards including Dimensional Fund Advisors’ funds. He frequently speaks at universities, conferences, and other forums. He received his Bachelor’s degree in mathematics from Purdue University, his M.B.A. from Indiana University, and his Ph.D. from the University of Chicago where he taught for more than ten years and served as Executive Director of the Center for Research in Security Prices.

John J. Holmgren, Jr.

President & COO

John J. Holmgren, Jr. joined Zebra Capital in 2011 as President and is responsible for the development, management and implementation of Zebra's business and strategies.

Mr. Holmgren was formerly President and CIO of HCM, a global investment management and research firm specializing in bottom up quantitative investment models, from 2007 until 2011. From 1999 through 2007, Mr. Holmgren was Chief Investment Officer and Chief Executive Officer of DSI International Management, a wholly owned subsidiary of UBS AG. He was responsible for managing the investment programs for DSI and integrating DSI within the UBS business organization. Mr. Holmgren was a UBS Managing Director and Regional Head where he sat on various UBS Global AM and O'Connor Investment, Risk and Management Committees. Mr. Holmgren joined DSI International Management, an investment advisor focusing on global quantitative risk controlled and long/short equity products, as Chief Operating Officer in 1997 from DSC Data Services, an quantitative investment research firm he founded in 1988. In 1987, he was one of the original founders of DSI International Management. From 1988 to 1997, he was the founder and President of DSC Data Services, Inc., an independent, quantitative research firm.

Mr. Holmgren has a B.A. in Economics from Providence College and is a member of the NYSSA, CQA and CFAI.

III Performance Disclosures & Notes

Performance Disclosures & Notes

This presentation is furnished on a confidential basis for informational purposes about the services provided by Zebra Capital Management LLC ("Zebra Capital"). Zebra Capital is an independent investment management firm registered with the U.S. Securities and Exchange Commission and located in Milford, CT. Any transmission, dissemination or other use of this information is expressly prohibited.

Zebra Global Equity Fund LP and Zebra Global Equity Fund Ltd are collectively referred to as "Zebra Global Equity Funds". Zebra Global Equity Advantage Fund LP and Zebra Global Equity Advantage Fund Ltd are collectively referred to as "Zebra Global Equity Advantage Funds". The Zebra Global Equity Funds and the Zebra Global Equity Advantage Funds are collectively referred to as the "Zebra Funds"; and the Zebra Global Liquidity Return, Zebra US Large Cap Liquidity Return, Zebra US Small Cap Liquidity Return, Zebra Japan Liquidity Return and Zebra Australia Liquidity Return are collectively referred to as "Zebra Managed Accounts". Please contact Zebra Capital for additional information on funds and accounts offered or advised by Zebra Capital.

This presentation is not intended as and does not constitute a solicitation for investment in any of the Zebra Funds or Zebra Managed Accounts. By accepting this document, you acknowledge and agree that the information contained herein will be kept strictly confidential by you.

Any offer of interests in the Zebra Funds can only be made by means of the specific Fund's Confidential Offering Memorandum or Private Placement Memorandum (the "Offering Memorandum"). All information contained herein is qualified in its entirety by the Offering Memorandum. Prospective investors should carefully review the Offering Memorandum prior to making any investment decision about Zebra's Global Equity Funds. This presentation does not constitute an offer to sell, or a solicitation of any offer to buy, any product under any circumstances whatsoever. If any such offer is made in the future, it will be made in accordance with applicable federal and state securities laws and will be described in appropriate written documents containing specific terms, conditions and limitations and prepared in accordance with applicable securities laws. In addition, no offer of any interest in any product will be made in any jurisdiction in which the offer, solicitation or sale is not permitted, or to any person to whom it is unlawful to make such offer, solicitation or sale.

PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS.

Performance Disclosures & Notes

This presentation does not constitute legal, tax or investment advice. Neither Zebra Capital nor any of its affiliates are acting as your agent or adviser with regard to your decision to invest in the Zebra Global Equity Funds.

Securities and futures trading is speculative and involves a high degree of risk. Investors could lose all or substantially all of their investment. Zebra Capital trades with a high degree of leverage. Performance may be volatile. There is no secondary market for interests in hedge funds and none is expected to develop. Interests in hedge funds are not freely transferable and are subject to restrictive redemption provisions. The Zebra Global Equity Funds and Zebra Liquidity Return Managed Accounts are subject to substantial fees and expenses. Zebra Capital and other service providers have conflicts of interest in managing the Zebra Global Equity Funds and Zebra Liquidity Return Managed Accounts. The Zebra Global Equity Funds and Zebra Liquidity Return Managed Accounts are not intended to be a complete investment program. Hedge fund investments are suitable only for financially sophisticated investors independently capable of evaluating the risks as well as sustaining a total loss of their investment.

This presentation is based upon data obtained from sources we believe to be reliable but is not guaranteed to be accurate and does not purport to be complete. Because individual investor objectives differ, this presentation should not be construed as advice to meet the particular investment needs of any investor. Any opinions expressed herein are subject to change without notice.

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Performance Disclosures & Notes

Zebra Global Equity Beta Neutral (ZGLEF)

Performance information presented for the Zebra Global Equity Fund LP ("ZGLEF") represents the actual performance of ZGLEF for the periods indicated. ZGLEF is managed on a fully discretionary basis according to the Zebra Global Equity investment strategy. Performance returns include cash and cash equivalents and reflect the reinvestment of dividends, interest and other earnings.

Actual Net Performance Results (USD) :
Net performance is presented net of actual management fees, incentive fees, commissions and other fund expenses as applicable..

Gross Performance Results (USD):
Gross performance information, when presented, reflect gross performance which is calculated after the deduction of trading expenses and before investment management fees and other administrative expenses. Actual returns would be reduced by such expenses.

Investment management fees and other administrative expenses do have an effect on investment results. For example, assume a 10% total return on a gross basis. If a 1% management fee, 10% incentive fee, and 0.50% of other expenses per year were charged, the net total return would be reduced from 10% to 7.54%. Looked at another way, $10,000 invested at 10% for ten years would grow to $25,940; at 7.54%, it would grow to $20,629.

Investment advisory fees are described in Part 2A of Zebra Capital's Form ADV.

Zebra Global Equity Advantage Beta Neutral (ZGLEAF)

Estimated Net Performance Results (USD) :
For the period June 2010 - May 2015, performance information presented for the Zebra Global Equity Advantage Strategy ("Zebra Advantage") represents estimated net performance of Zebra Advantage for the periods indicated. This performance is based on the actual gross performance of the Zebra Global Equity Fund LP but is adjusted to reflect higher leverage of Zebra Advantage (approximately 500% Gross). Estimated net performance is presented assuming a 1.5% management fee, 20% incentive fee, and estimates for other fees as applicable (commissions, admin fees, and leverage). Performance returns include cash and cash equivalents and reflect the reinvestment of dividends, interest and other earnings.

Actual Net Performance Results (USD) :
For the period June 2015 - present, performance information presented for the Zebra Global Equity Advantage Fund, LP ("ZGLEAF") represents the actual net performance of ZGLEAF for the periods indicated. Performance presented is net of actual management fees (1.5%), incentive fees (20%), commissions and other fund expenses as applicable. Performance returns include cash and cash equivalents and reflect the reinvestment of dividends, interest and other earnings. ZGLEAF is managed on a fully discretionary basis. All returns are subject to review until completion of the annual audit.

All returns are subject to review until completion of the annual audit. As with any investment strategy, there is potential for profit as well as the possibility of loss.

PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS.

Performance Disclosures & Notes

Gross Performance Results:

Gross performance information, when presented, reflects gross performance which is calculated after the deduction of trading expenses and before investment management fees and other administrative expenses. Actual returns would be reduced by such expenses.

Investment management fees and other administrative expenses do have an effect on investment results. For example, assume a 10% total return on a gross basis. If a 1% management fee and 0.50% of other expenses per year were charged, the net total return would be reduced from 10% to 8.5%. Looked at another way, $10,000 invested at 10% for ten years would grow to $25,940; at 8.5%, it would grow to $22.606.

Investment advisory fees are described in Part 2A of Zebra Capital's Form ADV.

Zebra Japan Liquidity Return Asset Weighted Composite (Long Only)

Actual Gross Performance Results (JPY) :

Performance information presented for the Zebra Japan Liquidity Return Asset Weighted Composite ("Japan Liquidity Return") represents the actual gross performance of Japan Liquidity Return for the periods indicated. The Japan Liquidity Return strategy is managed on a fully discretionary basis according to the Zebra Japan Liquidity Return investment strategy. Performance returns include cash and cash equivalents and reflect the reinvestment of dividends, interest and other earnings. Performance information is presented gross of actual management fees and other administrative expenses and after the deduction of trading expenses and commissions.

Zebra US Small Cap Equity Strategy (Long Only)

Estimated Gross Performance Results (USD):

Performance information presented for the Zebra US Small Cap Equity Strategy ("Zebra US Small Cap") represents estimated gross performance for the periods indicated based upon the actual net returns of the American Beacon US Small Cap Equity Fund Series I (ticker "AZSIX") to which Zebra Capital acts as a sub advisor. The Zebra US Small Cap strategy is managed on a fully discretionary basis according to the Zebra US Small Cap Equity investment strategy. Performance returns include cash and cash equivalents and reflect the reinvestment of dividends, interest and other earnings. Performance information is presented gross of actual management fees and other administrative expenses and after the deduction of trading expenses and commissions (assuming and adjusting for a 1.00% annual expense ratio).

Zebra US Micro Cap (Long Only)

Actual Gross Performance Results (USD):

The Zebra US Micro Cap Managed Account was launched on June 25th 2015. Performance information presented for the Zebra US Micro Cap Managed Account represents actual gross performance for the periods indicated. The Zebra US Micro Cap Managed Account is managed on a fully discretionary basis according to the Zebra US Micro Cap investment strategy. Performance returns include cash and cash equivalents and reflect the reinvestment of dividends, interest and other earnings. Performance information is presented gross of actual management fees and other administrative expenses and after the deduction of trading expenses and commissions.

All returns are subject to review. As with any investment strategy, there is potential for profit as well as the possibility of loss.

PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS.

Performance Disclosures & Notes

The **Barclays Capital Aggregate Bond Index (TR, USD)** is a market capitalization-weighted index, meaning the securities in the index are weighted according to the market size of each bond type. Most U.S. traded investment grade bonds are represented. Municipal bonds and Treasury Inflation-Protected Securities (TIPS) are excluded, due to tax treatment issues. The index includes US Treasury Securities (non TIPS), Government agency bonds, Mortgage backed bonds, Corporate bonds, and a small amount of foreign bonds traded in U.S.

HFRX Global Hedge Fund Index (TR, USD): The HFRX Global Hedge Fund Index is designed to be representative of the overall composition of the hedge fund universe. It is comprised of all eligible hedge fund strategies; including but not limited to convertible arbitrage, distressed securities, equity hedge, equity market neutral, event driven, macro, merger arbitrage, and relative value arbitrage. The strategies are asset weighted based on the distribution of assets in the hedge fund industry.

HFRX Equity Market Neutral Index (TR, USD): Equity Market Neutral strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. These can include both Factor-based and Statistical Arbitrage/Trading strategies. Factor-based investment strategies include strategies in which the investment thesis is predicated on the systematic analysis of common relationships between securities. In many but not all cases, portfolios are constructed to be neutral to one or multiple variables, such as broader equity markets in dollar or beta terms, and leverage is frequently employed to enhance the return profile of the positions identified. Statistical Arbitrage/Trading strategies consist of strategies in which the investment thesis is predicated on exploiting pricing anomalies which may occur as a function of expected mean reversion inherent in security prices; high frequency techniques may be employed and trading strategies may also be employed on the basis on technical analysis or opportunistically to exploit new information the investment manager believes has not been fully, completely or accurately discounted into current security prices. Equity Market Neutral Strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.

HFRX Equity Hedge Index (TR, USD): Equity Hedge strategies maintain positions both long and short in primarily equity and equity derivative securities. A wide variety of investment processes can be employed to arrive at an investment decision, including both quantitative and fundamental techniques; strategies can be broadly diversified or narrowly focused on specific sectors and can range broadly in terms of levels of net exposure, leverage employed, holding period, concentrations of market capitalizations and valuation ranges of typical portfolios. Equity Hedge managers would typically maintain at least 50%, and may in some cases be substantially entirely invested in equities, both long and short.

Hedge Fund Research, Inc. (HFR) utilizes a UCITSIII compliant methodology to construct the HFRX Hedge Fund Indices. The methodology is based on defined and predetermined rules and objective criteria to select and rebalance components to maximize representation of the Hedge Fund Universe. HFRX Indices utilize state-of-the-art quantitative techniques and analysis; multi-level screening, cluster analysis, Monte-Carlo simulations and optimization techniques ensure that each Index is a pure representation of its corresponding investment focus. Full strategy and regional descriptions (multi-language), as well as the full "HFRX Hedge Fund Indices Defined Formulaic Methodology" may be downloaded on the HFR website.

PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS.

Performance Disclosures & Notes

The Merrill Lynch 3 Month Treasury Bill Index (TR, USD) is designed to measure the performance of high-quality short-term cash-equivalent investments.

The MSCI World Index (Net Dividends, USD) is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets. The **MSCI World Index** consists of the following 23 developed market country indexes: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

The MSCI World Small Cap Index (Gross Dividends, USD) captures small cap representation across 23 Developed Markets (DM) countries. With 4,254 constituents, the index covers approximately 14% of the free float-adjusted market capitalization in each country.

The Russell 1000 Index (TR, USD) measures the performance of the large-cap segment of the U.S. equity universe. It is a subset of the Russell 3000® Index and includes approximately 1000 of the largest securities based on a combination of their market cap and current index membership. The Russell 1000 represents approximately 92% of the U.S. market. The Russell 1000 Index is constructed to provide a comprehensive and unbiased barometer for the large-cap segment and is completely reconstituted annually to ensure new and growing equities are reflected.

The Russell 2000 Index (TR, USD) measures the performance of the small-cap segment of the U.S. equity universe. The Russell 2000 is a subset of the Russell 3000® Index representing approximately 10% of the total market capitalization of that index. It includes approximately 2000 of the smallest securities based on a combination of their market cap and current index membership. The Russell 2000 Index is constructed to provide a comprehensive and unbiased small-cap barometer and is completely reconstituted annually to ensure larger stocks do not distort the performance and characteristics of the true small-cap opportunity set.

The Russell 3000 Index (TR, USD) measures the performance of the largest 3000 U.S. companies representing approximately 98% of the investable U.S. equity market. The Russell 3000 Index is constructed to provide a comprehensive, unbiased, and stable barometer of the broad market and is completely reconstituted annually to ensure new and growing equities are reflected.

The Russell 3000 Value Index (TR, USD) measures the performance of the broad value segment of U.S. equity value universe. It includes those Russell 3000 Index companies with lower price-to-book ratios and lower forecasted growth values. The Russell 3000 Value Index is constructed to provide a comprehensive, unbiased, and stable barometer of the broad value market. The Index is completely reconstituted annually to ensure new and growing equities are included and that the represented companies continue to reflect value characteristics.

The Russell 3000 Growth Index (TR, USD) measures the performance of the broad growth segment of the U.S. equity universe. It includes those Russell 3000 Index companies with higher price-to-book ratios and higher forecasted growth values.

PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS.

Performance Disclosures & Notes

The Russell Microcap® Index measures the performance of the microcap segment of the U.S. equity market. Microcap stocks make up less than 3% of the U.S. equity market (by market cap) and consist of the smallest 1,000 securities in the small-cap Russell 2000® Index, plus the next 1,000 smallest eligible securities by market cap. The Russell Microcap Index is constructed to provide a comprehensive and unbiased barometer for the microcap segment trading on national exchanges. The Index is completely reconstituted annually to ensure new and growing equities are reflected and companies continue to reflect appropriate capitalization and value characteristics.

The **S&P 500 Index (TR, USD)** is a is an unmanaged market capitalization weighted index of 500 common stocks chosen for market size, liquidity, and industry group representation to represent U.S. equity performance.

TOPIX Total Return Index (TR, JPY): TOPIX is a free-float adjusted market capitalization-weighted index that is calculated based on all the domestic common stocks listed on the TSE First Section. TOPIX shows the measure of current market capitalization assuming that market capitalization as of the base date(January 4 ,1968) is 100 point.

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The indices presented are unmanaged and include the reinvestment of dividends and earnings. Investors cannot invest directly in these indices. The HFRX EMN Index is an appropriate index for the ZGLEF Fund because of the nature and mix of the investment holdings. All other indices are presented for informational purposes.

For more information on the MSCI, Hedge Fund Research, Russell, Barclays, and S&P Indices please refer to the respective company website links below.

http://www.msci.com/products/indices/

http://www.hedgefundresearch.com/

http://www.russell.com/indexes/data/default.asp

https://ecommerce.barcap.com/indices/index.dxml

http://us.spindices.com/

PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS.

Contact Information

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ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT: High Yield Investment Guideline Changes ACTION: X

DATE: February 18, 2016 INFORMATION:

BACKGROUND:

In June 2015, the Alaska Retirement Management Board (ARMB) approved a staff request to engage Callan Associates to conduct a high yield manager search.

In September 2015, following high yield presentations from Eaton Vance and Columbia Threadneedle the ARMB authorized staff to hire both firms for high yield investment mandates, subject to successful contract and fee negotiations.

STATUS:

Contract and fee negotiations have been successfully concluded with both firms. During the course of the negotiations, staff requested input from both firms regarding the language in the existing high yield investment guidelines.

Staff found many of the requests for changes to the guidelines to be reasonable. Most of the changes were minor in nature and served to clarify intent. Two noteworthy changes involve how constraints regarding credit ratings will be evaluated. First, the draft guidelines change the process for identifying the rating of a security to match that of the benchmark. Second, restrictions for holding securities rated below B3 are loosened from 25% to the greater of 25% or the benchmark weight plus 5%.

RECOMMENDATION:

Staff recommends the ARMB adopt Resolution 2016-01.

State of Alaska
ALASKA RETIREMENT MANAGEMENT BOARD

Relating to High Yield Fixed Income Guidelines

Resolution 2016-01

WHEREAS, the Alaska Retirement Management Board (Board) was established by law to serve as trustee to the assets of the State's retirement systems; and

WHEREAS, under AS 37.10.210-220, the Board is to establish and determine the investment objectives and policy for each of the funds entrusted to it; and

WHEREAS, AS 37.10.071 and AS 37.10.210-220 require the Board to apply the prudent investor rule and exercise the fiduciary duty in the sole financial best interest of the funds entrusted to it and treat beneficiaries thereof with impartiality; and

WHEREAS, the Board contracts an independent consultant to provide experience and expertise in asset allocation and other investment matters to come before the Board; and

WHEREAS, the Board has established an asset allocation for the funds that considers earnings and liabilities on a current as well as a future basis; and

WHEREAS, the Board has authorized investment in high yield fixed income securities; and

WHEREAS, the Board will establish and from time to time as necessary modify guidelines for high yield fixed income securities.

NOW THEREFORE BE IT RESOLVED THAT THE ALASKA RETIREMENT MANAGEMENT BOARD adopts the High Yield Fixed Income Guidelines, attached hereto and made a part hereof, regarding investment in high yield fixed income securities. This resolution repeals and replaces Resolution 2015-20.

DATED at Juneau, Alaska this ______ day of February, 2016.

____
Chair

ATTEST:

____
Secretary

HIGH YIELD FIXED INCOME GUIDELINES

A. **Purpose.** The emphasis of investments in high yield fixed income securities shall be diversification, subject to defined constraints, to minimize risk.

B. **Investment Management Service to be Performed.** High yield fixed income Contractors shall invest and reinvest the cash and securities allocated to them and deposited in their account, without distinction between principal and income, in a portfolio consisting of fixed income securities with an intended emphasis on high yield securities. These securities will be selected and retained by Contractors solely on the basis of their independent judgment relating to economic conditions, financial conditions, market timing, or market analysis, and will not be subject to direction from the ARMB.

C. **Performance Standards.** Contractors are expected to have returns, net of fees, in excess of the appropriate benchmark over rolling 5-year periods. The benchmark is the Bank of America Merrill Lynch High Yield Master II Constrained Index.

D. **Permissible Investments.** The most recent prospectus, as amended from time to time, governs the investment in the Fidelity Real Estate High Income Fund. For investments other than those in the Fidelity Real Estate High Income Fund, permissible high yield investments shall be limited to the following.

   1. Money market investments comprising:

      a. Repurchase agreements collateralized only by U.S. Treasury obligations, including bills, notes, and bonds, and only when the collateral carries a market value equal to or greater than 102% of the amount of the repurchase agreements, and only when the custodial bank appointed by retirement funds will take custody of the collateral;

      b. Commercial paper;

      c. Negotiable certificates of deposit and bankers acceptances; provided that an issuing bank must have total assets in excess of $5 billion.

   2. United States Treasury obligations including bills, notes, bonds and other debt obligations issued by the United States Treasury, and backed by the full faith and credit of the U.S. Government.

3. Other full faith and credit obligations of the U.S. Government.

4. Securities issued or guaranteed by agencies and instrumentalities of the U.S. Government, but not explicitly backed by the full faith and credit of the U.S. Government.

5. Securities issued or guaranteed by states or municipalities in the United States.

6. Obligations of foreign governments, sovereign states, supranational entities, and their instrumentalities.

7. Corporate debt securities comprising:

   a. Corporate debt issued in the U.S. capital markets by U.S. companies;

   b. Euro-dollar debt (that is, U.S. dollar-denominated securities issued outside the U.S. capital markets by U.S. companies or by foreign issuers);

   c. Yankee debt (that is, U.S. dollar-denominated securities and issued in the U.S. capital markets by foreign issuers).

8. Convertible bonds.

9. Bank loans.

10. Preferred stock.

11. Common stock.

12. Warrants.

E. **Portfolio Constraints.** For split rated securities, the methodology used by the benchmark will be employed to determine the rating. BofA Merrill Lynch Index composite ratings are the simple averages of ratings from three agencies. For the majority of the BofA Merrill Lynch index universe the composite rating is based on the average of Moody’s, S&P and Fitch. Contractors shall apply appropriate diversification standards and are authorized to invest or reinvest or dispose of any cash or securities held in their account or invest the proceeds of any disposition, provided that:

1. The portfolio's effective duration may not exceed a band of +/-20% around the effective duration of the benchmark.

2. The Contractor may not invest more than 10% of the portfolio's assets in securities rated A3 or higher by any rating agency (including government instruments). Cash held in the portfolio will be included in this limitation.

3. The Contractor may not invest more than the greater of 25% of the portfolio's assets or the benchmark weight plus 5% in securities rated below B3 or equivalent. Additionally, the Contractor may not invest more than 5% of the portfolio's assets in unrated securities. Unrated securities shall be assumed to be rated below B3.

4. The Contractor may not invest more than 25% of the portfolio's assets in any one corporate sector as defined by the benchmark as defined as Industry Level 3.

5. Warrants and common stock are authorized investments only if issued in conjunction with or related to bonds purchased by the Contractor.

6. Common stock received from the conversion of a convertible security, the exercise of a warrant or the restructuring of an issuer's debt should be sold within 90 days of receipt or within 90 days of the expiration of a restriction period. If more time is needed, the Contractor must seek permission in writing from the Chief Investment Officer.

7. The Contractor may not invest more than 5% of the portfolio's assets in any one corporate issuer.

8. Internal cross trading is permitted but only in accordance with requirements under: (1) 29 U.S.C. §1108(b)(19); (2) 29 C.F.R. §2550.408b-19; and (3) 26 U.S.C. §4975(d)(22).

9. There shall be no investment in private placements, except Rule 144A securities and bank loans.

10. The Contractor shall not sell securities short.

11. The Contractor shall not purchase securities on margin.

12. The Contractor shall not utilize options or futures.

F. **Required Remedies.** Recognizing that ratings and relative asset worth may change, the Contractor shall liquidate invested securities with care and prudence when the relative market value of an investment type limited by these guidelines exceeds the levels of holdings permitted. The Contractor is required to notify the chief investment officer to discuss the situation and the proposed liquidation strategy if it is not prudent simply to liquidate immediately.

ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT: Approval to Utilize Futures by Staff   ACTION: X

DATE: February 18, 2016   INFORMATION: ____

BACKGROUND:

Futures contracts are standardized contractual agreements that trade on futures exchanges.

Futures trading began in the mid-19th century with the establishment of central grain markets where farmers could sell their products either for immediate delivery, or for forward delivery. Futures contracts have been used by the Alaska Retirement Management Board (ARMB) for cash equitization for 10 years.

STATUS:

Futures contracts are available for a variety of commodities and financial assets. Derivatives, including futures contracts, are allowed for use by ARMB equity managers, absolute return managers and the cash equitization manager.

RECOMMENDATION:

The Alaska Retirement Management Board authorize staff to transact in futures contracts.

ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT: Approval to Utilize Swaps by Staff ACTION: X

DATE: February 18, 2016 INFORMATION: ____

BACKGROUND:

Swaps are contractual agreements between two parties to exchange returns, similar to futures contracts. Unlike futures contracts, swaps contracts are highly customizable. They do not trade on an exchange, are less liquid, and generally do not exchange margin.

Swaps contracts are available for a variety of commodities and financial assets. Derivatives, including swaps contracts, are allowed for use by Alaska Retirement Management Board (ARMB) equity and absolute return managers. Fixed income staff are authorized to engage in total rate of return swaps.

STATUS:

Staff has provided the ARMB with a presentation that details the mechanics of swaps contracts. If approved, swaps contracts may be used to facilitate a variety of transactions including portable alpha and cash equitization.

RECOMMENDATION:

The Alaska Retirement Management Board authorize staff to transact in swaps contracts.

ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT: Portable Alpha Strategies

ACTION: X

DATE: February 18, 2016

INFORMATION:

BACKGROUND:

Alpha is the risk-adjusted return in excess of the market index or benchmark attributable to selection skill.

Portable alpha is an investment strategy separating skill-based performance from the market (beta). The source of alpha is independent of the market and therefore can be ported or applied to a portfolio with any market exposure.

Portable alpha relies on a consistent source of alpha generation and the employment of securities instruments such as swaps or futures. These instruments provide a cost efficient tool to remove market exposure of the alpha generating portfolio and maintain or gain market exposure of the targeted portfolio.

STATUS:

Historically, the Alaska Retirement Management Board's (ARMB) domestic small cap portfolio of managers has been a consistent source of alpha.

	Last Quarter	**Last Year**	**2 Years**	**3 Years**	**5 Years**	**6 Years**	**10 Years**
Small Cap Active	(10.23)	2.51	4.12	13.10	13.96	14.83	9.83
Small Cap Active (Incl. Fidelity)	(9.60)	4.38	5.22	13.91	14.35	15.00	9.95
Jennison Small Cap	(11.32)	1.44	5.80	14.41	13.91	14.71	8.92
Luther King Small Cap	(10.92)	3.51	0.65	7.79	11.73	12.87	6.76
BHMS Small Cap Value	(10.83)	1.00	3.41	14.11	13.22	14.41	10.57
Victory Small Cap Value	(5.51)	6.75	8.05	13.85	13.72	13.42	9.23
Frontier Small Cap Value	(7.27)	1.72	5.13	14.31	16.05	16.93	11.76
Lord Abbett Small Cap Growth	(15.51)	0.63	1.70	14.10	15.15	16.62	11.71
Fidelity Small Company	(5.81)	15.62	11.81	18.78	16.67	16.07	10.67
Russell 2000 Index	(11.92)	1.25	2.58	11.02	11.73	12.00	6.55
Small Cap Active Alpha	1.69	1.26	1.54	2.08	2.23	2.83	3.28
Small Cap Active Alpha (Incl. Fidelity)	2.32	3.13	2.64	2.89	2.62	3.00	3.40

Composite returns are used for portfolios that have been with ARMB for less than 10 years. Period ending Sept. 30, 2015.

A portable alpha program can provide an additional source of excess performance to those ARMB asset classes that may otherwise prove difficult to add value through active management.

Staff is requesting authority to construct an alpha generating portfolio of small cap managers.

RECOMMENDATION:

The Alaska Retirement Management Board authorize staff to engage in portable alpha strategies.

ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT: Approval to Internally-Manage Cash Equitization Program

ACTION: X

DATE: February 18, 2016

INFORMATION:

BACKGROUND:

The Alaska Retirement Management Board (ARMB) initiated a cash equitization program in February 2006 in an effort to improve the plans' long-term investment returns by investing a portion of the frictional cash held by the ARMB's equity managers. State Street Global Advisors (SSgA) was hired to execute this program. At the time, staff noted that the ARMB may benefit from bringing the program in-house.

The cash equitization program involves monitoring manager cash positions, managing futures margin account cash positions and buying and selling appropriate amounts of equity futures contracts.

STATUS:

Staff has monitored SSgA's implementation of the cash securitization program over the past ten years and is confident that it can implement a similar program internally.

RECOMMENDATION:

The Alaska Retirement Management Board authorize staff to transition the management of the cash equitization program from State Street Global Advisors to internal staff.

ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT:	Sentinel Realty Advisors Corporation Capital Expenditure Request	ACTION:	X
DATE:	February 18, 2016	INFORMATION:	

BACKGROUND

Sentinel Realty Advisors Corporation (Sentinel) is one of ARMB's real estate separate account investment managers. Sentinel's investment strategy focuses on core apartment properties. ARMB has had a long standing relationship with Sentinel. The real estate portfolio managed by Sentinel currently consists of four properties totaling $218 million in net asset value.

ARMB's real estate investment guidelines require each separate account investment manager to submit an annual budget for each property. This budget is reviewed and approved by staff as part of the annual planning process. For unanticipated budget revisions that may occur during the following year, ARMB has delegated to staff the authority to approve revisions up to $300,000 with a cumulative fiscal year maximum of $3,000,000 for capital expenditures not related to leasing activity such as repairs for building damage or defects.

STATUS

Preserve at Blue Ravine (Preserve), one of the assets in the Sentinel portfolio, is a 260 unit apartment property located in Folsom, California. The asset was acquired in July 2008 and is currently valued at $52.3 million. The asset is performing well with a 96.5% occupancy rate. In Fiscal Year 2015, the property generated $2.6 million in net operating income. The property was constructed in 2000.

In July 2015, The Legends at Willow Creek Apartment in Folsom (not owned by ARMB or managed by Sentinel) experienced an external stairway collapse that resulted in a fatality. This community was constructed by the same builder as Preserve at Blue Ravine and has a similar design. It is believed the collapse was due to water infiltration potentially compromising non-standard construction techniques.

Because Preserve was constructed by the same builder as The Legends at Willow Creek, Sentinel proactively hired an engineer to evaluate the external stair systems at Preserve. A preliminary investigation found little water damage, but suggested that Preserve may also have non-standard construction for the stair support beams. As a result, in order to ensure resident safety, each stairway was braced with temporary supports to prevent a possible incident while further investigation could be conducted. All stairway bracing is in place, securing the stairs at a cost of $103,150.

After consulting with an external engineering firm and utilizing in-house engineering resources a permanent solution has now been developed by Sentinel. This work was bid out competitively. Sentinel is now proposing to move forward with the work at a cost of $525,000. This total includes the cost of engineering and a $50,000 contingency. The work is expected to take approximately four months and be minimally disruptive to tenants. The estimated cost of the project is greater than the Board's current capital budget amendment authority granted to staff of $300,000 so the work requires board approval before Sentinel can move forward.

The construction firm that built the property went bankrupt so there is no ability to compel them to fix the problem. Furthermore, standard insurance coverage is also not available because there hasn't been an insurable event at the property. This is a preemptive safety repair for which the standard insurance policy does not cover.

RECOMMENDATION

The ARMB approve the capital request of $525,000 by Sentinel Realty Advisors for stairway repairs at Preserve at Blue Ravine.

ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT: Zebra Global Equity Beta Neutral

ACTION: X

DATE: February 18, 2016

INFORMATION:

BACKGROUND:

The Alaska Retirement Management Board has been an investor in absolute return and hedge fund investment strategies since November of 2004. In 2013, the ARMB adopted a more opportunistic and less constrained approach to absolute return. The revised program focuses on producing higher returns, with the ability to take on additional risk and market correlation.

Zebra Capital Management (Zebra) was founded in 2001 by Roger Ibbotson. Zebra focuses on capturing the popularity premium in global equity markets. Zebra strategies seek to systematically invest in stocks that are less popular but have strong fundamental characteristics. Roger Ibbotson and Zebra Capital presented at both the 2014 and 2015 ARMB Education Conferences on the topics of popularity, asset allocation and risk premia. In 2015, the ARMB hired Zebra to manage a long-only micro-cap equity mandate.

STATUS:

Since 2010, Zebra Capital management has managed a beta neutral global equity portfolio with risk and return characteristics that fit the ARMB's absolute return portfolio. The targeted net return for the main fund is 7-8% with a volatility of 5-6% and zero equity beta. Zebra also recently started a higher volatility version of the strategy called the Advantage Fund with an expected return of 12-15% and volatility of 11-13%.

The historical performance of the Zebra Global Equity Beta Neutral fund has been good. Through 2015, annualized returns since inception were 7.7% with a standard deviation of 5.3% compared with the MSCI World return of 10.3% and standard deviation of 13.7%. The Sharpe Ratio for the Zebra fund is 1.46 versus 0.78 for the MSCI world and the beta over time has been 0.08. The risk exposures and returns are relatively consistent and the drawdowns much less extreme than the world equity markets. The strategy will offer monthly liquidity after a one year lockup.

Staff recommends investing in a combination of the main market neutral fund and the higher volatility Advantage Fund. The initial split between the two is expected to be roughly 70/30 respectively to target a volatility of 7.5% -- the midpoint of the volatility range for the absolute return portfolio.

RECOMMENDATION:

That the Alaska Retirement Management Board direct staff to invest $200 million in the Zebra Global Equity Beta Neutral and Advantage funds subject to satisfactory negotiation of terms.

ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT: Callan Governance and Quality Proposal   ACTION: X

DATE: February 18, 2016   INFORMATION:

BACKGROUND

Alaska statute establishes the Alaska Retirement Management Board (ARMB) with a primary mission to serve as trustee of the assets of the state's retirement systems, the State of Alaska Supplemental Annuity Plan, and the deferred compensation program for state employees.

Provided in statute, ARMB may employ outside investment advisors to review investment policies and contract for other services necessary to execute ARMB's powers and duties.

ARMB has appointed Callan Associates (Callan) as Performance Measurement and Investment Advisory Consultant.

During the September 2015 Defined Contribution Plan Committee meeting, Callan presented best practices in defined contribution plans and discussed the results of Callan's Defined Contribution Survey. During the presentation, trustees expressed interest in seeing a formal proposal from Callan for evaluating the defined contribution plans.

STATUS

On October 16, 2015 Callan sent a project plan (attached) consisting of six proposals according to priority.

In collaboration with the Department of Administration, staff recommends engaging Callan on the six proposals.

RECOMMENDATION

The Alaska Retirement Management Board direct staff to engage Callan for services as proposed in the memo from Callan Associates dated October 16, 2015. Engaging Callan is subject to successful fee negotiations.

Callan

Callan Associates Inc.
120 North LaSalle Street
Suite 2400
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Main 312.346.3536
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October 16, 2015

Mr. Gary Bader
Chief Investment Officer
Alaska Retirement Management Board
P.O. Box 110405
Juneau, AK 99811-0405

VIA EMAIL: gary.bader@alaska.gov

Dear Gary,

Following the September 23, 2015 meeting of the Alaska Retirement Management Board Defined Contribution Plan Committee, Callan constructed a project plan to address the governance and quality of the Alaska's Defined Contribution (DC) Plans. Listed in priority according to Callan's knowledge of the market and best practices, the following paragraph describe the subject area of investigation and/or enhancement including proposed fees for each service.

Priority 1: *Develop an Investment Policy Statement.*
An investment policy statement (IPS) is a critical part of DC plan governance, guiding the plan sponsor's basic decision-making when it comes to overall strategy, fund menu design, and manager selection, monitoring, and replacement. More than three quarters of government DC plans have an IPS. (Cost range: $18,000 - $20,000).

Priority 2: *Review the Investment Structure.*
Callan believes that the investment structure of a DC plan should be reviewed periodically (e.g., every three to five years) to ensure that the investment structure reflects legal and regulatory trends, product innovation, and adherence to a three-tiered framework that facilitates plan usage for everyone, from "do-it-for-me" to "do-it-yourself" types of participants. (Cost range: $32,000 - $35,000).

Priority 3: *Enhance the Performance Report.*
As part of the investment structure review and investment policy statement development process, Callan recommends a review of plan performance reporting to ensure that the quarterly reporting continues to offer the best insight into the plans' performance. (Cost range: $25,000 - $30,000)

Areas where we recommend enhanced reporting to the ARM Board and staff within Priority 3:

- Addition of an Executive Summary to the Board's summary performance report;
- Expanded analysis of target date fund performance attribution and effect of the glide path;
- Enhanced reporting on the stable value options; and
- Addition of analysis of trends within the DC market and participant behavior.

Priority 4*: Engage in a Record Keeper Review.*

There have been a number of recent and dramatic changes in the record keeper environment – including consolidations that directly affect the Alaska DC plans' record keeper. Callan recommends the ARM Board survey current record keeping services and pricing in order to evaluate your current service model's competitiveness. Callan's analysis of the record keeping marketplace will include an evaluation of core record keeping capabilities, participant experience, and plan delivery to ensure that the Alaska DC plans are receiving state-of-the-art services at competitive cost. The results of this evaluation will enable the ARM Board to determine if existing services are appropriate and if fees are satisfactory. This analysis will help the ARM Board determine if services and/or fees can be enhanced to improve participant outcomes. (Cost range: $40,000 - $45,000).

Priority 5*: Review Managed Solutions Suitability.*

Callan recommends the Board initiate an updated evaluation of the plans' target date fund glide path suitability and investigate the suitability of various managed account options. In its tips to plan fiduciaries on monitoring and evaluating target date funds, the Department of Labor recommended that DC plan sponsors establish a periodic process for the review of the plan's target date fund. Meanwhile, managed accounts increasingly are being viewed as a complement to target date funds—serving as a more tailored opt-in (as opposed to default) solution that appeals to older workers. The Board has expressed an interest in understanding the merits of managed accounts in helping participants diversify their investments during the accumulation phase. (Cost range: $45,000 to $52,000).

Priority 6*: Review Retirement Income Products Suitability.*

The ARM Board expressed an interest in facilitating better utilization by plan participants of their accumulated defined contribution plan assets in retirement. Consistent with this objective, Callan recommends an evaluation of the suitability, costs and effectiveness of various in-plan products, including annuities and other potential retirement income products (such as "Financial Engines"). (Cost range: $40,000 to $50,000).

These projects will be coordinated by ARMB's primary consulting team, Paul Erlendson and Steve Center, working closely with Lori Lucas, who heads Callan's Defined Contribution Practice. Each project will be conducted by specialty consultants working within Lori's group. The preliminary results of each project will be peer reviewed within Callan by our Defined Contribution Committee, a group of senior consultants, who will provide qualitative oversight and feedback to the project team. Following the internal peer review, a draft report will be presented to appropriate DOR and DOA staff for comment before the final report will be presented to the ARM Board by Lori, Paul and Steve.

We are willing to discuss any modifications or adjustments that you believe will result in a better consulting service to meet the needs of the Alaska Retirement Management Board in its fiduciary oversight of these important participant pools of retirement capital.

Respectfully,

Lori Lucas, CFA	Paul Erlendson	Steve Center, CFA
Executive Vice President	Senior Vice President	Senior Vice President

C: Shane Carlson, CAIA, CFA
Callan Compliance

ALASKA RETIREMENT MANAGEMENT BOARD
M E M O R A N D U M

To: ARMB Trustees
From: Judy Hall
Date: February 5, 2016
Subject: Financial Disclosures

As required by AS 37.10.230 and Alaska Retirement Management Board policy relating to investment conduct and reporting, trustees and staff must disclose certain financial interests. We are hereby submitting to you a list of disclosures for individual transactions made by trustees and staff.

Name	Position Title	Disclosure Type	Disclosure Date
Scott Jones	Comptroller	Equities	12/28/15 1/20/16
Victor Djajalie	Investment Officer	Equities	1/20/16
Gary Bader	Chief Investment Officer	Equities	1/4/16 1/11/16

Alaska Retirement Management Board
2016 Meeting Calendar

February 17 – Wednesday	Committee Meetings: Actuarial Audit Defined Contribution Plan Legislative
February 18-19 Thursday-Friday Juneau	*Review Capital Market Assumptions *Manager Presentations
April 20 – Wednesday	Committee Meetings: Actuarial Committee
April 21-22 Thursday-Friday Anchorage	*Adopt Asset Allocation *Performance Measurement – 4th Quarter *Buck Consulting Actuary Report *GRS Actuary Certification *Review Private Equity Annual Plan *Manager Presentations
June 22 – Wednesday	Committee Meetings: Actuarial Audit
June 23-24 Thursday-Friday Anchorage	*Final Actuary Report/Adopt Valuation *Performance Measurement – 1st Quarter *Manager Presentations
September 28 – Wednesday	Committee Meetings: Actuarial Audit Budget Salary Review
September 29-30 Thursday-Friday Fairbanks	*Audit Results/Assets – KPMG *Approve Budget *Performance Measurement – 2nd Quarter *Real Estate Annual Plan *Real Estate Evaluation – Townsend Group *Manager Presentations
October ____	Education Conference
October/November	Audit Committee
December 7 – Wednesday	Committee Meetings: Audit Legislative
December 8-9 Thursday-Friday Anchorage	Audit Report - KPMG Performance Measurement – 3rd Quarter Manager Review (Questionnaire) Private Equity Review *Manager Presentations

To: Alaska Retirement Management Board Trustees and
Other Fiduciaries of the State of Alaska Retirement Systems

My term of service ends this spring and I want to record a number of observations and warnings on where I see the state's retirement systems heading. Of particular concern to me is the state's position regarding GASB 68 reporting that denies legal liability for state assistance; and a reported comment by state officials at a recent meeting changing statutory language from "shall" to "may" in AS14.25.085 and AS 39.35.255.

As you know, as a public member of the ARMB, I have been a strong advocate of funding to retire the unfunded liabilities of the Public Employees' Retirement System (PERS) and the Teachers' Retirement System (TRS). I view the unfunded liability as back pay – that portion of compensation not paid in cash but a promise to fund into retirement. The unfunded liability is something that belongs to each and everyone one of us across the state. It should be retired at the least possible cost to all including the state itself.

The state's responsibility as sponsor and administrator of the pension systems cannot be denied. The rule should be that once rates are paid you can't go back for more. Municipalities operate on tight budgets.

When going from a defined benefit plan to a defined contribution plan for new employees, a strong negotiated plan was put in place to retire the unfunded liability in 25 years. I think this came as a great relief to the ARMB members. It certainly did to me, and if followed without the series of efforts to change amortization schedules and lower state assistance funding we would have been well on the way to retiring the unfunded liability. It is unfortunate that this occurred during years the state enjoyed large surpluses. That plan committed the municipalities to pay the rates set at 22% for PERS and at 12.56% for TRS and the state would (shall) pay as state assistance the difference between these rates and the actuarially required contribution rates (ARC). With the statutory changes to the amortization schedule and percent of pay, that negotiated deal has fallen apart. The vast majority of municipalities continued their contributions when a case could have been made to reduce their rates as normal cost has dropped. The municipalities have not sought that.

Our meeting schedule is such that we have not always received the Fiscal Year End June 30 financials. To capture the long range picture, I have received the statements and prepared several summaries which I think are informative. You should or will have them. They are as follows, with some comments on each:

1. **Summary statement of PERS funding results and unfunded liability balances.** This schedule shows over time how important state assistance is, being 37% of contributions. Only with state assistance has there been a near balance of contribution inflow with benefit outflow. With benefits continuing to accrue, contributions should have been much larger than outflow. This would have occurred on level dollar.

2. **Summary statement of TRS funding results and unfunded liability balances.** Here the importance of state assistance is many times what it is for PERS: 73% of contributions. This reflects the long standing history of state funding of education.

3. **Summary of annual state assistance contributions and unfunded liability balances.** This shows that between PERS and TRS the allocation of state assistance has not been based on relative unfunded liability balances but rather weighted to TRS. This reduces the state unfunded liability exposure for the TRS unfunded liability, leaving more unfunded liability in PERS for the municipalities to bear, and under the state's interpretation of GASB 68, for the municipalities to report on their financial statements. The effect of the percent of pay method on the building of state assistance toward the increased 2012-2014 amounts is clear. (You will remember it was headed toward $1 billion and later $1.3 billion annually).

4. **History of contribution rates.** This shows strides in employer contributions reducing normal cost. As a result, more of the 22% and 12.56% contributions apply to the unfunded liability. Increases in the state assistance rates reflect percent of pay and actuarial variations which had to be expected.

5. **Historical investment returns.** The nine-year sum of actual PERS investment returns ending June 30, 2015 is 62.66% or an average of 6.96 %. A more sophisticated calculation is 6.14 %. The difference versus the 8 % assumed rate of return is in excess of $2 billion.

<u>Unfortunately the unfunded liability was not adequately addressed in the number of years that the state enjoyed large surpluses.</u> Rather what has occurred has been a consistent effort to delay and reduce state assistance contributions by a series of proposals including:

1. Applying percent of pay method to both defined benefit and defined contribution payrolls. This results in back loading the contributions and losing the compounding power of investment earnings. No one can tell me level pay is frontloading!

2. Calculating a new 25 year roll-forward of the unfunded liability every year – resulting in an unfunded liability that is never amortized.

3. Creating a reserve account which might be accessed if needed in the future – but the reserve account would not have counted in calculating the funding ratio of the plans.

4. Depositing $2 billion to the trusts to reduce state assistance – but in the form of a loan to be repaid later.

5. Continuing to refinance the debt; the problem here is that we are dealing with back pay. There is no house or asset that may be increasing in value.

6. Extending the amortization period to 2076, at a cost of approximately $30 billion in additional contributions over time.

7. Tacking a nine-year extension of the amortization period onto Governor Parnell's 2014 bill appropriating $3 billion to the retirement systems. Governor Parnell's plan was to get state assistance stabilized at $500 million per year. At that level I believe there was no need for any extension. Now with a longer amortization period, the annual state assistance payments will be reduced substantially, but ultimately the state and municipalities will pay far more. I believe this will show dramatically in the June 30, 2015 actuary report.

My further observations have been:

1. At critical times information to legislators has been incomplete, presenting just the front end of the information; not including the long term impacts on their constituents.

2. There has been a clear, continuing effort to shift responsibility for the unfunded liability to the municipalities.

3. Legislation is introduced or amended late in the legislative session, often without opportunity for involvement from ARMB or other interested parties.

So, where are we now? As Board members and fiduciaries, the question is: are we not being presented with a serious threat to the security of benefits for retirees.

GASB 68 has forced the issue. The state now disclaims legal responsibility for state assistance. The 2015 CAFR report labels the pension unfunded liability an "employer's liability." It is reported that at a recent meeting with the Alaska Municipal League, state officials said that with a one word change from "shall to may," the state will be clear to disclaim legal liability for state assistance. It would follow that the municipalities have it all.

We already have a number of municipalities not reporting and paying into the system. Given the importance of state assistance (having been 73 % TRS contributions and 37 % of PERS) can anyone see the municipalities paying it? Municipalities can declare bankruptcy!!!

I believe the state must be asked the question: where is the state going with respect to continuing to meet its statutory responsibility for the state assistance contributions?

I hope the ARMB gets a clear and lasting explanation of the state's obligations to the retirement systems at the February meeting. In my view, a shifting of responsibility for payment of the unfunded liability from the strong finances of the state to the weaker municipalities could lead to a claim of diminution of benefits. That is a case the beneficiaries would have to bring, and a case I believe the state would lose.

The ARMB may very well need to ask our counsel for a legal opinion. I hope we do that. I am reminded that we are fiduciaries for the members.

Sorry for the length here but this is serious stuff.

The summaries I have prepared will be included in the packets for the February meeting. I hope you find them as informative as I have. I understand others have asked for this information too.

Best regards to all.

Martin Pihl
January, 2016

State of Alaska

Public Employees' Retirement System (PERS)

Fund Summary ($000)

		Contributions					Expenditures							
FYE	**Beginning Fund Balance**	**Employer and Employee**	**Other**	**Subtotal**	**State Assistance**	**Total**	**Benefits**	**Refunds**	**Admin and Investment Expense**	**Total**	**Net Investment Income (Loss)**	**Transfer (to) From TRS**	**Ending Fund Balance**	**Unfunded Liability Balance**
6/30/2007	9,372,663			-	18,582						1,753,857		**10,911,613**	4,669,973
6/30/2008	10,911,613			-	185,000						(316,104)		**10,777,964**	4,848,035
6/30/2009	10,777,764	486,770	35	**486,805**	241,600	**728,405**	713,586	11,529	35,987	**761,102**	(2,166,837)	(64,894)	**8,513,336**	6,336,393
6/30/2010	8,513,336	517,754	105	**517,859**	107,953	**625,812**	778,101	9,151	32,486	**819,738**	896,246		**9,215,656**	6,975,028
6/30/2011*	9,215,656	555,745	363,292	**919,037**	165,841	**1,084,878**	846,641	11,936	36,847	**895,424**	1,993,605		**11,398,715**	6,926,776
6/30/2012	11,398,715	503,630	40,467	**544,097**	242,609	**786,706**	893,260	10,917	38,213	**942,390**	56,799		**11,299,830**	7,460,331
6/30/2013	11,299,832	515,558	10,226	**525,784**	307,302	**833,086**	947,542	10,929	39,881	**998,352**	1,417,059		**12,551,625**	7,830,133
6/30/2014	12,551,625	517,386	17,414	**534,800**	312,473	**847,273**	999,109	11,420	50,251	**1,060,780**	2,330,622		**14,668,740**	6,252,774
Subtotal 09-14		**3,096,843**	**431,539**	**3,528,382**	**1,377,778**	**4,906,160**	**5,178,239**	**65,882**	**233,665**	**5,477,786**	**4,527,494**	**(64,894)**		
6/30/2015	14,668,741	504,524	41,855	**546,379**	1,000,000	1,546,379	1,046,418	10,053	54,953		494,992		15,598,688	
Total - 7 Yrs 09-15		**3,601,367**	**473,394**	**4,074,761**	**2,377,778**	**6,452,539**	**6,224,657**	**75,935**	**288,618**	**5,477,786**	**5,022,486**	**(64,894)**		
		55.8%			36.9%	100%								

* Other Includes Mercer Settlement

State of Alaska														
Teachers' Retirement System (TRS)														
Fund Summary ($000)														
	Contributions						Expenditures							
FYE	Beginning Fund Balance	Employer and Employee	Other	Subtotal	State Assistance	Total	Benefits	Refunds	Admin and Investment Expense	Total	Net Investment Income (Loss)	Transfer (to) From PERS	Ending Fund Balance	Unfunded Liability Balance
6/30/2007	4,293,550			-		-				-	791,040		**5,084,590**	2,765,004
6/30/2008	4,882,572			-	269,992					-	(135,753)		**4,746,819**	2,682,202
6/30/2009	4,718,442	144,124	4	144,128	206,300	**350,428**	416,640	3,202	15,539	**435,381**	(986,011)	64,894	**3,712,372**	3,374,556
6/30/2010	3,712,372	140,403	8	140,411	173,462	**313,873**	429,492	2,142	13,604	**445,238**	401,829		**3,982,836**	4,108,660
6/30/2011*	3,982,836	158,336	45,566	203,902	190,850	**394,752**	472,430	2,798	15,568	**490,796**	846,483		**4,733,275**	4,190,858
6/30/2012	4,733,277	128,436	15,830	144,266	234,517	**378,783**	467,235	2,637	15,852	**485,724**	23,580		**4,649,916**	4,477,290
6/30/2013	4,649,915	124,678	4,094	128,772	302,777	**431,549**	496,173	2,667	16,232	**515,072**	596,792		**5,163,184**	4,618,031
6/30/2014	5,163,183	113,234	6,254	119,488	316,847	**436,335**	511,198	2,387	19,546	**533,131**	969,062		**6,035,449**	3,821,758
Subtotal 09-14		**809,211**	**71,756**	**880,967**	**1,424,753**	**2,305,720**	**2,793,168**	**15,833**	**96,341**	**2,905,342**	**1,851,735**	**64,894**		
6/30/2015	6,035,450	108,244	13,790	122,034	2,000,000	2,122,034	528,009	2,191	21,800	552,000	243,092		7,848,577	
Total - 7 Years 09-15		**917,455**	**85,546**	**1,003,002**	**3,424,753**	**4,427,754**	**3,321,177**	**18,024**	**118,141**	**3,457,342**	**2,094,827**	**64,894**		
		20.7%			**77.3%**	**100%**								

*Other Includes Mercer Settlement

State of Alaska

State Assistance Contributions to PERS & TRS Retirement Systems and

Unfunded Liability Balances at End of Each Fiscal Year ($000)

		PERS		**TRS**	
Fiscal Year Ended		**State Assistance Contribution**	**Unfunded Liability**	**State Assistance Contribution**	**Unfunded Liability**
6/30/2005	*Pensions*		2,428,778		1,693,943
	Health Care		1,973,144		845,674
	Totals		**4,401,922**		**2,539,617**
6/30/2006	*Pensions*	11,045	1,762,978		1,562,402
	Health Care	7,382	3,584,527		1,525,749
	Totals	**18,427**	**5,347,505**		**3,088,151**
6/30/2007	*Pensions*	10,898	1,923,320		1,601,581
	Health Care	7,684	2,746,653		1,163,423
	Totals	**18,582**	**4,669,973**		**2,765,004**
6/30/2008	*Pensions*	50,875	1,943,510	111,237	1,561,568
	Health Care	134,125	2,904,525	158,755	1,120,634
	Totals	**185,000**	**4,848,035**	**269,992**	**2,682,202**
6/30/2009	*Pensions*	79,680	3,593,558	104,423	2,348,268
	Health Care	161,920	2,742,835	101,877	1,026,288
	Totals	**241,600**	**6,336,393**	**206,300**	**3,374,556**
6/30/2010	*Pensions*	44,460	3,901,840	100,475	2,747,113
	Health Care	63,493	3,073,188	72,987	1,361,547
	Totals	**107,953**	**6,975,028**	**173,462**	**4,108,660**
6/30/2011	*Pensions*	65,187	4,156,898	109,343	2,850,155
	Health Care	100,654	2,769,878	81,507	1,340,703
	Totals	**165,841**	**6,926,776**	**190,850**	**4,190,858**
6/30/2012	*Pensions*	130,912	4,898,523	157,387	3,204,783
	Health Care	111,697	2,561,808	77,130	1,272,507
	Totals	**242,609**	**7,460,331**	**234,517**	**4,477,290**
6/30/2013	*Pensions*	164,087	5,435,132	196,945	3,419,240
	Health Care	143,215	2,395,001	105,832	1,198,791
	Totals	**307,302**	**7,830,133**	**302,777**	**4,618,031**
6/30/2014	*Pensions*	176,794	5,216,321	208,891	3,150,223
	Health Care	135,679	1,036,453	107,956	671,535
	Totals	**312,473**	**6,252,774**	**316,847**	**3,821,758**
6/30/2015	*Pensions*	1,000,000		1,662,700	
	Health Care			337,300	
	Totals	**1,000,000**		**2,000,000**	
2006-2015	*Pensions*	**1,733,938**		**2,651,401**	
10 Yr Totals	*Health Care*	**865,849**		**1,043,344**	
	Totals	**2,599,787**		**3,694,745**	
Forward per June 2014 Actuary Report					
Pensions & Health Combined					
2016		127,000		130,000	
2017		79,000		110,000	
2018		82,000		116,000	
2039	Growing to	276,000		188,000	

State of Alaska

History of Contributions Rates

(On Percent of Pay Basis From Actuary Reports)

Fiscal Year	Payroll	PERS Normal Cost: Pensions	PERS Normal Cost: Retiree Medical	PERS Portion Employer Rate to Amortize	PERS Employer Statutory Rate	PERS State Assistance to Amortize Unfunded	PERS Total Actuarial Required Contribution Rate ARC	TRS Normal Cost: Pensions	TRS Normal Cost: Retiree Medical	TRS Portion Employer Rate to Amortize	TRS Employer Statutory Rate	TRS State Assistance to Amortize Unfunded	TRS Total Actuarial Required Contribution Rate ARC
2008	DB	4.57%	9.91%	7.52%	22.00%	10.51%	32.51%	3.96%	8.60%		12.56%	29.70%	42.26%
	DC	5.67%	3.99%	12.34%	22.00%	10.51%	32.51%	7.56%	3.99%	1.01%	12.56%	29.70%	42.26%
2009	DB				22.00%	13.22%	35.22%				12.56%	31.61%	44.17%
	DC				22.00%	13.22%	35.22%				12.56%	31.61%	44.17%
2010	DB				22.00%	5.65%	27.65%				12.56%	26.97%	39.53%
	DC				22.00%	5.65%	27.65%				12.56%	26.97%	39.53%
2011	DB				22.00%	5.96%	27.96%				12.56%	26.00%	38.56%
	DC				22.00%	5.96%	27.96%				12.56%	26.00%	38.56%
2012	DB	3.04%	6.93%	12.03%	22.00%	11.49%	33.49%	2.81%	4.83%	4.92%	12.56%	32.99%	45.55%
	DC	5.20%	3.51%	13.29%	22.00%	11.49%	33.49%	7.00%	3.58%	1.98%	12.56%	32.99%	45.55%
2013	DB	3.25%	7.79%	10.96%	22.00%	13.84%	35.84%	3.82%	5.25%	3.49%	12.56%	40.11%	52.67%
	DC	5.28%	3.50%	13.22%	22.00%	13.84%	35.84%	7.04%	3.57%	1.95%	12.56%	40.11%	52.67%
2014	DB	3.82%	7.19%	10.99%	22.00%	13.68%	35.68%	3.51%	4.96%	4.09%	12.56%	41.06%	53.62%
	DC	5.35%	3.49%	13.16%	22.00%	13.68%	35.68%	7.05%	3.54%	1.97%	12.56%	41.06%	53.62%
2015	DB	3.72%	6.08%	12.20%	22.00%	14.82%	36.82%	3.80%	4.82%	3.94%	12.56%	45.12%	57.68%
	DC	5.37%	4.39%	12.24%	22.00%	14.82%	36.82%	7.05%	4.72%	0.79%	12.56%	45.12%	57.68%
2016	DB	5.32%	5.93%	10.75%	22.00%	5.19%	27.19%	3.39%	4.32%	4.85%	12.56%	16.71%	29.27%
	DC	5.37%	4.36%	12.27%	22.00%	5.19%	27.19%	7.05%	4.63%	0.88%	12.56%	16.71%	29.27%
2017	DB	5.72%	5.05%	11.23%	22.00%	4.14%	26.14%	4.19%	3.76%	4.61%	12.56%	15.46%	28.02%
	DC	5.30%	4.00%	12.70%	22.00%	4.14%	26.14%	7.07%	3.89%	1.60%	12.56%	15.46%	28.02%