

State of Alaska
ALASKA RETIREMENT MANAGEMENT BOARD
MEETING

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

MINUTES OF
December 4-5, 2014

Thursday, December 4, 2014

CALL TO ORDER

CHAIR GAIL SCHUBERT called the meeting of the Alaska Retirement Management Board (ARMB) to order at 9:01 a.m.

ROLL CALL

Six 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 (arrived late)
Tom Brice
Sandi Ryan
Martin Pihl

Investment Advisory Council Members Present

Dr. William Jennings
Dr. Jerrold Mitchell

Investment Advisory Council Members Absent

Robert Shaw

Department of Revenue Staff Present

Gary M. Bader, Chief Investment Officer
Scott Jones, State Comptroller
Pamela Leary, Director, Treasury Division
Shane Carson, State Investment Officer
Zach Hanna, State Investment Officer
Bob Mitchell, State Investment Officer

Judy Hall, Board Liaison

Department of Administration Staff Present

Kevin Worley, Chief Financial Officer, Division of Retirement & Benefits (DRB)

Jim Puckett, (December 5th only), Chief Operating Officer, Division of Retirement & Benefits

Consultants, Invited Participants, and Others Present

John Boucher, Office of Management & Budget

Steve Harding, Anodos Advisors, LLC

Ryan Wolfshorndl, Anodos Advisors, LLC

Josh Yager, Anodos Advisors, LLC

David Slishinsky, Buck Consultants

Dana Brown, Callan Associates, Inc.

Paul Erlendson, Callan Associates, Inc.

Gary Robertson, Callan Associates, Inc.

Stuart Goering, Department of Law, Assistant Attorney General

Dan McLaughlin, KKR

Chris Sheldon, KKR

Melissa Beedle, KPMG

Michael Hayhurst, KPMG

Devang Gambhirwala, Quantitative Management Associates

Kevin O'Rourke, Quantitative Management Associates

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.

MR. BADER requested item VIII 13F. Callan Comments be added to the agenda.

The agenda was approved as amended.

PUBLIC/MEMBER PARTICIPATION, COMMUNICATIONS, AND APPEARANCES

None

APPROVAL OF MINUTES: September 18-19, 2014

MRS. HARBO moved to approve the minutes of the September 18-19, 2014 meeting. MR. PIHL seconded the motion.

The minutes were approved.

ELECTION OF OFFICERS

MR. PIHL moved to reelect Chair Schubert, Vice Chair Trivette, and Secretary Harbo by unanimous consent. MS. RYAN seconded the motion.

There was no objection and the motion passed unanimously.

REPORTS

1. CHAIR REPORT

None

2. COMMITTEE REPORTS

A. Audit Committee

MR. PIHL reported on two meetings of the Audit Committee. The first was a telephonic meeting on November 20th reviewing the draft of the six retirement plan reports prepared by DRB. MR. PIHL noted the GASB requirements have increased work to KPMG. There has been full cooperation and no exceptions of any substantial nature were found.

The second meeting occurred on December 3rd. KPMG is very near completion of their work with still no exceptions to report. Discussions ensued regarding the finding of a consistent difference in the payroll numbers in the Buck reports versus actual payrolls provided by DRB. Buck was asked about the growth assumptions used in the 25-year projections and the potential significant impact on the PERS unfunded liability allocations using the percentage of pay method. MR. PIHL noted Buck will address these issues in front of the Board on Friday.

MR. PIHL stated further discussion occurred regarding the relationship between DRB, the actuary, and the Board, which included contract relationship, access, review of reports before finalization, and a budget line item for actuarial work. The Audit Committee has continuing concern over DRB having only one person staffed for the employer audit function. The request has been made to the Commissioner for the additional staff needed to perform employer audits. Under the expanded auditing by KPMG, employers will be audited on a regular schedule in which the frequency of every 10 years, five years, three years, or one year, will depend upon the size of the employer.

B. Legislative Committee

MR. TRIVETTE reported the Legislative Committee met on December 3rd. He noted all current Trustees were present at the meeting. He believes the Committee is on target to provide the current actuarial information in a useable format to the Legislature. A follow-up meeting may occur in mid-January.

3. RETIREMENT & BENEFITS DIVISION REPORT

A. Membership Statistics (informational)

KEVIN WORLEY, Chief Financial Officer, noted the membership statistics are included in the Board packets and new columns have been added. For PERS, Tier I, II, and III, have been separated providing a DB total distinguished from the Tier IV DC total. A TRS DB total has also been provided.

MR. TRIVETTE requested an update on the DC medical plan. MR. WORLEY noted the trust funds are set up, but the major medical plan is still in discussion.

B. Buck Consulting Invoices (informational)

MR. WORLEY noted both the regular services and the non-regular service requests to Buck are being monitored and reported as costs for the Division.

4. TREASURY DIVISION REPORT

PAMELA LEARY, Director, Treasury Division, related that with the new Administration, a new Commissioner of Revenue, RANDY HOFFBECK, has been appointed by Governor Walker. He will be starting in January. Also, a new Deputy Commissioner, JERRY BURNETT, started his position yesterday. MR. PIHL inquired about the new Deputy Commissioner's responsibilities with regard to the ARMB. MS. LEARY explained she will retain responsibility for the Board and the two Deputy Commissioners will be delegated other responsibilities.

MS. LEARY informed the second installment of one billion dollars from the constitutional budget reserve into the ARMB funds occurred on November 13th, 2014. The third and final installment is scheduled for March 10, 2015. MS. LEARY stated she is awaiting the budget request results, which will be issued on December 15th, 2014.

CHAIR SCHUBERT asked if there is a likelihood the final installment scheduled for March 10th could be postponed, given the current budget crisis. MS. LEARY stated she has not heard anything to that effect. MR. BRICE believes legislative action would be required to change the current legal statute.

5. CIO REPORT

GARY BADER, Chief Investment Officer, reviewed the CIO Report included in the Board's packet. The dates of rebalancing are listed on the summary sheet and any rebalances which occurred after November 7th will be reported at the next meeting. Several transactions have occurred in and out of the cash account with the absolute return managers as the Board-

approved strategies get funded. The specific paperwork is available to all Board members for review. The small cap and large cap futures overlay commitment of \$11 million each with State Street was renewed.

MR. BADER explained the Pyramis Global Advisors tactical bond fund was funded by drawing down small cap assets of \$40 million from Jennison, \$30 million from Luther King, and \$30 million from Lord Abbett. The MacKay Shields high yield fund was funded in the amount of \$50 million out of the bond portfolio. On November 13th, the cash account funded the Arrowstreet Capital international mandate of \$200 million, McKinley for \$100 million, SSgA Value for \$60 million, Analytic Index for \$36 million, and Analytic Buy-Write for \$4 million, SSgA Russell 200 for \$200 million, Lazard Emerging Income Fund for \$20 million. Due to the availability to invest money of certain days, some of the transactions did not take place on November 13th, but the total amount placed into the fund equals a billion dollars. The account is complicated and is available in hard copy to members, if requested.

MR. BADER reported a \$30 million commitment to Glendon Capital Management, which is a private equity fund whose managing directors have significant opportunistic distressed debt experience. MR. BADER reported an additional \$50 million commitment to the Almanac Fund, who has successfully managed funds for the ARMB since 2004. The strategy of this real estate fund is to invest at the entity level by providing growth capital to real estate operating companies. The Board Chair was notified of both investments.

MR. BADER stated that the IAC, Callan, and staff met the Tuesday before Thanksgiving to review the GEMS model, as requested by the Board at the September meeting. The GEMS model report and the report on the manager reviews will be presented at the February meeting.

MR. BADER commented on the changes in the price of oil as it affects the investments in the fund and noted staff is proposing investments with a more defensive posture. MR. BADER stated there has been a bull market for the last six years and staff believes it is wise to be positioned in a fashion to have less severe impacts if there is a market decline.

TRUSTEE PIHL asked if this is a good time to increase the allocation to real assets. MR. BADER noted real assets are more of a defense against inflation. The portfolio currently has asset groups in real assets like MLPs, which are highly dependant upon oil, and have been negatively affected in the near-term. The portfolio's allocation to REITS has recently increased. MR. BADER believes the portfolio's strategic target is good.

6. FUND FINANCIAL PRESENTATION and Cash Flow Update

State Comptroller SCOTT JONES and Chief Financial Officer of the Division of Retirement and Benefits KEVIN WORLEY presented the Fund Financial Report. MR. JONES reviewed the financial statements for the month ending October 2014. The PERS system ended with \$15.5 billion, the TRS system with \$6.8 billion, the JRS with \$169 million, the National Guard and Naval Militia with \$37.4 million, SBS with \$3.3 billion, and Deferred Comp with \$787 million, for a total of \$26.6 billion. MR. JONES stated the change in invested assets

was 2.46% year-to-date, which was mostly due to the contributions to the system. The plans were at a net investment loss through that month. All asset allocations were within the bands. MR. JONES noted for the month ending November 2014, the \$190 million worth of investment income had brought the plan into positive investment income territory for the year.

MR. WORLEY gave a supplemental report relating to cash inflows and outflows from each of the retirement plans for the four months ending October 31st. Inflows included one billion dollars into the PERS DB plan, TRS DB and healthcare plans in July, \$5.2 million appropriation into JRS, a one-time appropriation to the National Guard DB plan, and RDS rebates of \$8.7 million to the Retirement Health Care Trust, \$2.8 million to the Teachers Retirement Health Care Trust, and approximately \$24,000 to JRS.

MR. WORLEY stated the benefits paid out of each of the system per month is approximately \$56 million out of PERS DB plan, \$29 million of the PERS healthcare, \$34.7 of Teachers DB, \$9.3 million of Teachers healthcare, \$880,000 of JRS, \$15.4 million of SBS, and \$3.8 million of the Deferred Comp plan. MR. WORLEY noted separation from service and retirement comprises about 95% of the request for funds leaving PERS, TRS, DCR, SBS, and Deferred Comp.

7. PRIVATE EQUITY REVIEW

GARY ROBERTSON of Callan Associates, Inc., provided a detailed report on the private equity review. Thomson Reuters has stopped collecting data for its private equity unmanaged voluntary database benchmark and has agreed to use Cambridge Associates' database of professionally managed portfolios as the benchmark. This change has made it harder to be above median and in the upper quartile.

MR. ROBERTSON reported the funded target for private equity this year is 9% and is slightly underfunded. The total fund increased over \$3.1 billion or 17% this year. The manager distribution is approximately Abbott 45%, Pathway 45%, and 10% in-house portfolio. Blum is public stocks and will be taken out of the portfolio. MR. ROBERTSON explained the history of the portfolio with Abbott being hired in 1998, Pathway in 2002, Blum in 2005, and the in-house beginning in 2007. This has been a phenomenal year in the market with the Russell 3000 last four quarters providing 25.2% returns. He believes this is a mid/late expansion and would introduce caution now.

MR. ROBERTSON noted in the third quarter of this year, there was a big jump in the average buyout price to eleven times EBIDA or cash flow, up from six times EBIDA in June. This big increase in price is consistent with a demand push. Credit is still very easy to attain in the market. The SEC is now regulating the industry and focusing on conflicts of interest, adherence to limited partnership agreements, fundraising documentation and company valuations. This is a positive benefit for plan sponsors and the investments. Another regulatory trend that may have unintended consequences is the regulation that banks cannot loan to more than six times EBIDA, which could drive lending out of the regulated areas into private lending areas.

MR. ROBERTSON explained the private equity portfolio's changes from last year. This year, the commitments increased 12%, paid-in capital increased 9%, uncalled commitments increased 24%, portfolio distribution of \$460 million, net cash flow of \$199 million, NAV increased 7%, and the portfolio appreciated 20%. The portfolio has a total value to paid-in, TVPI, of \$1.47, which is mid second quartile of the new Cambridge benchmark, as opposed to high second quartile of the Thomson Reuters benchmark.

DR. MITCHELL asked if being in the second quartile of the Cambridge benchmark is acceptable because the benchmark is made up of a more robust group of managers. MR. ROBERTSON agreed and explained the industry has not changed, but the lens for looking at the managers has changed and it will be harder to get into top quartile managers because there are a lot fewer of them now. MR. ROBERTSON believes the portfolio's industry balance is excellent, and benchmarks well against the new tougher database.

CHAIR SCHUBERT asked if the portfolio is a mid-range funder or large funder for Abbott. MR. ROBERTSON noted Abbott has a large client in the Utah retirement system and other large separate accounts. Abbott's base is \$8 billion.

MR. ROBERTSON advised Abbott's distribution for this year was \$208 million. Pathway's total appreciation was 18% adding \$134 million to the portfolio. Pathway's TVPI is \$1.52, which is high in the upper quartile. Pathway's industry is based more on buyouts, making them more volatile in these markets. The in-house portfolio also had a total appreciation this year of 18%. The in-house net cash flow was 5%. The portfolio continues to be built and the increase in NAV was 13%. The in-house TVPI is \$1.29, which is just under the median.

DR. MITCHELL asked if there are managers the ARMB should be reviewing who are doing better than Abbott and Pathway. MR. ROBERTSON advised not to change Abbott and Pathway, but he believes there might be one other interesting candidate to consider. MR. TRIVETTE asked if the ARMB should be moving away from separate accounts and to rethink the strategy with P/E. MR. ROBERTSON does not believe the ARMB should be moving away from separate accounts. This is a capital constrained industry and completely commercial. The institutional portfolio cannot be too tactical in its timing. He believes the portfolio is excellently diversified and the strategy is continually being monitored.

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

8. PERFORMANCE MEASUREMENT - 3RD QUARTER

PAUL ERLENDSON and DANA BROWN of Callan Associates, Inc., provided a detailed report on the third quarter performance measurement. MR. ERLENDSON commented the last several years since the end of the global financial crisis have been extraordinary in terms of availability of capital, opportunities producing tremendous returns, equity-like exposures, and bond returns driven by decreasing interest rates. The fund is positioned in an overall conservative risk adverse manner. This is shown in the strategic design of the portfolio which

is intended to participate in the markets while being mindful it is inevitable that things cannot just continue to grow. The portfolio is designed to protect in those kinds of environments.

MR. ERLENDSON explained inflation has been very low on a historical basis and there are new real asset strategies that did not exist 10 years ago that have been brought to market to help mitigate the anticipated reversion to the mean. These strategies include commodity exposure, real estate exposure, and TIPS, inflation protected bonds. A significant part of inflation is food prices and energy prices, and energy prices are down dramatically, which provides an increase in disposable income that can be deployed elsewhere in the economy. There was a downdraft in the U.S. economy in 2008, but there has been a consistent increase in GDP growth since then. The unemployment rate is also getting better and was down to 5.9% as of the end of September. The raw data shows a recovery taking place within the U.S., which is unlike other parts of the world.

Through the 14th of November, the S&P 500 has returned 12.3%, Russell 2000 at 2%, EAFE at -2.9%, and emerging markets at 1.4%. The ARMB has structured the domestic equity portfolio to be very large cap in nature and so has participated strongly in these recoveries. The P/E ratios of large cap companies have been increasing, but are still close to the long-term average. The commodity-based sector, including energy, utilities, industrials, and materials have not participated well during the last quarter. Energy was the worse performing sector, as oil prices dropped more than 20% between August 1st and September 30th.

One of the impacts that is important as an investor outside of the U.S., is the impact of currency. The dollar has been strengthening and the currency effect has been a real detractor in terms of a U.S. investor's valuation outside the U.S. This is part of the cycle of investing. MR. BRICE asked if shifting away from global equity toward domestic equity would be a good strategy given the currency exchanges. MR. ERLENDSON believes the current broad range of allocations established, which include diversification and target weights, is an appropriate current policy.

MR. BRICE asked if the currency effect is not enough of a factor to consider a shift in the portfolio. MR. BADER advised the ARMB historically has allowed investment managers to decide when they think they can make a currency bet. Staff has not found any currency managers with robust enough returns to warrant an overlay on the portfolio.

MR. ERLENDSON explained the importance of the treasury curve. During the third quarter, interest rates for shorter maturities have increased slightly, but on the longer end, the interest rates have decreased, which means the long bonds have gone up in value because they are worth more as interest rates come down. MR. ERLENDSON explained interest rates do not go up and down by the same amount across the entire maturity spectrum. Flattening of the curve occurs when one end is going up and the other end is going down. As the yield curve flattens, there are lower expected rates of growth going forward.

MR. ERLENDSON noted public pension plans have decreased their exposure to fixed income to about 28% versus about 40% 20 years ago. The composition of the bond portfolio has gotten riskier with increased high yield bonds and additional currency risk. The real estate

portfolio includes both direct investment in properties and REITs. Over the last three years, private real estate, U.S. denominated REITs, and global REITs, have provided positive returns in the mid-teens. This has been a very constructive part of the overall portfolio diversification.

MR. ERLENDSON reviewed the composition and performance of PERS and noted the allocations of the other plans are essentially identical. Approximately 2/3 of the assets are allocated to return-seeking strategies and approximately 1/3 of the assets are allocated to risk mitigating strategies. The actual asset allocation has been tightly managed and remains very close to the target asset allocation. Compared to other public funds' allocations as of September 30th, the portfolio is in the bottom 25% of exposure to domestic equities, in the top 25% of exposure to domestic and global equities, in the top 25% of exposure in alternatives, including private equity, and in the top 10% of exposure in real assets.

MR. BROWN continued the presentation and stated most of the portfolio's asset classes have done very well relative to their benchmarks over the last year, with the exception of the conservative structure of domestic equity. The portfolio has had strong absolute performance and strong relative performance over the last year and last three years. The portfolio has outperformed the target index on an overall basis for five-year, 10-year, and inception, but is still trailing in the seven-year period.

MR. BROWN provided an update regarding the fixed income manager Mondrian. He informed their recent underperformance is consistent with their philosophy, process, and focus on underlying fundamentals, while maintaining a more risk-averse orientation. Over the five-year, 10-year, and since inception, Mondrian has performed well and MR. BROWN does not see any particular issue with them. The small cap portfolio is doing very well and has beat the benchmark overall in seven of the last eight quarters. Two microcap managers have trailed, but that is to be expected because microcap stocks have underperformed small cap. The manager Luther King is being watched closely because of their underperformance due to an overweight security selection in the energy sector. International equity is slightly behind the benchmark for the quarter, but ahead in all other periods. Both emerging market managers have performed well relative to their benchmark and peers.

MR. BROWN explained the SSgA Treasury Money Market Fund is not shown in the stoplight chart because the difference between bottom quartile and top quartile in the peer group is four basis points, which would unfairly penalize SSgA. It will be added back when a more normal environment returns for treasury money market funds. MR. ERLENDSON added the stoplight chart is a consolidated and useful way to give information, but in the case of treasury money market funds, it is misleading.

MR. BADER commented the SSgA Treasury Money Market Fund was provided as an option in response to participants wanting a safe harbor for their funds during 2008. The investment environment has changed in these several years and MR. BADER believes some of the participants are still in the SSgA fund because of inertia and they are essentially earning nothing on their investment. MR. BADER believes participants need to be educated on the true cost of keeping their funds in an investment option like this over a long period of time.

MR. TRIVETTE expressed his appreciation for the explanation of the investment performance charts and believes it is critical plan members have perspective on their investments. He requested the issue be placed on the agenda to work on.

9. KPMG - Audit Report

CHAIR SCHUBERT introduced MICHAEL HAYHURST, Engagement Audit Partner, and MELISSA BEEDLE, Audit Senior Manager, from KPMG. MR. HAYHURST informed KPMG met with the Audit Committee for the audits completed on the Treasury Division and for the system plans. He summarized the key points of the audit status and areas of interest, provided a brief update from an accounting standpoint, then reviewed next steps and items in the appendices.

MR. HAYHURST advised KPMG has issued clean opinions on the invested assets for the retirement systems, as well as the Treasury Division invested assets under the investment authority of the Commissioner of Revenue. KPMG is in the process of finalizing and expects to issue shortly the clean opinions on PERS, TRS, JRS, NGNMRS, DBS, and DC plans. New requirements for census data testing at employer sites were required this year in implementing GASB 67. These will also be required next year in GASB 68. MR. HAYHURST stated KPMG had an amazing amount of support from the state and employers regarding the census testing efforts.

MR. HAYHURST reported there were no deficiencies in internal controls identified that especially would rise to the level of a material weakness or a significant deficiency. The consistent year-over-year differential related to the valuation of the alternative investments for the lag between year-end and the period used by the managers for the last valuation date was the only uncorrected misstatement, which is assessed each year, and found not to be material. The audit showed no noted concern, no significant related party transactions to be disclosed, nor litigation claims or assessments, nor legal acts or frauds identified, nor noncompliance with laws or regulations.

MR. HAYHURST stated that KPMG is required to review the Comprehensive Annual Financial Report (CAFR) when it is issued for PERS and TRS to ensure the information is materially consistent with the audited financials. KPMB is in the process of completing the GASB 67 required consultation process with their national office, as it relates to the implementation of GASB 67. This should be completed by the end of the week.

KPMG also reviewed the actuary report and concluded the assumptions and methodologies used were reasonable under appropriate actuary methods. During the census testing, 990 employees were reviewed. There were some exceptions, but no systemic issues were identified. There was one recalculated pensionable wage difference in this review, which was fairly small.

MR. TRIVETTE expressed his appreciation to MR. HAYHURST for making this process better for the whole plan. MR. PIHL complemented MR. HAYHURST and KPMG for their complicated audit work.

CHAIR SCHUBERT recessed the meeting from 11:45 a.m. to 1:30 p.m.

10. MIDDLE MARKET LENDING

CHAIR SCHUBERT introduced DAN MCLAUGHLIN and ERIC FALK from Kohlberg Kravis and Roberts (KKR) to give a presentation on middle market direct lending. MR. MCLAUGHLIN noted CHRIS SHELDON was called to London and is not present today. MR. MCLAUGHLIN expressed his appreciation to the Board for the continued investment relationship with KKR.

KKR has been in the investment business for about 40 years, with the majority of that time spent in private equity. There are over 1,000 employees around the world. The credit business was built in 2004 and is approximately \$30 billion of the firm's \$100 billion assets. The primary offices of operation for KKR's credit business are San Francisco, New York, and London. Those are the critical markets for the direct lending strategy. The majority of the transactions occur in North America, with a smaller extent in Europe. MR. MCLAUGHLIN informed KKR is its own largest investor, putting the firm's and employees' capital alongside the limited partners. This is good incentive and good alignment.

MR. FALK explained KKR's four critical components of their investing business, sourcing an investment idea, evaluating the investment idea, structuring the investment, and managing the risk of the investment and the portfolio of investments. The team of investment professionals is global and consists of approximately 30 people, including credit experts, industry research analysts, and banking originators called Capital Solutions Group.

MR. FALK advised the founders of KKR believed a critical part to investing wisely is creating an excellent decision-making process by providing incentives for people to work together who are in different parts of the company. MR. FALK reviewed the market opportunity, why it exists, and how to address the opportunity. The U.S. middle market historically has been one of the biggest growth drivers. Much of the debt capital lent into the middle market before the 2008 crisis came from hedge funds, commercial banks, and collateralized loan obligations (CLO). After the crisis, regulation has become a big detractor for banks lending to the middle market. Hedge funds have also retreated from middle market lending.

KKR believes this secular shift in supply of capital has created a huge opportunity in this middle market, which are companies that have \$100 million or less in earnings, and a value of a billion dollars or less. KKR focuses on the larger middle market space with companies who have between \$25 million and \$100 million in earnings. KKR believes they can realize synergies from working with other areas of KKR, particularly insights from the credit business in getting a detailed understanding of how the company works.

MR. FALK reviewed the process of two recent transactions, one with Sportsman's Warehouse and one with AmTech International. He discussed the companies' backgrounds and reasons for their interesting return profiles. Loans issued for direct lending are made on a floating rate basis and are structured with a minimum rate of LIBOR. The structures of the deals are privately negotiated, which provide covenants and enhancements to protect the principal.

MR. ERLENDSON asked if KKR direct lending is ever involved in situations where KKR Private Equity is the equity owner. MR. FALK noted KKR direct lending does not participate as a bilateral lender to KKR Private Equity. MR. ERLENDSON asked what investor protections allow for recouping of assets if there is a default. MR. FALK explained KKR is lending senior secured and takes security over all the tangible assets in the business. The structure of the actual agreement contains rights, including foreclosure rights, renegotiating rights, and the right to divert cash flow to repay the loan.

DR. MITCHELL asked if there are more than enough deals to utilize all the funds in the strategy or if money is kept in reserve until appropriate transactions can be found. MR. FALK stated as with any market, there are times with more deals and times with fewer deals. He believes the macro environment has a tremendous number of opportunities and KKR is well suited to finding and evaluating these deals. There is also less competition in the larger middle market space. MR. FALK showed the statistics and sector diversification from the first lending fund. The expected cash-on-cash return is 11% to 14% with up to two-times leverage. The second fund will be positioned similarly.

MR. PIHL requested an explanation of the fee structure. MR. MCLAUGHLIN explained the manager fee on invested capital is 1.25%, and in addition, there is a 15% carry performance fee over an 8% preferred return. MR. MCLAUGHLIN gave the example if there was a 10% return, KKR would get 15% of that 10%, plus the 1.25% management fee.

MR. BRICE asked what type of economic environment or business cycle would be a damaging to this strategy. MR. FALK noted a prolonged recession would be the most damaging economic environment for the portfolio. A slow growth environment is very good for this portfolio because it is good for middle market companies. MR. FALK believes the more likely risks in the portfolio are idiosyncratic risks for the different companies. KKR is very comfortable taking these risks because they have done their work to place structural and analysis mitigations within the individual deals and they have a good process history.

MR. BRICE requested KKR's opinion on how the national economy will affect their strategy. MR. FALK believes over the past few years, the market performance and economic performance needs to be disassociated. The credit market performance has been driven by the interest rate environment. He believes there will be a mean reversion and capital will flow out of the liquid credit markets. MR. FALK thinks there will be a more normal type of credit cycle in the next term with specific industries with heightened risk. He believes it is possible to look forward two to three years and understand what a company's cash flow is going to be in order to repay the loan.

MR. TRIVETTE asked if there were any defaults in the first fund, and requested a list of corporations who were lent to in the first fund. MR. FALK noted there has not been a default since the last reported period, but there is one company that is like to report as a default. It is not a large position and KKR is enacting all of their rights. KKR believes they will end up with a strong recovery after some time. MR. FALK stated a list of assets could be provided, but he does not have a list with him. There have been about 40 companies lent to and about 11 have been repaid. Some of the companies include, Things Remembered, Back Office Associates, Sportsman's Warehouse, and Asset Acceptance Corporation. MR. MCLAUGHLIN noted the second fund currently has seven investments.

11. MARKET PARTICIPATION STRATEGY (MPS)

CHAIR SCHUBERT introduced KEVIN O'ROURKE, Client Relations, and DEVANG GAMBHIRWALA, Portfolio Manager, of Quantitative Management Associates (QMA) to give a presentation on Market Participation Strategy (MPS). MR. O'ROURKE related that STEVE BRUNDAGE, who was at the educational conference, was unable to travel this week and sends his regards. QMA is based in New Jersey and has been managing a value equity portfolio for the ARMB for over seven years. They have been in business for nearly 40 years and manage several different aspects of assets, including asset allocation portfolios, passive equity strategies, and active equity portfolios. Some of the other public pension plans QMA works with includes the State of Hawaii, the State of New York, and the State of Florida.

MR. O'ROURKE believes the three characteristics clients would say that distinguish their firm are stability, expertise, and consistency. QMA is a wholly-owned subsidiary of Prudential. Many of the investors on the investment team have spent their entire career at QMA. The team consists of 53 investment professionals and approximately 1/3 of those have PhDs. QMA follows a very consistent and repeatable investment approach, producing a very consistent performance pattern over time.

MR. O'ROURKE explained MPS is a defensive equity strategy, which is designed to capture upside participation when the equity markets are rising and more importantly, preserve capital during times of crisis or when equity markets are falling. The strategy was launched in 1992 and currently, there is about \$480 million under management. This strategy is highly liquid and is able to provide investors with daily liquidity, in terms of investments or redemptions. MPS has a low correlation with other equity-based strategies and the key element is downside protection.

MR. TRIVETTE asked in which asset class this strategy would be placed in the overall portfolio. MR. BADER stated MPS would go into the alternative equity strategy.

MR. GAMBHIRWALA informed he is the lead portfolio manager for this strategy and has been working on the strategy since inception. He showed the return profile for MPS compared to the S&P 500, providing increasing participation as the market is going up and tailing the downside risk as the market is going down.

The MPS portfolio is comprised of 20% in call options on the S&P 500 and futures, and 80% in treasuries. Call options are a bullish view on the market and give the right, but not the obligation, to purchase the underlying S&P 500. The call options are long-term with five-year maturities that hold their value and are traded on the Chicago Board of Options Exchange (CBOE). The two key features of an option is the price at which you can participate called strike price, and the maturity. Futures may also be added opportunistically to manage equity exposure or to provide liquidity.

The portfolio primarily invests in zero coupon treasury bonds because they are simple to understand, extremely liquid, and perform well in times of crisis. The treasuries are actively managed during this low interest rate environment. The intent is not to chase after yield, but to ensure the treasuries hold value if interest rates were to go up, as is expected. Zero coupon treasuries or treasury strips is a treasury bond that has no coupon because it has been stripped away. It is bought at a discount instead of having to worry about reinvesting the coupons. The interest is implied in the price.

MR. GAMBHIRWALA explained how the MPS portfolio is actively managed to combine both the bonds and the options, which drives the attractive return profile. The exposures in both bonds and options are managed through a disciplined process around which parameters are considered in rebalancing the portfolio to lock in gains. The same disciplined process is used in times of market corrections to preserve capital.

MR. TRIVETTE requested an explanation of the fee structure. MR. GAMBHIRWALA informed the asset-based fee is 30 basis points for the first \$50 million and 25 basis points on assets above \$50 million.

DR. MITCHELL asked if MR. GAMBHIRWALA knows the percentage institutional clients place in this strategy to help reduce equity portfolio risk compared to the chart on page 20 of the presentation. MR. GAMBHIRWALA stated asset allocation is more art than science. It is difficult to give a static answer because of the different return preferences, but the range is between 10% to 20%.

DR. JENNINGS requested further information on the tactical overlay that is suggested on slide four of the presentation. MR. GAMBHIRWALA explained approximately 75% to 80% of the decisions are process driven based on trigger points. The asset allocation team's view on equities also informs decisions for managing the product.

MR. ERLENDSON asked for additional information on comparing the MPS to the S&P 500 over shorter periods of time in order to provide an appropriate way for the Board to evaluate the success of this strategy. MR. GAMBHIRWALA encouraged this strategy be evaluated over a five to seven-year market cycle to see the value of capital preservation and participation in the upside as markets go up. This strategy has a superior Sharpe ratio compared to the S&P 500 over different periods of time. Since inception, this strategy has about 61% of the volatility of the S&P 500, which smooths the return pattern over time.

DR. JENNINGS asked for a description of the option strategy used in MPS. MR. GAMBHIRWALA explained MPS is long volatility, since the call options are owned, which is different from a buy-write strategy. The strength in MPS lies in owning long-term calls and providing the downside protection in a down market. MPS would be a nice complement to a buy-write strategy.

CHAIR SCHUBERT recessed the meeting from 2:57 p.m. to 3:07 p.m.

12. PERFORMANCE CONSULTANT REVIEW

MR. BADER advised the Alaska statutes require the Board have a performance consultant review at least once every four years. With the Board's approval, staff engaged Anodos Advisors to conduct the review of the general consultant Callan Associates, and the real estate consultant Townsend Group. MR. BADER introduced STEVE HARDING, RYAN WOLFSHORNDL, and JOSH YAGER, of Anodos Advisors. MR. HARDING described how Anodos was selected to provide an independent review of the performance reporting by investment consultant Callan, who focuses on the entire portfolio, and investment consultant Townsend, who focuses on real estate within the real asset class of the portfolio.

Anodos was to determine whether the performance reports provided were sufficient and consistent with the consulting agreement, and whether the benchmarks were appropriate. Anodos was to perform a number recalculations to ensure accuracy. After the summary of recommendations from this current review, Anodos provided comment on the follow-up on the prior audit's recommendations, as it relates to the current scope of work.

MR. HARDING stated Anodos found Callan's reports conform to the performance consulting agreement and to best practices within the industry. The Townsend's reports were found to conform to the performance consulting agreement and to best practices within the industry. MR. HARDING noted Anodos performed the recalculations to test the accuracy of the performance measurements and concluded both Callan and Townsend reported accurately and consistently with best practices within the industry.

MR. HARDING described the process by which Anodos determined that the benchmarks used were reasonable and appropriate, but enhancements can be made to some of the benchmarks. At the individual manager level, eight instances were observed where the primary benchmark used to measure the manager's risk and return characteristics are not statistically representative of the manager's actual portfolio characteristic. In at least 20 instances, the benchmark being used was not sufficiently supported statistically by the information provided in the performance reports, particularly for the fixed income portfolio. It is recommended the information be included in the reports. MR. HARDING commented Callan, Townsend, and staff provided all necessary documents and interviews in a timely manner in order to comply with the four-year statutory timeframe constraint for the review.

MR. YAGER commented the 19 recommendations made in the report by Anodos are not in order of importance, nor do they have equal weighting. After the report was submitted to the ARMB, he thought it would be helpful to craft a slide, Exhibit A, which ranks the

recommendations in order of priority. The first and most important observation is within the fixed income components of the portfolio, there is fundamental data not included regarding the credit quality of the portfolio and the duration of the portfolio. There is no information on whether the bonds are high yield, high risk, or safe high credit quality, and whether the bonds are long-term or short-term bonds. The second issue within the fixed income portfolio is if the credit quality and duration of the bonds are unknown or not tracked, then a test cannot be performed on whether the benchmark is appropriately set.

MR. YAGER explained the next issue which deserves attention is data in the report to confirm or refute whether the benchmarks are right. The very granular data is found in the 400-page quarterly report provided to staff. There is statistical data available for some of the managers, but not all of the managers. The benchmarks cannot be tested without this data.

MR. YAGER believes it is important for the Board to have the conversation regarding a manager's deviation from the benchmark and at what point that benchmark is no longer appropriate. Schedule D of the report identifies managers that either deviate from the size factor or from a style factor, and also those managers whose information was not included and unable to be tested. MR. YAGER stated the report is finished, but if staff can provide the missing data, Anodos is happy to make additional observations.

MR. YAGER noted performance gross of fees is clear in the reports. He recommended including a fee schedule, as accepted by the Global Institute on Performance standards (GIP), which clearly shows the performance of the managers relative to the benchmarks on a net of fee basis. This conforms with industry best practices and consistent with Board policies and procedures. It could be issued annually. MR. YAGER discussed the Board could then have the conversation regarding the issue of managers who have higher than average fees and lower than benchmark performance, and comparing manager fees to industry fees.

MR. TRIVETTE requested Anodos provide Exhibit A, which is the slide ranking the report observations in order of priority. MR. YAGER agreed to provide it to MR. BADER and staff.

MR. YAGER noted other observations in the report. He believes the consultant presentation has a disproportionate amount of economic data included, but does not provide any recommendations or context as to how the data is being used. The performance reports should note, "This is being reported gross of fees." The manager level performance has year time periods of one, three, five, six, 10, and since inception, which is not consistent with the industry standard, nor the fund level performance of one, three, five, and seven-year. Only eight of the managers have characteristics outlined in the portfolio, including weighted median market cap, price forecast, and price to book, that is important to observe for all of the managers. An outside party, at a later date, has no record this data was reviewed for any of the other managers.

MS. ERCHINGER asked if internal portfolios are ever compared against external portfolios to try to match the fees or costs. MR. YAGER commented he has never seen internal costs allocated to the internally managed fund, because in many cases, that overhead is not able to be precisely split. In all of the cases he has been involved, the concession is the externally

managed portfolio is not free and had better outperform the internally managed portfolio, which is nearly free.

13. INVESTMENT ACTIONS

A. Municipal Taxable Bond Guidelines Resolution 2014-26

MR. BADER explained that many times there is not consistency between the classifications of some of the municipal securities, for instance one university might be titled a municipal bond and another university might be titled a corporate bond. This creates compliance issues, which are presented to the Audit Committee, that are not really compliance issues. He requested Resolution 2014-26 be approved, revising the investment guidelines for taxable income, municipal securities. The language added under Item D5. should read, "Securities issued or guaranteed by municipalities in the United States, including, but not limited to territories and commonwealths, such as securities issued by nonprofit institutions and special purpose entities, higher education institutions, healthcare organizations and project finance corporations, regardless of tax status." Item E2. has a typo and the word "rates" should read, "rated."

MRS. HARBO moved to approve Resolution 2014-26. MR. TRIVETTE seconded the motion.

A vote was taken, and the motion passed unanimously.

B. MPS Strategy

MR. BADER advised that staff is recommending the MPS Strategy to the Board to fulfill three objectives, 1) to minimize the impact of volatility on the portfolio while achieving equity-like returns, 2) to cushion against large equity draw-downs, and 3) to benefit from possible increases in interest rates. MR. BADER presented a detailed PowerPoint illustrating how MPS worked over a long period of time and explained the benefits of its process. He showed the Black-Scholes formula, discussed volatility, and the impact interest rates have on call options. MR. BADER and staff recommend the Board hire QMA to manage a \$200 million market participation strategy portfolio, subject to successful contract and fee negotiations.

MRS. HARBO moved to hire QMA to manage a \$200 million market participation strategy portfolio, subject to successful contract and fee negotiations. MR. TRIVETTE seconded the motion.

MR. TRIVETTE advised that Callan has provided a review of this strategy, which is included in the Board packet.

MS. ERCHINGER inquired how the figure of \$200 million was determined. MR. BADER stated that the number originally came from the CIO's authority to invest up to 1% of the

portfolio in strategies like this with a manager in good standing, who has been reviewed by Callan. MR. BADER believes this will complement the portfolio's other defensive strategies and favors the small bite of \$200 million.

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

C. KKR Lending Partners

MR. BADER advised staff visited KKR in their offices in San Francisco this summer to conduct due diligence. Callan completed their analysis in July and concluded KKR's asset management platform is robust and deeply resourced, and KKR's direct lending team is experienced and positioned to compete in the direct lending space. MR. BADER discussed the fees and is comfortable paying the bonus to KKR if earnings are over 8%. This is a defensive strategy and would be managed in the private equity class. MR. BADER and staff recommend the Board commit \$100 million to the KKR Lending Partners strategy, subject to successful contract negotiations.

MR. BRICE moved ARMB commit up to \$100 million to the KKR Lending Partners' strategy, subject to successful contract negotiations. MRS. HARBO seconded the motion.

CHAIR SCHUBERT asked if there is a constraint limitation for the \$100 million number. MR. BADER noted there is no constraint and is comfortable increasing the invested amount. He noted this strategy is a replacement for fixed income, even though it will be in the private equity class. The private equity earnings assumption is S&P 500 plus 350 basis points.

MR. BRICE moved to amend the origination motion to read, "ARMB commit up to \$200 million to the KKR Lending Partners' strategy, subject to successful contract negotiations." MRS. HARBO seconded the motion.

A roll call vote was taken on the amendment, and the motion to amend passed unanimously.

Dr. Jennings suggested the size of the investment should be calibrated to the size of the fund and it is appropriate to discuss vintage year diversification and build up the assets over multiple years.

MR. TRIVETTE asked if Callan provided a written report of their review of this strategy that could be provided to the Board. MR. ERLENDSON noted he has a copy of the favorable assessment with him today. MR. TRIVETTE asked if KKR was selected out of a pool of managers. MR. BADER informed the selection of KKR was not conducted through a search. After visiting KKR this summer and hearing their presentation, staff specifically requested Callan perform a review.

MR. BADER advised he will confer with MR. HANNA regarding sizing of the portfolio up to \$200 million and confer with KKR to negotiate fees. This strategy is a fund which is open for a specific period of time and so the investment would go into the strategy all at once and KKR would call it down as they needed it.

A roll call vote was taken on the amended motion that reads: MR. BRICE moved ARMB commit up to \$200 million to the KKR Lending Partners' strategy, subject to successful contract negotiations. MRS. HARBO seconded the motion.
The motion passed unanimously.

D. Information: SSgA Managed Volatility Strategy

MR. BADER advised the next action item is titled "Information," because staff believed this investment would have been made before the meeting. As the Board meeting drew closer, staff decided to postpone investment and present it to the Board for their comments and approval. MR. BADER explained the strategy managed by SSgA is called Managed Volatility and was presented at the October education conference in New York. MR. BADER informed he discussed this strategy with all of the trustees and eight out of nine were in favor of investment and one was undecided. MR. BADER and staff recommended the ARMB allocate \$200 million in this strategy, which will be allocated \$100 million in large cap and \$100 million in small cap.

MRS. HARBO moved that ARMB commit \$200 million in the SSgA Managed Volatility Strategy, allocating \$100 million to large cap and \$100 million to small cap. MR. TRIVETTE seconded the motion.

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

E. Apollo Aviation

MR. BADER reminded the Board that Apollo Aviation also gave a presentation at the October education conference in New York regarding their limited partnership SASOF Fund III. This is Apollo's third institutionally focused private equity fund focused on a commercial aircraft leasing and part-out investment strategy. The fund will invest in mid-life and mature aviation assets targeting a 15% net rate of return. Staff had the opportunity to tour a manufacturing facility where engines are refurbished and was impressed with the demonstration of Apollo's knowledge of the industry and competitive advantage. Callan is currently conducting a due diligence review of Apollo. The fund has a closing before the next Board meeting. MR. BADER and staff recommended ARMB approve an investment of up to \$50 million in Apollo Aviation, subject to favorable review by Callan.

MS. RYAN moved that the ARMB invest up to \$50 million in Apollo Aviation, subject to favorable review by Callan. MR. BRICE seconded the motion.

MS. ERCHINGER commented she understands the value of diversification and requested a discussion on when it could become a problem of having too many different investments for staff to diligently follow. MR. BADER explained the two primary managers in the private equity space are Abbott Capital and Pathway. Staff is trying to develop the capability internally to manage private equity to avoid some of the investment management fees. Most of the internally managed private investments have been in the \$50 million range. MR.

BADER advised additional staff in private equity has been requested in the new budget that has yet to be reviewed by the Governor.

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

F. Callan Comments

MR. ERLENDSON believes the performance evaluation process was very constructive. It is Callan's responsibility to provide the ARMB with useful information from which informed decisions can be made regarding the current investment program and future management of the program. Callan agrees with some of the observations by Anodos, including working with staff to construct the reports to meet ARMB's needs and labeling the reports more explicitly to identify gross of fee and net of fee performance. Callan has a difference of opinion with some of the observations by Anodos, including the discussion about the statistical fit of the benchmarks to the managers. MR. ERLENDSON agrees it is important to review the mandate with the managers to ensure clear understanding and compliance.

MR. ERLENDSON addressed the issue of stating returns gross of fees and net of fees. He explained this is complex because the structure of managers with performance fees makes it more difficult. The complicated question of how to evaluate fees for an internally managed portfolio also needs to be addressed. Callan believes it is important to discuss with staff how best to present exhibits regarding performance and determine the priority of information.

DR. JENNINGS stated the auditor's presentation highlighted the question for him regarding what is needed for good governance. He noted Callan provides three sets of documentation, a 50-page presentation, a 200-page back-up book, and a 500-page staff book. DR. JENNINGS commented the 200-page back-up book does not accomplish much and suggested having a super concise report, three to five pages or so, to be used in the oversight role. DR. JENNINGS believes it would be useful to notate which of the auditor's observations were integrated into practice and which observations were not integrated into practice.

MR. BADER commented the Board did go through a process of reviewing and addressing recommendations from the previous audit. MS. ERCHINGER noted it may be a disservice to Callan by not documenting that the Board did review the recommendations previously set forth. She agrees with the suggestion to document whether or not the Board will integrate the audit's observed recommendations. MS. ERCHINGER appreciates the amount of economic data that is being provided for context and believes Callan is doing a great job. She agrees reporting results net of fees is important.

MR. PIHL also believes the practice of reporting results net of fees is extremely important and recommends the Board clearly asks for this.

MR. TRIVETTE agrees net of fee reporting is important and commented this audit makes him feel extremely comfortable with Callan and Townsend.

RECESS FOR THE DAY

CHAIR SCHUBERT recessed the meeting at 4:43 p.m.

Friday, December 5, 2014

CALL BACK TO ORDER

CHAIR SCHUBERT reconvened the meeting at 9:17 a.m.

Trustees Trivette, Harbo, Erchinger, Brice, Ryan, and Pihl were also present.

14. ACTUARIAL DISCUSSION

A. Actuary Response to Questions from September Meeting

B. Final Experience Analysis

CHAIR SCHUBERT introduced DAVID SLISHINSKY of Buck Consultants, who provided a detailed presentation regarding the responses to additional questions raised by the Board after the experiential analysis results were given at the September meeting. MR. SLISHINSKY addressed the first issue of the impact of the actuarial assumption and methodology changes from HB 385 and SB 119 on the FY16 contribution rates. Page four of the presentation shows the development and the changes in these actuarial measures as of June 30th, 2015, for purposes of determining the FY16 contribution.

The projected unfunded liability in 2015 was about \$7.2 billion for PERS. The funded ratio was 66.5%. The contribution rate was 40.28%, and the amount of additional state assistance was about \$558 million. The two-year lag was eliminated and the two-year roll-forward valuation was used. The unfunded liability remains the same. The funded ratio remains the same. The contribution rate decreases to 36.25%, and the amount of additional state assistance decreases to about \$459 million.

MR. SLISHINSKY explained SB119 contains the intent of the Legislature to eliminate smoothing in the actuarial value of assets. In order to incorporate the intent of that language, Buck recommended the portfolio assets be moved to fair market value as of June 30th, 2014, but from that point forward, moved back into the five-year smoothing methodology. The amount of market volatility, if not smoothed, would cause major changes and shifts in the present contribution rates and contribution amounts going forward. The fair market value immediately recognizes fully for the year any investment gains or losses, which as of June 30th, 2014, the actuarial value of assets increased slightly and the unfunded liability decreased by \$57 million. The funded ratio increased slightly. The contribution rate decreased and the additional state assistance decreased to about \$454 million.

The next change analyzed was the state contribution of a total of \$3 billion for FY15, one billion for PERS and two billion for TRS. The unfunded liability is reduced to about \$6.7 billion. The funded ratio grows to about 69%. The amortization payment amount decreases. The contribution rate decreased to 34.3%, and the amount of additional state assistance decreases to about \$412 million.

MR. TRIVETTE asked if there is a breakdown of the calculations of the cost and savings by individual assumption changes. MR. SLISHINSKY advised that breakdown was included in Buck's presentation and in the report on the experience analysis measured, as of June 30th, 2013.

MS. ERCHINGER noted at the last meeting, only the presentation was provided because the full experience analysis was not yet finished. She requested a copy of the full experience analysis. MS. HALL stated the full experience analysis is provided in the Board packet and there are copies available.

MR. SLISHINSKY discussed the next item reviewed under HB385 was the legislative change in the amortization methodology from the weighted amortization, which used layers that represented the experience gains, losses, and any changes in the unfunded each year, to a fixed 25-year closed amortization period beginning June 30th, 2014. Based on the 2013 valuation, the weighted amortization period was about 17 years.

HB385 also changed the methodology from a level dollar amortization to a level percentage of pay. This change reduces the initial payments of the unfunded liability, but the payment amounts increase with the payroll increase assumption each year. The payroll increase assumption is 3.62%. At some point in time, it is expected the level percentage of pay amount will exceed the amount under the level dollar methodology. MR. SLISHINSKY explained those two changes in the amortization methodology do not change the unfunded ratio. The funded ratio does not change. The contribution rate is reduced significantly from 34.3% of pay down to 21.9% of pay. The state assistance contribution is reduced from \$412 million down to \$110 million.

MR. SLISHINSKY reviewed the change due to actual FY14 investment return, which was estimated to be 17.7% for purposes of developing the FY16 contribution rate. The fair value of assets is increased. The unfunded liability is reduced from approximately \$6.7 billion down to \$5.3 billion. MR. SLISHINSKY discussed the changes Buck made from their June presentation of the development of the FY16 contribution. One of the changes was incorporating the 17.7% rate of return for FY14. Another change was including a more accurate number of benefit payments for the year.

Then finally, the changes in assumptions from the experience study presented in September were also incorporated. These included an increase in the salary scale and increase in mortality, which were the primary drivers to the increase in actuarial accrued liability, thus increasing the unfunded liability by about a billion dollar. The unfunded liability then increased from \$5.3 billion to almost \$6.4 billion with the change in assumptions. The funded ratio reduced from 75% to 71.9%. The contribution rate increased from 18.43% of pay to 22.58% of pay. The state assistance amount increased almost \$100 million, from \$25 million up to about \$125 million.

MR. PIHL inquired as to how much of unfunded liability increase is due to the change in salary assumption. MR. SLISHINSKY informed the wage growth assumption was not changed. The merit scales were changed to more accurately reflect what was occurring. The

full impact of the pay increases is affecting the benefits, which impact an increase in the liabilities, as well as the normal cost.

MR. TRIVETTE requested MR. SLISHINSKY provide an outline of the calculation of the missed opportunity costs incurred regarding the unfunded liability. MR. TRIVETTE would like to include this information in the required annual report to the Legislature.

MR. SLISHINSKY expressed it is difficult for the lay person to think in terms of the time value of money over a number of years and the impact of adjusting from one point in time to another, using the 8% assumption as interest to accumulate past amounts forward and also use the assumption to discount future amounts backwards.

MS. ERCHINGER believes it is important to note the one-billion dollar appropriation into PERS reduced the state assistance by \$42 million a year and the HB385 changes reduced the state assistance by \$302 million a year. MS. ERCHINGER noted this is fortuitous for the state today because of the current price of oil. MR. SLISHINSKY added the breakdown is close to 50/50 between the impact of the extension of the amortization period back out to 25 years and the change from level dollar to level percentage of pay.

MR. SLISHINSKY continued the presentation reviewing next the impact of the changes on TRS. The biggest impact is TRS received \$2 billion of the \$3 billion appropriation. The 17.7% rate of return also affected the TRS numbers. The reduction in the unfunded liability on TRS is over \$1.6 billion. The funded ratio increased from 57.8% to 73.8%. The unfunded liability decreased from \$4.3 billion down to \$2.4 billion. The funded ratio increased from 57.4% up to 77%. The contribution rates decreased significantly from 69.24% down to 24.48%. The state assistance contribution decreased from \$479 million down to \$130 million. MR. SLISHINSKY noted page six of the presentation shows the combined impact amount of PERS and TRS for the unfunded liability and the state assistance.

MR. SLISHINSKY discussed the next question that raised was regarding information on the development of the investment return assumption. The econometric model used to develop the long-term expected rates of return for each of the asset classes takes into consideration the current economic factors expected to impact short-term investment return and grade the long-term historical expectation. These are referred to as non-linear expectations. In order to replicate the level of the impact that short and long-term expectations have on the discount rate, the expected rates of return from the model were applied to the cash flows for the plans to determine the discounted value of the present value of all benefits expected to be paid. This was blended and normalized to come up with one rate of return of 8.9%. MR. SLISHINSKY continued with a detailed explanation with regard to the expected real rates of return for each asset classes combined with the shift in asset allocation and change in future benefit payments.

MR. BADER noted this methodology will be discussed more at the February meeting. He asked if the 8.9% assumption was built into the valuation. MR. SLISHINSKY stated there was no change to the discount rate of 8%. This is a confirmation to ensure the rate being used is equal or less than the expected long-term rate of return.

MS. ERCHINGER expressed her appreciation for the extra work on the presentation. She feels it is a good learning exercise and this provides her with assurance and confidence the asset allocation is appropriate.

MR. SLISHINSKY provided an update to the Board on the roll-forward procedure and the determination of the contribution rates shown on page eight of the presentation. This was the same process shown at the June meeting. MS. ERCHINGER requested further explanation on the interest during FY14 and FY15 on the accrued liability side. MR. SLISHINSKY explained the interest on the liability is adjusted for the time value of money and also adjusted from one point in time to another point in time. The difference between the interest on the liability and the interest or rate of return on the assets is the expected interest on the unfunded liability. MR. TRIVETTE asked if that number, the net interest on the unfunded, will be referenced in a report. MR. SLISHINSKY stated the net interest number will be included in the report.

MR. SLISHINSKY continued his presentation providing an extensive explanation of the expected normal cost calculations for full-time and part-time salaries. The total normal cost plus the amortization payment gives the total contribution amount expected to be paid in FY16 for PERS, both pension and healthcare, of about \$651 million. The members are expected to contribute \$100 million of that. The state and employer contribution is expected to be about \$550 million. The contribution rate is determined by taking these amounts and dividing them by the expected payroll, which is calculated to be 22.58%. The DCR contribution is added and converted to a percentage of total payroll, the capped employer contribution is subtracted out, to come up with the additional state contribution of 5.19%, which is multiplied by total payroll for a total of \$126.5 million. If the adjustment were made to this calculation for the part-time pay, all the numbers would be slightly higher.

MR. PIHL asked why the payroll numbers from the current calculation do not agree with the payroll numbers shown on page 14. MR. SLISHINSKY advised the payroll numbers on page 14 are based on the old assumptions, before the final valuation and experience analysis change in the salary scale. The numbers on the projection are based on the new assumptions.

CHAIR SCHUBERT inquired what other states are doing in terms of amortizing these payments, particularly those states with very tight budgets. MR. SLISHINSKY gave examples of changes in methodology. California, for instance, changed the way they determine their actuarial value of assets by extending their smoothing. Other states have increased employee contributions or increased both employee and employer contributions. Some states have increased the amortization period and some states have cut benefits. CHAIR SCHUBERT noted Alaska cannot cut benefits.

MR. SLISHINSKY reported Colorado PERA legislated a reduction in their cost of living adjustment from 3.5% down to 2% per year. The retirees sued, and the case went to the Supreme Court, who ruled the state contribution did not pertain to the COLA adjustment and could be reduced. South Dakota had a similar reduction in COLA and their Supreme Court

ruled the state has to provide a COLA, but can determine the amount. Minnesota had a similar argument and ruling by the Supreme Court.

CHAIR SCHUBERT commented she is trying to determine whether any changes can be made if the state faces such a horrendous budget deficit that the payments are unable to be made. MR. SLISHINSKY commented there are many systems struggling with the same issue, especially looking back at what has happened through the financial crisis and its impacts on funding. South Dakota has a provision in their statute that if certain actuarial triggers are met, the state has to either increase contributions or decrease benefits.

MRS. HARBO asked if it is true that most systems are funded with investment earnings and employee contributions. MR. SLISHINSKY believes most systems are funded 72% from investment earnings, 9% from employees, and 19% from employers.

CHAIR SCHUBERT recessed the meeting from 10:41 a.m. to 10:51 a.m.

MR. SLISHINSKY explained the changes to the TRS calculations from the June presentation. He then reviewed the 30-year projections in detail for both PERS and TRS using the level percentage of pay and the level dollar methodologies.

MR. PIHL requested further explanation of the discrepancies between the payroll numbers for PERS and TRS summarized on page 52 of the presentation and the actual payroll numbers from DRB in the report. For PERS, this amount was \$150 million more than what was actual in 2014. MR. SLISHINSKY explained by using the annualized part-time pay for PERS increases the projected 2015 payrolls by about \$95 million, which after being adjusted, there would still be some difference, but it would not be grossly overstated. MR. PIHL asked why payroll is not adjusted to actual numbers each year. MR. SLISHINSKY noted he has suggested adjusting the payroll to actual numbers each year going forward.

MR. PIHL asked why the adopted payroll growth assumption of 3.62% is not shown as the growth per year in the illustrated payroll. MR. SLISHINSKY explained the percentage is different because of the dynamic nature of the open group projection and the fact new entrants are being included. There is also a change in the assumption for increasing active membership.

MR. PIHL recommended using one payroll growth assumption for benefit determination calculations and the cost of the system, and another payroll growth assumption for the actual payroll projections for contributions. MR. PIHL believes this presentation indicates the need for more opportunity for the ARMB to discuss with the actuary and have some input on what the projections are based on. MR. SLISHINSKY recommended diving deeply into some of these issues at the committee level and then presenting the results to the full Board on more of a summary basis. CHAIR SCHUBERT suggested holding a work session on these issues.

MS. ERCHINGER requested having an opportunity between the actuary's report and the review of the actuary, for the Board to engage in a dialog around the assumptions being used

and make changes, if necessary. The opportunity would then be provided for the actuary to perform any recalculations for a final review.

MR. TRIVETTE asked if the actual Buck report dated November 2014 has been sent to GRS, since their report given in September was based on the PowerPoint presentation. He asked if a request has been made to GRS to provide input back to the Board regarding the full report. MR. BADER informed Buck's report has been provided to GRS, but did not receive it in advance of the meeting in time to do a review. MR. TRIVETTE expressed concern that the spirit of the statute is not really being followed, in which GRS is to review Buck's report before the Board has a chance to review the report.

MR. BADER stated he takes some responsibility because he felt it was important for the Board to have a role in setting the state contribution rate. If the Board had not acted, the rate would have been set without the Board's input for purposes of building the budget. MR. BADER explained there was a time constraint and everybody rushed. This was certainly not a normal year and Buck is not at fault. MR. TRIVETTE noted his intent was not to fault anyone, but only to get clarification.

MR. SLISHINSKY recommended in the future, Buck could prepare the report in draft form before the Board meeting and provide that to GRS and then present the report. He noted there was duplicative work involved in preparing the presentation and then the final report. It would be more efficient for Buck to prepare only one report and present that to the Board for review page-by-page.

JOHN BOUCHER, Office of Management & Budget, commented he sensed the uneasiness and haste around the rushed process during the September meeting and agreed this was not the ideal situation. He encouraged the Board to discuss the new reality and processes required to determine the contribution rates. The Board's meeting cycle may have to be reexamined in order to meet these new deadlines, as well as reexamine the time it takes for Buck and GRS to complete their work and for Retirement and Benefits to compile their information.

MR. SLISHINSKY continued his presentation detailing the graphs of the results of the 30-year projections for both PERS and TRS on both level percent of pay and level dollar methodologies.

MR. TRIVETTE expressed his appreciation to MR. SLISHINSKY and stated he has reviewed part of the full report and has no concerns. He has technical questions, which he believes can be addressed in a work session or a committee level meeting. At the work session, MR. TRIVETTE would also like to discuss employee growth. He understands the timing of the report this year was not typical and is in no way saying anybody did anything wrong. MR. TRIVETTE stated the fact the report has been sent to GRS probably complies with the statute and he would like to hear back from them when the time comes.

MR. BRICE stated it would be wonderful to have the conversation with GRS in Juneau during session, so legislators and legislative staff can listen and get some background information.

MS. ERCHINGER expressed her appreciation to MR. SLISHINSKY for all of his work on these detailed schedules. She noted this level of transparency has helped her put all of the various changes into context.

UNFINISHED BUSINESS

1. Calendar

MS. HALL noted the 2015 calendar is included in the packet and there are no changes.

2. Disclosure Report

MS. HALL advised the Disclosure Report was included in the packet and there is nothing unusual.

3. Legal Report

MR. GOERING had nothing to report.

ACTION ITEMS - NEW BUSINESS

MR. BADER noted the action items have been addressed during the meeting. The only action item for the Department of Revenue is the liquidity analysis, which will be completed by MR. BADER and staff. MR. BADER informed if the Board has an expectation the Department of Revenue will pursue additional information from the actuary, the Board should provide a specific list of those requests and the authority to do so.

MS. ERCHINGER believes the Legislative Committee has decided to craft a list of specific requests, provide that to CHAIR SCHUBERT, who would formally submit a letter to MR. BADER and to the Department of Administration clearly identifying the requests from the Board.

OTHER MATTERS TO PROPERLY COME BEFORE THE BOARD

None

PUBLIC/MEMBER COMMENTS

None

INVESTMENT ADVISORY COUNCIL COMMENTS

None from IAC.

CHAIR SCHUBERT asked if Callan had any comments. MR. ERLENDSON invited trustees and staff to the 35th annual Callan conference that begins of Monday, January 26th, at the Palace Hotel in San Francisco. He informed the panels will include, ERSKINE BOWLES and ALAN SIMPSON, GARY LOCKE, and FELIPE COUSTEAU. Registration is on the Callan website at www.callan.com.

TRUSTEE COMMENTS

MR. TRIVETTE commented one of the reasons the Legislative Committee was designed is to have enhanced communication and interaction with the Legislature to fulfill the requirement that by the first day of each regular legislative session, report to the Governor, Legislature, et cetera, on the findings, conditions, systems, and other statistical data necessary for a proper understanding of the financial status of the system. MR. TRIVETTE believes some of the information discussed at the committee meeting on Wednesday and at the meeting today needs to be properly reported. The work for the Legislative Committee is to gather that material between now and the finish of the committee meeting in January. MR. TRIVETTE expressed his appreciation to all the trustees and to staff for the tremendous job that is being done. He thanked the consultants, as well, and wished everybody a great holiday.

CHAIR SCHUBERT wished everyone a Merry Christmas and Happy New Year.

FUTURE AGENDA ITEMS

None

ADJOURNMENT

There being no objection and no further business to come before the Board, the meeting was adjourned at 11:37 a.m. on December 5, 2014, on a motion made by MRS. HARBO and seconded by MR. BRICE.


Chair of the Board of Trustees
Alaska Retirement Management Board

ATTEST:


Corporate Secretary