State of Alaska
ALASKA RETIREMENT MANAGEMENT BOARD
MEETING

Location of Meeting
Egan Room, Centennial Hall
51 Egan Drive, Juneau, Alaska

MINUTES OF
February 25-26, 2010

Thursday, February 25

CALL TO ORDER

CHAIR GAIL SCHUBERT participated by teleconference so the vice chair assumed the chair duties for the entire meeting at the Juneau location. VICE CHAIR SAM TRIVETTE called the meeting of the Alaska Retirement Management Board (ARMB) to order at 9:00 a.m.

ROLL CALL

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

ARMB Board Members Present
Gail Schubert, *Chair* (by teleconference both days)
Sam Trivette, *Vice Chair*
Gayle Harbo, *Secretary*
Kristin Erchinger
Commissioner Annette Kreitzer
Martin Pihl
Tom Richards
Mike Williams

ARMB Board Members Absent
Commissioner Patrick Galvin (attended executive session during noon hour of February 25)

Investment Advisory Council Members Present
Dr. William Jennings
George Wilson

Consultants Present
Robert Johnson, outside legal counsel
Mike Barnhill, Assistant Attorney General
Michael O'Leary, Callan Associates, Inc.

Department of Revenue Staff Present
Jerry Burnett, Deputy Commissioner
Gary M. Bader, Chief Investment Officer
Pamela Leary, State Comptroller
Bob Mitchell, Senior State Investment Officer
Zachary Hanna, State Investment Officer
Steve Sikes, State Investment Officer
Scott Jones, Assistant State Comptroller
Steve Verschoor, State Investment Officer
Victor Djajalie, State Investment Officer
Beth Larson, Compliance Officer
Ryan Bigelow, State Investment Officer
Casey Colton, State Investment Officer
Jie Shao, Special Assistant in Commissioner's Office
Andy Wink, State Investment Officer
Nicholas Orr, State Investment Officer
Shane Carson, Assistant State Investment Officer
Judy Hall, Liaison Officer

Department of Administration Staff Present
Rachael Petro, Deputy Commissioner
Patrick Shier, Director, Division of Retirement and Benefits
Theresa Kesey, Chief Financial Officer

Invited Participants and Others Present
David Slishinsky, Buck Consultants, Inc. (by teleconference)
Doug Bratton and Caroline Cooley, Crestline Investors, Inc.
Dan Sullivan, Mariner Investment Group
David Batchelder and Frank Hurst, Relational Investors
Paula Pretlow and Victor Kohn, Capital Guardian
Pat Forgey, Juneau Empire
Cindy Spanyers, APEA/AFT
Chris Pace, ASEA/AFSCME
Jack Kreinheder, SOA Office of Budget and Management
John Alcantra, NEA-Alaska
Melody McDonald, RCM (by teleconference)

PUBLIC MEETING NOTICE

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

APPROVAL OF AGENDA

MR. BADER requested an executive session for legal communications at 11:40 a.m. on February 25, after which *#10. Investment Actions* would follow, if there was time before lunch. MS. HALL indicated that lunch would be catered because staff assumed that the amended agenda would keep trustees working through the lunch hour.

MS. HARBO moved to approve the agenda as amended. MS. ERCHINGER seconded. The amended agenda was approved without objection.

PUBLIC/MEMBER PARTICIPATION, COMMUNICATIONS AND APPEARANCES

There was no one listening by telephone or attending the meeting in person who wished to speak.

APPROVAL OF MINUTES - December 3-4, 2009

MS. HARBO moved to approve the minutes of the December 3-4, 2009 meeting. MR. PIHL seconded. Without objection, the minutes were approved as written.

REPORTS

1. Chair Report

CHAIR SCHUBERT had nothing to report.

2. Committee Reports

2(a). Audit Committee

Committee Chair MARTIN PIHL stated that the Audit Committee receives monthly reports from the compliance office in the Department of Revenue. The compliance reports are thorough, and there have been no significant findings. He complimented the compliance group on the program they have developed.

MR. PIHL reported that the committee met this morning with the compliance teams of both the Division of Retirement and Benefits (DRB) and the Treasury Division. The Treasury Division's report included a recap of activities for 2009 — all very well done, and their goals for 2010. DRB reported on the employer audit program, where

the division has made much progress. The division is currently interviewing to fill a vacant auditor position, and implementing processes to get a target number of audits completed each year.

MR. PIHL requested approval of an amendment to the Charter of the Audit Committee, which the committee was recommending to the Board, per the handout that staff distributed at the meeting. He explained that the Audit Committee is not in the organization chart for the Department of Revenue, but the charter modification would clarify that, in the event of any significant findings by the Treasury Division compliance office, there would be a direct avenue of reporting to the Audit Committee representing the Alaska Retirement Management Board.

As committee chair, MR. PIHL moved that the Alaska Retirement Management Board approve the addition of paragraph B on page 2 of the Charter of the Audit Committee as he described above.
The motion was approved without objection.

3. Division of Retirement & Benefits Report

a. Membership Statistics / Buck Invoices

The quarterly and cumulative reports of activity in the Public Employees' Retirement System (PERS) and the Teachers' Retirement System (TRS) since introduction of PERS Tier IV and TRS Tier III were included in the meeting packet for the trustees' information.

b. Legislative Update

COMMISSIONER KREITZER addressed the State's actions regarding the loss of information given to PricewaterhouseCoopers (PwC) as part of the discovery for some review on the State's behalf in a lawsuit against Mercer. The information contained the names, social security numbers and dates of birth of current and former PERS and TRS members. The Alaska statute only requires notification to people that a breach of keeping this information secure has happened. Some people have questioned why the attorney general entered into a settlement with PwC. The answer is because Governor Parnell, the attorney general, and she felt very strongly about protecting the members whose identity information had been breached. There is no opportunity for individuals to sue until identify theft or fraud occurs, and the State did not want to stand by and see that happen. The State moved to do something to insure that the active and former plan members were protected. The State's settlement with PwC is at least on par or better than what other agencies in similar situations have done.

COMMISSIONER KREITZER said the Division of Retirement and Benefits (DRB)

took about 7,200 calls from concerned members in the days after the press conference announcing the settlement terms, and staff worked on Saturday as well to respond to member calls. A letter to members went out February 12. The Department of Administration regretted that it took so long to send the letter, but it had to wait for Equifax, one of the three major credit centers, to set up a call center. As of yesterday, 10,000 people have signed up for some kind of protection that was offered in the settlement.

COMMISSIONER KREITZER mentioned that one question asked of the department was why the State provided social security numbers and dates of birth to the auditor for the analysis the State hired them to do. Since HB65, the Alaska Personal Information Protection Act, passed, the Department of Administration has been working to eliminate the social security number as the employee identifier on documents and to replace it with an employee ID number. However, when an auditor or actuary has requested information, the Department of Administration has not been as aggressive as it needed to be, and has been providing what they asked for, believing that was what was necessary. That is no longer the case, and the department is now challenging whether the entities making requests for information actually need social security numbers and dates of birth as part of that information. The department is finding out that most times the entities do not need that personally identifying information. The department will continue that type of effort with all its contractors, as well as reviewing all the ways in which it uses social security numbers to see if there are further steps it can take to block those from even being considered in an information request.

COMMISSIONER KREITZER reported that the Department of Administration renegotiated a contract with Great-West (the third party administrator for the retirement plans) that resulted in fees going from 14.2 basis points to nine basis points, effective October 1, 2010. The estimated savings in dollars is about $1.5 million. The department is also renegotiating with Buck Consultants, the state's actuary, to reduce administrative expenses that are duplicated to some extent in separately negotiated contracts.

COMMISSIONER KREITZER stated that as of March 1 participants in the Deferred Compensation Plan will be able to enroll and make other changes on line. She mentioned the Pugh Report that talked about pension plans, and some columns that commented on the Pugh Report. Some articles have focused on the earnings, but they have not focused on the fact that some states have enhanced benefits without setting aside the money to pay for them in the future, or at least paying on the installment plan. Lastly, letters have gone out to former employees letting them know that they have until June 30, 2010 to re-employ and reinstate service in their former tier, per a provision of SB141. That information is also available at the state's

web site.

MS. HARBO remarked that the Pew Report commended Alaska for being one of the few states that sets aside money for future health insurance benefits.

MR. RICHARDS said he was contacted by a recipient of the State's letter regarding the PricewaterhouseCoopers loss of confidential information. He gathered the worry was about fraud on other ends, and he was not sure the State could provide coverage for that. He asked if it was possible to extend identity coverage beyond the two years provided in the settlement if a member felt they needed it. COMMISSIONER KREITZER indicated that she was not prepared to comment on that publicly, to prevent people who might misuse the information from knowing what the State was thinking. But she was willing to answer questions from trustees privately later.

MR. RICHARDS asked how the State intended to measure whether any personal information lost by PwC has been breached. He guessed that out of 77,000 members, somebody over the next two years would experience a breach of their identity.

COMMISSIONER KREITZER remarked that she was aware of three or four instances where members called the Department of Administration or the consumer advocate at the Department of Law to report concern that their identify had been breached. A tracing back to where the fraud may have occurred in each of those cases has indicated that it was not the type of fraud that would have resulted from the breach of security that occurred at PwC. The Department of Administration believes that members will report any fraud, and it will act on those reports. So far there is no known breach of the information lost at PwC.

MIKE BARNHILL, assistant attorney general in the Department of Law, stated that Law at this point is simply gathering reports from anyone who believes they have been a victim of identify theft. Law will be evaluating that information, which will be part of any future discussion about whether to extend identity protection beyond two years.

VICE CHAIR TRIVETTE requested that trustees be sent a copy of the information relating to the renegotiated fees with Great-West. He said he wanted to share the good news with the plan members, some of whom had been unhappy when the fees went up last year.

c. Division Director's Report

Director of the Division of Retirement and Benefits, PAT SHIER, reported that they

had two qualified candidates for the position of Internal Auditor III and would be making a final selection in the next week or so.

MR. SHIER related how the division had to quickly set up a call center to respond to calls about the PricewaterhouseCoopers lost data matter. He thanked the DRB staff for working early and late and on weekends, the Department of Revenue for being open to helping with the phone logs, and the Department of Law for coordinating with DRB staff to get the job done.

Referring to Buck Consultants' November billing, MS. HARBO asked what the geographic difference study for PERS was. MR. SHIER said he would check and get back to the Board on that. *[Commissioner Kreitzer provided the explanation around 1:30 p.m., just after Buck's earnings assumption presentation.]*

MS. HARBO noted that Buck's work on the economic assumptions used by different public pension systems quoted NASRA (Nat. Assoc. of State Retirement Administrators) data in their reports. She thought Buck's charges of $4,059 for PERS and $4,059 for TRS seemed excessive, given that the NASRA data is readily available online. COMMISSIONER KREITZER indicated that she would investigate the charges and report back to the Board. *[At Commissioner Kreitzer's request, David Slishinsky answered this question during Buck Consultants' presentation.]*

4. Treasury Division Report

Deputy Commissioner JERRY BURNETT reported that HB 241 was in front of the House State Affairs Committee twice a couple of weeks ago, and Commissioner Galvin and he testified on the bill. HB 241 would have all the state retirement funds and the Alaska Permanent Fund divest of any investments in Iran. It appears that close to a billion dollars of investments are potentially affected by the legislation. The department did not take a position on HB 241, and the bill did not move out of committee.

MR. BURNETT stated that the House subcommittee closed out the budget with no changes to the governor's budget request. The governor's request, as amended, includes one new investment officer position in the Treasury Division. Two investment officer positions have become vacant in the last several months, and the chief investment officer is in the process of interviewing candidates.

5. Chief Investment Officer Report

Chief Investment Officer GARY BADER mentioned there was a list of items included in the meeting packet on which he invited any questions from trustees. He drew attention to communication inviting the ARMB to become a signatory to the Carbon Disclosure Project 2010 and said he had not heard from any trustees interested in this and so had not responded.

VICE CHAIR TRIVETTE commented that he did not see any benefit to the ARMB for joining the Carbon Disclosure Project. MR. BADER said he was unable to identify any benefit.

MR. BADER also mentioned letters from three investment managers responding to a question he asked them about the impact to the ARMB accounts if others were to divest of investments in companies that conduct business in Iran. His inquiry to investment managers had nothing to do with HB 241 on which Mr. Burnett reported earlier.

6. Fund Financial Report

State Comptroller PAMELA LEARY reviewed the ARMB financial reports for the first six months of the fiscal year ended December 31, 2009. The total invested assets for all the retirement systems increases by 12.70% over the six months. The investment income was also in the 12% range for that period. She pointed out that the defined benefit plans had net withdrawals and the other plans had net contributions.

MS. LEARY also reviewed the investment income and changes in invested assets by retirement fund for the month of December. The total invested assets increased by 0.77% for the month. However, preliminary numbers for January 2010 indicate a decrease in total invested assets of roughly 2.0%.

MS. LEARY presented statistics about the individual retirement trust funds, using the PERS system as the proxy because all the retirement plans had a similar picture for the month of December. The actual asset allocation categories were within target ranges, with fixed income slightly below the target, private equity slightly above its target, and domestic equity slightly above target.

MS. LEARY reviewed the changes in invested assets in the non-participant directed plans for the month. She draw attention to the new percentage columns on the report that showed at the total asset allocation level how much each category represented of the total assets, how much each manager represented of the total assets, and whether there was an increase or decrease in December. The December reports for the Supplemental Annuity Plan, the Deferred Compensation Plan, and the various defined contribution retirement trusts were also included in the package of financial statements.

Chief Financial Officer in the Division of Retirement and Benefits, THERESA KESEY, presented the December 31, 2009 supplement to the Treasury Division financial report. This report included the net contributions or withdrawals in each trust account for the month of December and for the six months of the fiscal year.

7. Buy-Write Strategy Analysis

[A copy of the Callan slides is on file at the ARMB office.]

MICHAEL O'LEARY, Executive Vice President of Callan Associates, Inc., presented a follow-up to the buy-write discussion the Board had at its December meeting in Anchorage. At that meeting, the Board voted to proceed with a manager search for a covered call equity investment manager. The Board also requested more explanation about the reasons for investing in a buy-write strategy and about what to expect from the various approaches. MR. O'LEARY said he intended to focus the presentation on the naive strategy of simply using the S&P 500 Index and having a covered-call type of buy-write program. Callan updated the data in the study that demonstrates the hypothetical performance of such a program and confirmed that historically the study suggests this type of an approach has produced equity-like returns at significantly lower volatility. But the pattern of return depends tremendously on the overall direction of the general markets.

MR. O'LEARY said one of the biggest risks that any plan sponsor has is when they decide on a strategy that makes good long-term sense, but along the way they get so uncomfortable when it does not look like it is working that they question why they got into it. So it is very important for the ARMB to pre-experience those bad times as well as the good times, and for trustees to ask themselves what they would have done in the midst of one of those periods where the buy-write strategy does not seem to be working.

MR. O'LEARY displayed a graph of the cumulative return of the buy-write strategy compared to the S&P 500 Index since 1988. The notable difference was in the mid to late 1990s where the buy-write program lagged behind the stock market, but it caught up again and got ahead of the index during the dot-com bust. Finally, the buy-write strategy return did not decline as much as the index did during the most recent market down turn, but the slope of the recovery has been sharper for the pure S&P 500. For the 21-1/4 years ended September 30, 2009, the compound return for the CBOE Buy-Write Index was 9.5%, and for the S&P 500 Index it was 9.0%. As a frame of reference, the Barclays Aggregate Index compound return for that period was 7.4%. For the 21-1/4 years since 1988, the annualized standard deviation of returns for the Buy-Write Index was 11.2%, significantly less than that of the S&P 500 Index (16.1%). The Sharpe ratio, a risk-adjusted measure of return, was superior for the buy-write strategy when compared to the S&P 500.

MR. O'LEARY also presented graphs of rolling five-year annualized returns and five-year rolling standard deviations for the buy-write strategy and the S&P 500. Over any five-year period the buy-write program had less volatility than the S&P 500 Index. Graphs of calendar-year returns demonstrated that in every calendar year period where the S&P 500 was down the buy-write strategy did better. Not surprisingly, every year when the S&P 500 was up a lot the buy-write strategy tended to lag. A look at returns in periods of rising and declining markets showed the same pattern.

MR. O'LEARY stressed the importance of a graph of Buy-Write Index returns and S&P 500

Index returns in rising and declining market periods, with the addition of a core equity style group for comparison. From April 1, 2003 to September 30, 2007, the buy-write strategy ranked in the 97th percentile compared to core equity managers. The strategy returned 11.17% while the S&P 500 annualized return was 16.04%. He asked how trustees would have felt if the ARMB had had a buy-write portfolio during that period: would they have accepted that the strategy lags in strongly rising markets and that the portfolio still made a nice absolute return, or would they have felt the Board made a mistake and want to end the buy-write program? He also reviewed comparative returns over other short-term periods to illustrate the buy-write strategy's underperformance or outperformance relative to the S&P 500 Index. For example, the buy-write strategy returns trailed for the first four years in the 5-1/2 years leading up to December 31, 2008, and then ended up cumulatively outperforming the S&P slightly by losing less in the market meltdown in 2008.

MR. O'LEARY said that the use of options, futures, and other instruments to try to better engineer the performance characteristics of a portfolio has grown greatly. The ARMB has a lot of exposure to managers that actively use these strategies within the absolute return pool. Some funds employ the portable alpha approach, and Crestline's presentation later would go into more detail on that. His understanding was that the ARMB was considering a straightforward buy-write program to try and achieve equity-like returns over the long term with lower volatility.

Callan identified a reasonable number of potential candidates that employ a buy-write strategy to provide core equity exposure. The majority of the managers have actively managed underlying portfolios — not the S&P 500, but they are using the same sort of approach in trying to add a little value in security selection. Their ability to do that depends on their skill and the time period. Callan found very few organizations that have institutional composites. Many variations of the buy-write approach are used in the mutual fund world for individual investors. Based on very preliminary conversations that Callan had with the likely list of candidates, MR. O'LEARY said he sensed their willingness to manage the strategy on a separate account basis for an institutional pool, should the Board decide to proceed.

Responding to the chair, MR. BADER stated that the Board had approved proceeding with a search at the last meeting, and staff had no action item regarding the buy-write strategy at this meeting.

MR. PIHL complimented Mr. O'Leary for what his consulting expertise brings to this Board.

MS. HARBO referred to slide 3 that showed the buy-write strategy performing well historically when everything else was underperforming. She thanked Mr. O'Leary for showing graphs of other time periods in the equity market because the buy-write strategy performance could also look bad depending upon the period. She echoed Mr. Pihl's

appreciation for the presentation.

COMMISSIONER KREITZER requested a follow-up comment from Dr. Jennings, after his remarks on the buy-write strategy at the December meeting.

DR. JENNINGS stated that overall he remained on the fence, that the devil is in the details of the particular proposals the Board will see from candidate firms. He said he reviewed some academic articles that looked into buy-write strategies, and basically they got the same results that Callan presented, with slight differences. He found a few more exciting things in the last couple of months, but they are specifics to the details of different strategies. For example, there is another index that does written calls just a little bit out of the money that seemed to add value.

DR. JENNINGS said he went through a thought exercise to try to persuade himself in favor of the buy-write strategy. The most persuasive thought exercise he could come up with was imagining if the ARMB equity portfolio was already in the buy-write strategy and if the Board would be as inclined to move toward traditional stocks. On occasion the ARMB would be gaining a lot of up side, but the slides from Callan showed half again as much risk on the buy-write side. So he wasn't sure, if the ARMB already owned buy-writes, if it would be that attracted to core equities. He found it telling on one of the five-year charts (1993-1998) that $1.00 turned into $2.30 for the Buy-Write Index versus $2.80 for the S&P 500 Index: that is a $15 million difference on a $100 million investment. That thinking was behind his comments at the December meeting, although he said at the time that buy-write was worth investigating further and seeing what the specific proposals are.

MR. WILSON inquired how fees and implementation impact the buy-write strategy. MR. O'LEARY said that would be a big issue if the Board were to proceed to the next step. Because there is not a large universe of institutional product, it is hard to tell. The information on similar mutual fund strategies showed that managers are combining active management of the underlying securities with the covered call writing. They looked to be within a range of typical expense ratios for mutual funds, which might allow one to expect comparable types of fees for separately managed institutional accounts. He added that he was interested in finding out the fees for a passive underlying portfolio with the add of the buy-write strategy; he presumed that it would be below typical active management fees but above pure passive fees.

Referring to the CBOE Buy-Write Index used in the Callan graphs, MR. WILSON asked if one could invest in buy-write passively. MR. O'LEARY said no, but the pattern of the return graphs would remain the same.

MR. RICHARDS asked if the Board would be looking for a new vendor to manage buy-write or would be considering a current manager. MR. O'LEARY indicated it could be

either, but the only existing manager with that capability that was immediately evident in Callan's research was Eaton Vance.

MR. BADER drew attention to Callan's slide 5, which showed the long-term cumulative return for the buy-write strategy was 50 basis points higher than for the S&P 500 Index. If one assumed paying 50 basis points in management fees, the returns would be equivalent to the S&P 500 over the long term. The ARMB would still gain the advantage of less volatility and the advantage of better returns when everything else was declining, two attractive features of the buy-write strategy. If the goal was simply high returns, the ARMB could get great returns from investing in just emerging markets and private equity, but the Board has to answer to its constituencies when there are large declines in the markets and in the retirement funds. Staff has been bringing solutions to the Board over the past year that will mitigate the harm that is done to the retirement funds in declining markets. While Callan used the Buy-Write Index as the fairest way to compare the buy-write strategy to the core domestic equity returns over time, staff was not eliminating the possibility of finding active approaches that were attractive.

8. Crestline Investors, Inc. - Absolute Return

DOUG BRATTON, Chief Investment Officer and founder of Crestline Investors, and CAROLINE COOLEY, the Senior Portfolio Manager, had been invited to make a presentation about the limited partnership mandate called the Blue Glacier Fund that they manage for the ARMB. *[A copy of the Crestline slides is on file at the ARMB office.]*

MR. BRATTON gave an update on the firm, touching on the nine senior investment professionals with long experience, their top-down active management, the rigorous risk management, the fact that 92% of their client base is institutional clients, and their stability in being in the hedge fund of fund business for 12 years (and longer in the hedge fund business). Crestline has been registered as an investment advisor with the SEC since 2002; they just had an audit by the SEC last year and received very positive marks. He showed a slide of the organizational chart and highlighted the number of new people added in 2009 in the client service and development group to meet the increased requirements of reporting to fund clients and to consultants. Accounting and technology have also been beefed up. In October 2009, Crestline acquired Northwater to establish Crestline Canada, Inc.

MR. BRATTON said Crestline has $5.2 billion of firm assets under management, and about $3.7 billion of the assets are directly related to hedge fund of funds. The firm received some mandates in recent days that will boost that to about $4.0 billion.

MR. O'LEARY made the observation that Crestline has a concentration of its hedge fund of fund assets in Alaska and asked for comment about the magnitude of that. MR. BRATTON replied that hedge fund of fund assets with Alaska clients are around the mid $900 million

range out of the $4.0 billion total. That includes the Permanent Fund, the Alaska Retirement Management Board, and certain foundations and endowments. Crestline is trying to reduce that 25% concentration the right way by growing the firm over time.

MR. BRATTON spent a few minutes talking about Crestline's purchase of Northwater Capital Management Inc.'s hedge fund of fund and derivative businesses in October 2009. Six employees only out of 60 at Northwater came over to Crestline Canada — the president, the chief investment officer, and the head of the beta portfolio management group and his team. He said that Crestline has always been able to use their trading skills on overlay hedges in the underlying portfolio, but Northwater's relationships around the world will sharpen that focus and allow Crestline to help its clients better in the hedging process.

VICE CHAIR TRIVETTE asked if the acquisition had impacted Crestline's ability to provide services to the investment management staff in the Treasury Division. MR. BRATTON said it had not, that in advance of the acquisition Crestline had beefed up their ability to provide reporting and interactive services with clients.

MR. BRATTON mentioned that not only did Crestline add to their hedging capabilities, but they are helping some of their clients tactically adjust their asset allocation mixes using derivative markets instead of the cash markets, to hedge unwanted exposures at the fund of fund level and at the plan portfolio level, and to reduce some pension plan surplus volatility by using interest rate hedges. Today Crestline has about $1.6 billion in seven different beta exposure mandates, which are S&P 500 exposure as well as long-duration bond exposure. A significant portion of those are in portable alpha strategies. He said Mr. Bader had asked Crestline to describe an example of some of the portable alpha mandates for the Board's education.

MS. COOLEY went over an example of fund of hedge funds being used as a portable alpha on a return enhancement strategy for the S&P 500 Index. The beta is achieved through a derivative structure, and the cash is used to invest in an alpha-generating asset. The result is a return on the S&P 500 plus an enhancement on it. This strategy enables investors to separate the alpha and the beta decisions so the alpha source for the excess return the client is trying to get on the portfolio does not have to be tied to the beta itself or the policy asset mix. Active risk can easily be adjusted to be consistent with an investor's risk budget. Lastly, a portable alpha mandate can be customized so the client can choose what beta exposure they want and the source of alpha.

MR. O'LEARY remarked that portable alpha strategies make a lot of sense, but if the alpha-generating asset were down there would be collateral requirements to keep the derivative in place, and some people may not understand all the implications of this strategy. Some investors who used portable alpha strategies thought it worked just the way

they expected and planned to stick with it, and some investors questioned why they got into it.

MS. COOLEY replied that people now know what can happen in a portable alpha strategy, while three years ago the idea that there was the chance for a margin call was all theoretical. Portable alpha is not a diversification strategy or risk-reducing strategy; it is a return-enhancement strategy, therefore, an investor has added risk to the beta portfolio. People can look at it and fully know the risk and that alpha can be negative, and the strategy may have a place in a portfolio anyway.

MR. O'LEARY stated that there are a number of different sources of alpha, some with more risk and some with less risk. MR. BRATTON added that some people are looking at the lower risk sources that may add 50 or 100 basis points of return with much lower volatility than the example that Ms. Cooley went through earlier.

MS. COOLEY next reviewed the performance of the Blue Glacier Fund, which in January 2010 had a market value of $228 million. Since inception in 2004, the fund is up 3.39%, while the HFRI Fund of Fund Conservative Index is up 2.14%. The fund's target of 3-month T-bills + 500 basis points had a return of 7.85% over that period. So the Blue Glacier Fund did not meet its target, but it handily beat the S&P 500 Index return of 1.10% for the period. The Blue Glacier Fund return stream has shown low exposure to the equity, fixed income, and commodity markets.

MS. COOLEY stated that transparency is important to the ARMB, and Crestline has moved over the past year to require all the funds that they invest in within the ARMB's fund to provide Crestline with one hundred percent transparency to the underlying positions in their portfolios. Crestline has always had enough transparency to understand the risks the managers were taking, but they have taken it up a notch to require the transparency to the underlying positions with every manager in the portfolio.

MS. COOLEY presented the current portfolio statistics for the Blue Glacier Fund, noting that it is very diversified among 16 hedge fund strategies and 44 different funds. Crestline is agnostic as to the hedge fund size and manager size, and they will choose the one that best suits the strategy they are looking for.

The best performing strategies in the portfolio in 2009 were structured products, multi-strategy, and equity long/short. Crestline was a bit early into the structured products strategy, and distressed asset-backed securities is a core piece of that. Multi-strategy managers had a good bounce-back after less-good performance in 2008. The equity long/short strategy has been consistently good for Crestline. There were two negative strategies last year, managed futures and volatility arbitrage, which tend to be more of hedging strategies and negatively correlated strategies to the rest of the portfolio. MS.

COOLEY also showed the attribution analysis by strategy since the Blue Glacier Fund's inception in 2004. All but three of the strategies had positive performance, and the return sources have been quite varied over the time period.

MR. BRATTON talked about the current environment, one year out of the market crisis. He referred to Crestline's white paper in November 2008 that made predictions about how things would evolve, and he provided updated expectations, as follows:

- Closer to 25% of hedge funds were out of business by the end of 2009, so on the lower end of their 25% than 50% prediction.
- Credit did go away suddenly at the end of 2008. It has come back but is costly because the banks want return on their leverage.
- The hedge fund business model has had to change, and people are moving on to figure out a way to better match the liquidity in their portfolios, which is another positive out of the crisis.
- Institutional pressure and reporting requirements resulted in things like one hundred percent transparency, which would never had had a chance before the crisis.
- Negotiating power shifted to the investor and is still there, but some of the top-performing funds have capacity limits again.
- Increased regulation and government oversight — now the government is going to require hedge funds to register with the SEC, and G-20 and other organizations are focused on systemic risk. That is a good thing because it increases the accountability of the underlying managers, and it increases the information that is available to investors.
- There has been a cataclysmic evolution of the industry that was forced by the market crisis, resulting in a more institutional group of hedge fund managers.

MR. BRATTON said they focus on what they used to call low volatility strategies before 2008 that over a long period of time have produced very consistent returns. He has been managing money for 22 years, and 2008 was the only time that Crestline had a negative year. That speaks to the dislocations that were visited upon the relative value arbitrage, absolute return, and event-driven strategies during the fourth quarter of 2008. Crestline expects these strategies to remain attractive for a longer time than they have in the past after a crisis. The positive market factors are: (1) the market relationships have come back but not all the way back to where they were; (2) hedge fund proprietary desk competition has been decreased because 25% of hedge funds went out of business, and banks that had big proprietary desks that were trading in the hedge fund world have pulled back their capital; and (3) the leverage in the system has been significantly reduced.

MR. BRATTON reviewed the strategy outlook for the ARMB's Blue Glacier Fund. He said this is a transitional macro environment, such that what happens in the U.S. economy and the world economy will somewhat determine market performance. Volatility is now down to historical bands. And there are a couple of dislocated asset classes, like commercial real estate. Credit spreads have come in, and the government financing programs have largely

worked. The government jump-started the asset-backed markets, which are working fine now. The PPIP (Public-Private Investment Program) managers investing is putting a floor in for some of the other securities. Capital is returning to hedge funds: the first net inflows were in the fourth quarter of 2009. The yield curve is steep, which is good. The equity market is stretched, and correlation is high across asset classes. All those things create a choppy, unclear environment, which should be good for hedge funds. Other relative strategy factors are strong hedge funds reaching capacity limits, and the Wall Street proprietary desk is capital constrained.

Crestline has increased over time the equity market neutral strategies that are dependent upon the manager's skill level in picking stocks. Distressed corporate debt has been, and continues to be, good in the portfolio. Merger activity is increasing, so merger arbitrage will be positive for a while. Because of all the government interventions, government securities have created significant opportunities. Crestline has gotten out of municipals as the municipal and treasury bond relationship has come back in the house. It is a great time to do origination strategies, but managers have a lot of legacy problems in the portfolios, so Crestline has been reducing that strategy in the portfolio. Finally, they have increased investments and do not have the cash they did in the portfolio.

VICE CHAIR TRIVETTE asked if Mr. Bratton's list of what to expect for the future — such as more institutional hedge fund models, more investor negotiating power, and more regulation and government oversight — would increase Crestline's costs. MR. BRATTON replied that Crestline is already registered with the SEC and is already asking for significant increases in information requests and reporting requirements, so he did not expect the costs would change at the fund of fund level. However, he thought that registering with the SEC, having to have a compliance manual and operations manual, and the need for compliance staff would increase the costs for the underlying hedge funds. He expected a bifurcation of the hedge fund industry to those that become institutional and those that stay below the radar screen and concentrate on trying to make returns.

Responding to VICE CHAIR TRIVETTE, MS. COOLEY confirmed that Crestline is basically one hundred percent transparent now. Crestline put redemption requests in to two managers that would not provide transparency, one of which they were close to redeeming anyway for unrelated reasons. That leaves one manager that remains in other portfolios but not the ARMB's.

COMMISSIONER KREITZER stated that at the December meeting Board chair Gail Schubert had brought up the possibility of a second round of commercial loan failures. She asked about potential opportunities in distressed corporate debt.

MR. BRATTON said that Crestline has a portfolio that focuses specifically on distressed corporate debt, so they have insight into what is going on in that market. In 2008, good

debt was getting thrown out with the bad debt, and Crestline was able to purchase really good securities at very depressed prices. Last year saw a major bounce-back, and Crestline's distressed debt portfolio was up about 50%. Now things are into process-driven, grind-it-out alpha opportunities where a company that files for Chapter 11 works through the situation and comes out the other end with value in the securities. That is a very good return-generating prospect that is expected to continue. What creates an opportunity set is the tremendous amount of debt that still has to be refinanced over the next three years — about $1.2 trillion of debt that was put in place over the leveraged buyout boom years of 2005-2007. The high yield market has been open and able to push out those maturities that have been coming due. But it is estimated that the run rate of the high yield market will need about $270 billion per year of refinancing to try to make a dent in that as they are coming due. And the high yield market actually closed two weeks ago (there has not been an issue in two weeks), and that could exacerbate the problem if it stays closed. The managers in distressed debt are looking at the supply set and saying that if this develops in the way they think it should, it should be a very good opportunity.

VICE CHAIR TRIVETTE referred to the performance summary for the ARMB's Blue Glacier Fund and noted the three indexes against which Crestline compared the fund returns - the conservative hedge fund of fund index, the target 3-month T-bill rate plus 500 basis points, and the S&P 500 Index. He asked if the Board should be talking about which index to best measure the Crestline absolute return portfolio against.

MR. BADER stated that at the end of 2003 and into 2004 the markets were doing well, and the Board wanted to convey to its absolute return managers at that time that it was looking for a conservative portfolio and wanted to get absolute returns during markets that were not soaring. In retrospect, the 3-month T-bill rate plus 500 basis points was, and remains, a pretty tall hill for managers to climb, but staff intends to keep the hill that tall.

Vice Chair Trivette called a scheduled break at 10:35 a.m., and the meeting came back to order at 10:45 a.m.

9. Mariner Investment Group - Absolute Return

DANIEL SULLIVAN, the partner from Mariner Investment Group who is responsible for the fund of fund business, made a presentation on the Arctic Bear Fund L.P. his firm manages for the Alaska retirement funds. *[A copy of Mariner's slides is on file at the ARMB office.]* He started with a company overview, saying they have $11 billion of affiliated and associated assets under management, with $2.1 billion of that being fund of hedge fund assets. They have had no turnover and no attrition in the people working in the fund of fund business, and two people were added in 2009, one of whom was very senior and joined the investment committee. They will be adding a third person in the risk function in the next couple weeks. Mariner has seven attorneys on staff, and three of them are former SEC enforcement attorneys, including the chief compliance officer.

MR. SULLIVAN said Mariner is unusual as a fund of funds because another branch of their business is direct hedge fund investing activity. The fund of funds that the ARMB's money is invested in is not invested in any Mariner hedge funds; those are separated and walled off. But as a result, Mariner has a larger infrastructure than many fund of funds would normally have; for example, they have 33 people in finance and back office. It helps the firm do operational due diligence. Being in the business has advantages because they see what is happening in the Mariner hedge funds and they see the risk in the marketplace in real time when investing clients' capital in other funds. There are 26 people dedicated to the fund of funds investment team, and the average experience in the group is 29 years. Sixteen Mariner partners and employees have a minimum of 15 years' experience working on Wall Street trading desks or at proprietary trading operations. That is important because a lot of the strategies that hedge funds use are actually strategies that were developed on Wall Street trading desks. It also gives them an edge in identifying talent in various hedge funds.

MR. SULLIVAN reviewed other key distinguishing characteristics of Mariner's fund of funds approach. One hundred percent of the hedge funds they invest with show them the actual underlying positions directly, so they can speak with managers specifically about what they are buying and selling and why. There are significant differences even within subcategories of hedge funds, and Mariner has the skill to know what they are looking at and to understand the risk in the portfolio. He came from the high yield business, and many of his partners came from the fixed income credit-related side of business, so that tends to be their focus and specialty. In this environment, that is valuable because there are a lot of opportunities in credit and distressed investment.

MR. SULLIVAN stated that 2008 was a difficult time in all the markets, and the Arctic Bear Fund lost money. However, the fund's performance was top quartile across the hedge fund industry. In part that was because at the end of 2007 Mariner took steps to remove strategies that were using leverage because they saw that leverage was going to be a problem. They also removed strategies from the fund that tended to have net long exposures to credit and net long exposures to equities. They felt it was important for managers to have flexibility to hedge their positions to take out some of the risk, and that helped Mariner to perform well in 2008. These moves also gave Mariner ample liquidity at a time when probably 30% of the fund of funds in the industry were not able to meet redemptions from their investors.

MR. SULLIVAN showed a graph of the Arctic Bear Fund performance against the S&P 500 Index and the HFRI Fund of Fund Conservative Index from November 2004 to November 2009. He pointed out that the volatility of the Arctic Bear Fund was lower than that of the conservative hedge fund index in most periods, while the fund's returns in all periods were higher that the conservative index. Further, the fund's volatility was much lower than the

S&P 500 Index since its inception in November 2004, and the fund has had higher returns. So the Arctic Bear Fund has provided a bit of ballast in the ARMB's overall portfolio.

MR. SULLIVAN said the key to fund performance in 2009 was the directional strength in the markets (referred to as beta). There was a tremendous rebound in both the credit and equity markets. What drove returns was not the relative value between one stock or another, it was the fact that the rising tide caused all boats to rise. It was not a very discriminating market, because even some very low quality securities that should not have risen at all rose dramatically just because of the overall liquidity in the marketplace. Everything worked except for market neutral equity.

MR. SULLIVAN explained that the Arctic Bear Fund is diversified among 11 strategies and 33 underlying funds. He said the fund will provide more diversification in the next couple of years because some of the strategies like distressed debt, corporate bond arbitrage, and capital structure arbitrage exploit relative value, not directional moves in the equity or credit markets. Mariner believes that those strategies basically do not exist outside of hedge funds, and the ARMB's portfolio will pick up a benefit there that it will not have in the rest of the retirement fund portfolio.

MR. O'LEARY asked for comment on how radically the allocations to various strategies change. MR. SULLIVAN replied that their allocations to strategies, as well as to managers within the strategies, can change for different reasons. Mariner takes the view of what they think will happen over the next year and a half to two years and how they want to be positioned for that. They have made some significant changes in the last six months to take advantage of what they think is going to be a very ripe environment for event-driven investment. Despite the fact that markets have recovered, the economy is still struggling, and growth is going to be slow and uneven. Mariner believes the markets will not trend as strong and will be volatile. However, there will be a tremendous amount of restructuring activity — whether it is in bankruptcy or outside of bankruptcy — and refinancings. There will likely be increased merger activity, where good companies with very good balance sheets will acquire some weaker companies. Mariner probably has 50% or more of the overall portfolio, given all the strategies and what the underlying managers are doing, that is contemplating event-driven activity. This might cause a 25% turnover of the underlying funds in the Arctic Bear Fund over the course of a year to adjust.

MR. SULLIVAN reviewed the 2010 investment themes and strategy outlook, stressing that Mariner was not expecting a year of the same type of robust returns in all the rest of the markets. But the need to do refinancing of companies is still very dramatic. There will be a significant amount of bankruptcy and distressed debt, and that is an area where Mariner has great expertise. It is not just buying debt and being a net long holder; it is trading in the relative value and understanding that a company's capital structure has various types of debt and one part might be overvalued while another part is undervalued. The volatility that

has already started has caused some real mispricings. The rest of the markets may not move, but the underlying hedge funds will find it a very rich environment. Credit spreads, which tightened very dramatically, may tighten a bit more but are probably fairly priced at this point. The return is not going to come from credit spreads or from the equity markets moving up; the return is going to come from relative value investing.

MR. SULLIVAN said Mariner's commingled flagship hedge fund of funds has been in business since 1994 and never had a down year until 2008. The ARMB has the Arctic Bear Fund in an absolute return category, yet despite less volatility and not declining as much as the S&P 500 Index, the fund return was not the target LIBOR + 400 basis points. In most normal times there are some strategies that hedge funds or funds of funds can rotate to, to take advantage of something that will work. But 2008 was a year where there was a correlation to 1; virtually every strategy went down, except for dedicated shorts. By comparison, even during the recessionary period of 2000 to 2002 hedge fund returns were able to provide some very good relative returns. Mariner believes the current environment is going to be one like 2000-2002, where the relative value is going to give hedge fund managers a lot of things to do. It will not just give better relative returns with lower risk, they also expect positive returns for the next several years.

MR. SULLIVAN described how the hedge fund industry had some unique problems in 2008. Some hedge funds were borrowing from Wall Street banks and using leverage. When the credit crisis happened, all that liquidity and financing got drawn back, so the hedge funds were forced to sell some of their positions. That caused a self-fulfilling prophesy of more selling causing prices to go lower, and as prices went lower the funds started to get redemptions. Some hedge funds were unable to meet their redemptions and so suspended redemptions to their end investors. On top of this, people were very concerned over the whole Madoff fraud problem.

MR. SULLIVAN showed a graph of the percentage of hedge funds that have lost money and that have to make it back before they can earn any incentive fees. At the end of 2009, 31.0% of the HFRI Fund Weighted Composite Index had not earned back the money lost, and a lot of those might still go out of business. All but one of the 33 hedge funds in the Arctic Bear Fund have earned the money back, which shows that they are some of the more successful funds that should prosper in this environment.

MR. O'LEARY asked how Mariner reacted to an organization that has a fund that is so far below its high water mark that they close that fund but then open another fund. He asked if Mariner would consider them as honorable people and potentially invest in that new fund.

MR. SULLIVAN said that situation is generally very troubling. There can be reasons beyond somebody's control, such as when the staff leaves because they think they are not going to earn any bonuses, and the manager has no choice but to close the fund down.

But in many cases, the managers are closing funds in bad faith because they know they are not going to make any money and they want to reset the clock. Mariner has not invested with any manager like that. But there could be mitigating circumstances where a fund has new partners and new employees and there are reasons to have hope and invest in them. Separate from the fact that the behavior is troubling is that brand-new organizations have risk. He would prefer to see how a fund does after being shut down for 18 months and then re-opening because Mariner does not have to be the first investor to walk in the door. A fund has to have a culture that is cohesive and a new team that works well together — and that is not a given. So Mariner has not invested in those and there are reasons why it would be unlikely.

MR. BADER commented that just looking at the partners is sometimes not looking deeply enough, and that a lot of the dissatisfaction nationally seems to be the perception that people are chasing the hot buck.

MR. SULLIVAN said that was a great point. Mariner makes it a point to not just interview the elite people but to talk to the next generation separately, because it is important to see who is driving the organization. Sometimes it is the middle level of up and coming people who are going to be really important to any investment. People who have a talent for dissecting a company, for example, and are really passionate about what they do, those are good people to invest with. However, if a person is going to be personally opportunistic with their partners inside a firm, they are going to be opportunistic with respect to Mariner and its investors — and that is a problem. Mariner's investment process is unusual. The investment team does portfolio construction, manager selection, risk monitoring and assessment. A totally separate team of legal and compliance people does operational, infrastructure and routine due diligence. This second team has an absolute veto, which they exercised a few times in 2009, to say no to Mariner investing with a manager. Sometimes the investment team can see the reason not to invest, and sometimes it is the operational team that can see it. Whether it is the hedge fund industry or the long-only investing industry or any other business, there is no substitute for being in business with good, honorable people who are fair with their partners. Mariner will not invest with managers if it does not think they have those characteristics. There are some very successful hedge fund managers with which Mariner does not invest because they do not believe they have those characteristics. That may mean leaving some money on the table, but as the ARMB's fiduciary that is what Mariner is supposed to do. If the only way that Mariner could get good returns for ARMB was by cutting a corner and putting the ARMB in a relationship with a fund manager that the Board would not invest in directly itself if Mariner were not there, then Mariner would not be doing its job.

Returning to his comments about the hedge fund industry, MR. SULLIVAN stated that assets declined in 2008 and 2009, but those asset flows turned positive in the fourth quarter of 2009 and into 2010. Because of credit-related, distressed, event-driven activity,

the sentiment is that the equity markets have come far and now maybe it is time for a pause. The outlook for hedge funds is some continued contraction in the industry, and some weaker players will go away, which is a good thing. That will leave an industry that is stronger. Some hedge fund managers that had been closed to new money for three to five years are willing to take some money now because there are some things to do. This is actually a better investing environment for Mariner because they have access to more good managers.

MR. SULLIVAN spoke briefly about protection against tail risk or the probability of another extreme market event. He also mentioned the anticipation that yields will be higher in two years and that inflation expectations have risen. He said Mariner does not expect the equity market to retest the lows, but there is still some potential for a spike in inflation or other problems like weakness in the currency, etc. The debt as a percentage of GDP is exceeding high, and the amount of excess liquidity that the Federal Reserve has put in the financial system is extraordinary and unprecedented. Fed Chairman Ben Bernanke has been testifying before Congress this week about the task of withdrawing that liquidity. On the one hand, there is not sufficient lending yet, so the Federal Reserve has to leave reserves with banks so they can extend credit to the economy. But if banks start extending too much credit, that would be a problem, and the Fed would have to withdraw the reserves from the system. Withdrawing such an unprecedented amount of liquidity from the system requires that the Fed get it just right. The implied volatility of out-of-the-money options in the options market in the last few months is much higher than at-the-money options. That implies that people are willing to pay higher premiums for the ability to buy or sell away from the current forecast. That represents a growing sentiment that there is a probability of a tail, that there is a need for some type of insurance. Mariner thinks that is because it is very hard to withdraw the excess liquidity exactly right — too fast will choke off the economy, and taking too long will run the risk of inflation. It is not just a U.S. issue; China is beginning to restrict its lending, and there are problems with Greece and Spain and the European Union, which makes it all the more complicated. So while Mariner's central expectation is for gradually recovering markets at a lower plane of growth, there is still the possibility of a tail event and having to decide how that factors in.

MR. BADER asked to take up item #15 on the agenda next, in order to make the best use of time before the executive session scheduled at 11:45 a.m.

10. U.S. Treasuries vs. Broad Domestic Bonds

MR. BADER informed the Board that staff had discussed this topic with the Investment Advisory Council members and Mr. O'Leary. He said 2008 was a challenging year for investment staff in terms of providing liquidity to the retirement systems. Mr. Bob Mitchell did some work on how the retirement fund might be able to provide more liquidity without giving up too much return.

Senior State Investment Officer BOB MITCHELL gave a presentation on U.S. treasuries as a compelling alternative to broad domestic bonds. *[A copy of the slide presentation is on file at the ARMB office.]* He said that historically the fixed income portfolio has been the source of liquidity to make monthly pension payments, and for rebalancing and other outflows. That activity was notably higher during 2008. Staff had started to do some work in this area prior to 2008, and in updating the numbers more recently they found that the conclusions including the data from 2008 were roughly similar to the conclusions they had reached previously.

MR. MITCHELL stated that in recent years the Board has increased the allocation to illiquid asset classes in an attempt to achieve a more efficient portfolio and greater return for a given level of risk. The portfolio has migrated from one that was more liquid to one that is less liquid. Within the fixed income asset class liquidity has also declined as the Board has allocated mandates to high yield and emerging market bonds. The staff of the internally managed domestic fixed income portfolio felt the impact of that, particularly during the Fall of 2008. U.S. Treasuries provide more liquid exposure to the fixed income market and tend to perform better during times of financial distress, unlike almost everything else in the portfolio. For that reason, staff believes the ARMB should consider changing the mandate for the domestic fixed income portion of the portfolio from a broad investment-grade mandate to a U.S. Treasury mandate.

MR. MITCHELL visually illustrated with two pie charts how the ARMB asset allocation has migrated to less liquid asset classes. The total target allocations for private equity, real assets, and absolute return have increased from 7% to 28% since 2000. That largely came at the expense of fixed income, which fell from 35% to 20% of the total portfolio, with the internally managed domestic fixed income portion dropping from 30% to 16%. The public equity allocation declined from 58% to 52%.

MR. MITCHELL pointed out that staff can only rebalance what is liquid, which is primarily the fixed income and equity portions of the portfolio. So as the proportion of fixed income to equities has declined, the fixed income portfolio has become more sensitive to the volatility inherent in the public equity markets. As an illustration, in FY2000 a 20% drop in the public equity market would require liquidating 19% of the in-house fixed income portfolio to rebalance to target. A similar fall in equities today would require a 31% liquidation of the in-house fixed income portfolio to get that portion of the asset allocation back to its target. Of note is that the public equity markets fell an extreme 40%-50% during 2008.

MR. MITCHELL displayed a graph showing the monthly tally of the non-investment related cash flows in the domestic fixed income portfolio in the 18 months from January 2008 to June 2009. Four months at the end 2008 saw extreme financial stress in the markets and drops in the equity market, and there were consistent large outflows from the fixed income portfolio. During 2008 the in-house fixed income portfolio fell by about 50% due to outflows,

and 30% was removed during the 4-month period at the end of 2008.

Treasury investment staff also manage a mandate for the State that is very similar to the ARMB domestic fixed income portfolio. For perspective, MR. MITCHELL explained that the State's fixed income portfolio had much lower liquidity requirements: about 11% of that portfolio was withdrawn during the 4-month period in 2008. Assuming the portfolios are the same (they are similar), the cost of liquidity would be the difference in returns between the two portfolios. The difference between the ARMB internally managed fixed income portfolio and the State portfolio was 169 basis points during that period. That stemmed from staff being essentially forced to sell securities from the ARMB portfolio at distressed prices into a market that was illiquid to come up with the cash needed to rebalance in the equity market or to make pension payments. This is hopefully an extreme example of the impact that providing liquidity has on the returns of the fixed income portfolio. It is magnified by the fact that the fixed income asset allocation has declined over time. While there are advantages to diversifying the overall retirement portfolio into less liquid asset classes, the cost in the fixed income portfolio has become increasingly noticeable.

MR. MITCHELL reviewed the returns and standard deviations for three parts of the bond market for different time periods ending September 30, 2009. His observations were that investing in the broad market over time provided a higher return, as measured by the Barclays Aggregate Index. Investing in the Treasury Index over a 30-year period provided a broadly consistent return, but that could be misleading because the Treasury Index has greater sensitivity to interest rates and benefited from the general decline in interest rates in recent decades. Staff believes the Intermediate Treasury Index more closely represents the performance of the broad market because the durations, or interest rate sensitivities, of the Intermediate Treasury Index and the Aggregate Index are more similar. The Intermediate Treasury Index is comprised of U.S. Treasuries that have maturities of one to ten years, whereas the overall Treasury Index includes maturities up to 30 years.

MR. MITCHELL said the Intermediate Treasury Index has returns that are close to that of the overall Treasury Index with notably less volatility. Despite the fact that Treasuries tend to underperform the Aggregate Index over time, in a broad portfolio they tend to outperform the broader bond market when equities underperform. Those periods of time coincide with times when there will be a need to liquidate fixed income to rebalance the overall portfolio. So there is a significant diversification benefit to using Treasuries only instead of using the Aggregate Index.

MR. MITCHELL described how staff tested their hypothesis of Treasuries having a return disadvantage but providing a diversification advantage by looking at a broad equity/bond portfolio over 30 years. He cautioned that staff's modeling assumed getting index returns, which would be difficult to achieve in an aggregate mandate if future periods of market volatility required selling securities at distressed valuations.

MR. MITCHELL said staff was recommending that the Board authorize staff to transition the internally managed domestic fixed income portfolio from the current Barclays Capital Aggregate Index mandate to a new mandate based on the Barclays Capital U.S. Treasury Intermediate Index.

VICE CHAIR TRIVETTE thanked staff for their research to come up with a solution to a problem that has been bothering the Board for a couple of years.

COMMISSIONER KREITZER asked Mr. Shier to briefly describe the problem for which Treasury investment staff was proposing a solution.

MR. SHIER stated that the Division of Retirement and Benefits monitors what its workload will be every year, and they know that as of last year there were 5,781 employees eligible to retire between PERS and TRS. About 1,500 to 1,600 employees will be added to the number of retirement-eligible employees for the next 10 or 12 years, after which the number begins to drop off sharply. So the cash needs, as well as the Division's ability to process retirements, will continue to be a significant issue of which to be aware.

MS. ERCHINGER inquired how, if at all, the proposed switch in fixed income mandates would impact the Treasury Division's investment staffing needs. MR. MITCHELL replied that they could fully utilize the existing staff with the Intermediate Treasury Index mandate. An analysis of where the economy is headed goes directly into this. He added that the CIO would be asking the Board to consider an investment policy for a new mandate that would include the opportunity to invest a small portion of the assets in non-U.S. government-guaranteed securities. The skill set of the investment team would be applicable for that portion of the portfolio as well.

MR. PIHL noted that staff has indicated they did an analysis based on the Board's asset allocation over time and came up with the same conclusion, and he thought that was very important.

MR. BADER reminded trustees that Mr. O'Leary would be reviewing Callan's capital market assumptions later in the meeting, and those capital market assumptions are the building blocks to an asset allocation that the Board will be asked to approve in April. In order to put together the possible asset allocation scenarios for the Board to consider, it would be useful to know today if the Barclays Aggregate Index or the Barclays Intermediate Treasury Index would be used as the standard for fixed income. He said staff has also prepared amended guidelines for a potential 5% allocation to fixed income securities that are not government guaranteed. Staff has been focused on reducing the risk the Board takes in its investments.

MR. O'LEARY said he understood the reasoning, logic and analysis behind staff's recommendation and he supported it.

MR. WILLIAMS said he assumed with the recommended change that the cost for staff management of the fixed income portfolio in-house would still be significantly better than what the ARMB would do if it went out and bought the Barclays Intermediate Treasury Index through some other mechanism.

MR. BADER agreed, saying that the marginal cost to making the fixed income mandate change would be zero. The staff is already managing a Treasury mandate for the ARMB now, although there is not a lot of money there. He did not anticipate the need for additional staff.

MR. MITCHELL clarified that there is an existing account managed against the Barclays Aggregate Index, and that would not change. Staff would be starting a new account managed against the Barclays Intermediate Treasury Index and making transfers to it as they liquidate assets. Callan will be able to capture the separate performance of both mandates. He anticipated that the vast majority of the fixed income under discussion would be liquidated fairly quickly, but there will be a tail that will take longer to sell in order to avoid selling securities at distressed levels. Over time staff's comments will focus on the new mandate, and the performance of the current account will remain and roll up into the performance of the fixed income portfolio.

MS. HARBO moved that the Board authorize staff to transition the internally managed domestic fixed income account currently managed to the Barclays Capital Aggregate Index to a new mandate managed against the Barclays Capital U.S. Treasury Intermediate Index and approve Resolution 2010-03 which establishes investment guidelines for the new mandate. MS. ERCHINGER seconded.

Roll call vote:
Ayes: Erchinger, Harbo, Kreitzer, Pihl, Richards, Williams, Trivette
Nays: None

The motion passed unanimously, 7-0. *[Chair Schubert and Commissioner Galvin were absent for the vote.]*

EXECUTIVE SESSION

MR. WILLIAMS moved that the Board go into executive session to discuss legal matters with its attorneys. MS. HARBO seconded.

The motion carried unanimously, and the Board went into executive session at 11:45 a.m.

All persons, except for ARMB trustees and staff members who were designated by Commissioner Kreitzer and Deputy Commissioner Burnett, were requested to leave the room. The teleconference was disconnected, and Chair Schubert called back in to the executive session using a separate access number.

The Board came out of executive session at 12:45 p.m. and did not make any report.

WORKING LUNCH

There was a short break while trustees and staff availed themselves of the lunch provided so they could continue taking up business during the lunch period. The meeting came back to order at 1:05 p.m.

REPORTS (Continued)

11. Update - Earnings Assumption Presentation by Buck Consultants

DAVID SLISHINSKY of Buck Consultants, Inc., the State's actuary, said Buck made a presentation on economic assumptions at the December meeting. The Board had then asked for more information about the investment return assumptions and inflation assumptions that other pension systems are using, and if there were any trends that would give the Board some additional information as it considered making changes to the return and inflation assumptions. *[A copy of the Buck slides is on file at the ARMB office.]*

Before he got started, MR. SLISHINSKY reported that their parent company, Affiliated Computer Services (ACS), had merged with Xerox Corporation. He said Buck Consultants would continue to provide its clients with the same level of service as in the past.

MR. SLISHINSKY noted that the NASRA Public Fund Survey data that Buck used was 2009 survey data that covered actuarial valuations that were performed through 2008. Buck compared the data from the 2009 survey to the survey done three years before. Buck also calculated the level of risk associated with the expected rates of return based on the asset allocation data in the NASRA survey. That way they could compare the ARMB investment return assumption against the return assumptions of other pension systems and do it on the basis of the risk that is being taken. The theory is that the greater the risk a system is willing to take in its asset allocation, the greater the long-term rate of return for taking that risk.

MR. SLISHINSKY reviewed the survey data for investment return assumptions based on 125 plans surveyed. One plan used a 6.0% return assumption, but most other plans are using rate of return assumptions between 7.0% and 8.5%. The return assumption that Buck uses for PERS and TRS is 8.25%. There are 16 plans that use a greater rate of return, but most plans use an expected rate of return that is less than 8.25%. Forty-three

percent of plans use an 8.0% investment return assumption.

MR. SLISHINSKY reviewed the survey data for inflation assumptions, saying it ranged from 2.5% to 5.5%. But most of the inflation assumptions were between 3.0% and 4.0% inclusive. The average inflation assumption for the 125 plans surveyed was about 3.5%, and that matches the current inflation assumption used for PERS and TRS. Thirty-nine percent of plans had a lower inflation assumption than 3.5%, and 33% had a higher inflation assumption, so the Alaska plans are about average.

Addressing the trends in changing investment return or inflation assumptions since the 2006 NASRA survey, MR. SLISHINSKY stated that 12 plans changed their investment return assumption. Ten of those plans decreased their return assumption, and the average decrease was about 0.40%. Two plans actually increased their investment return assumption by 0.25%. There were 31 plans that changed their inflation assumption: 27 plans decreased that assumption by a bit more than half a percent, and four plans actually increased that assumption by an average of 0.43%. The trend is downward for both the investment return assumption and the inflation assumption.

MR. O'LEARY asked if Buck had any statistics on the importance of the inflation assumption and the investment return assumption, such that the plans that tended to have a high inflation assumption also tended to have a high investment return assumption. MR. SLISHINSKY said they could look at the data to see if there was a correlation. MR. O'LEARY said he presumed that there would be, but it would be interesting to confirm.

MR. SLISHINSKY said Buck looked at the data for the two economic assumptions independently, but they focused on the real rate of return assumption which takes inflation out of the equation, and he planned to present that information a few slides forward. Further, one could expect a high correlation between the real rate of return and the level of risk being taken, and Buck wanted to see if that was borne out with regard to the assumptions.

MR. SHIER told Mr. Slishinsky that a question came up earlier about a Buck Consultants billing statement that referred to the use of NASRA Public Fund Survey data, which someone thought was easily accessible. MR. SLISHINSKY responded that the information in the NASRA survey did not have the amount of risk calculated in the asset allocation information. In order for Buck to compare the assumptions that Alaska is making with other pension systems, and to show that relative to the amount of risk that is being taken in the portfolio, Buck used the pieces of data from the NASRA survey to calculate the standard deviations for each of the 125 public pension systems included in the survey. They then compiled that risk information and graphed it in order to present it to the Board today.

MR. SLISHINSKY next discussed the real rate of return assumption, which is the

difference between the assumed investment rate of return and the inflation assumption. The 125 plans in the NASRA survey all had different asset allocation policies. The real rate of return assumptions ranged from 2.0% to 5.5%. Both PERS and TRS are at 4.75%, and there were 13 public pension plans that used a 4.75% real rate of return assumption. A fairly high number of plans, 68%, had a real rate of return assumption between 4.0% and 5.0%, and 28% of plans surveyed had a higher real rate of return assumption than Alaska plans. So PERS and TRS are on the higher end of the average, which was 4.41%. Lastly, 62% of plans surveyed had a lower real rate of return assumption. This gives the Board information about the risk differences in the pension plan portfolios: one could expect that a portfolio with more equities is taking on more risk and long term will have a greater rate of return.

MR. SLISHINSKY displayed the results of the risk versus expected nominal rate of return data for the 125 plans in the NASRA survey on a scatter diagram. He noted that the data subtracted out assumed expenses of 30 basis points that included investment management fees and administrative fees. All the plans were based on a 3.5% inflation assumption. Buck drew a regression line through the data points to show the trend or average for all the points. He pointed out that Alaska's plans are towards the upper end of the amount of risk and just slightly above the average for rate of return assumptions.

MR. O'LEARY asked if the "expected nominal rate of return" was the earnings (discount rate) assumption. MR. SLISHINSKY explained that it was not really an assumption; it was a calculation of the expected rate of return for each of the systems given their asset allocations from the survey data, Buck's 3.5% assumption for inflation, and the real rate of return assumptions Buck was using for each of the different asset classes. Plus, the calculation was net of expenses. He said a 3.5% inflation assumption was close to average from the survey results and was also the inflation assumption being used for PERS and TRS.

MR. SLISHINSKY next presented a scatter diagram of the results of the risk versus assumed real rate of return data for the 125 plans in the NASRA survey. He found the kind of variance for plans surprising, given the same amount of risk that they are taking. The PERS and TRS plans were at 4.75% assumed real rate of return, using 12.8% standard deviation as the level of risk. That falls a little above the regression line. The regression line is not meant to say that that is where the Alaska plans should be; it is just the average of all the plans in the survey.

When MR. O'LEARY questioned the plans in the 2.0% assumed real rate of return range on the scatter diagram, MR. SLISHINSKY said the setting of assumptions is an actuary's opinion. It should be the best guess of the actuary, given the asset allocation, and there is no one right answer. MR. O'LEARY wondered how plans with such an aggressive investment policy that the standard deviations were around 13.0% could have such a low

real rate of return expectation (around 2.0%). MR. SLISHINSKY said he would certainly question it.

MR. SLISHINSKY added that he was surprised at the kind of dispersion he saw in the relationship between assumed real rate of return and standard deviation. Buck based the calculation on the NASRA survey data for the assumptions that pension plans are using, which is the difference between the assumed rate of return assumption and the assumed inflation assumption.

MR. O'LEARY commented that the plans might be saying that they really expect a much higher real rate of return but they wished to be very conservative in their funding, therefore, they were simultaneously using a very high inflation expectation. MR. SLISHINSKY agreed, saying that using a high inflation expectation in the actuarial valuation increases the value of the projected benefits — because the benefits are tied to salaries — and so it increases the liabilities. Thus it is conservative to use a high inflation assumption. Any plans below the regression line on the scatter diagram were more conservative.

MR. O'LEARY stated that Callan built its capital market assumptions on an inflation expectation of 2.75% as opposed to 3.5% used by Buck.

MR. SLISHINSKY made it clear that the scatter diagram of the results of the risk versus assumed real rate of return data for the 125 plans in the NASRA survey had inflation taken out. It was just comparing real rates of return with the level of risk. He had expected to see more of a grouping of the points along the regression line, similar to the previous scatter diagram showing risk versus expected nominal rate of return, but that was not the case.

VICE CHAIR TRIVETTE thanked Mr. Slishinsky for his presentation.

MR. BADER introduced Treasury Division staff present in the audience and indicated their areas of responsibility: Steve Verschoor (in the private equity area), Beth Larson (compliance officer), Ryan Bigelow (public equity), Casey Colton (fixed income), Victor Djajalie (fixed income), Jie Shao (special assistant in the commissioner's office), Andy Wink (real return), Shane Carson (public equity), and Nicholas Orr (fixed income).

COMMISSIONER KREITZER took the opportunity to respond to MS. HARBO's question earlier about a charge to PERS for Buck Consultants' work on the geographic difference study in November. She said that during the legislative interim she had made a presentation to the House Finance Committee on the geographic difference study; she knew one of the questions the committee might have would be the impact on the unfunded liability, and that was the request to Buck. She did not have the number from that study with her, but she promised to bring it tomorrow.

12. Capital Market Assumptions - Callan Associates

[A copy of the Callan slides for this presentation, which contain detailed charts and graphs, is on file at the ARMB office.]

MR. O'LEARY gave Callan's annual update of capital market assumptions, saying it is the first step in the process that leads to the Board's asset allocation decision at a subsequent meeting. The projections are Callan's defensible estimates for the long-term market outlook for each asset class, given the economic setting and given the starting levels of interest rates and stock prices. The number they pick is the mid-point of a range, rather than a specific number, and they define the range by a measure of volatility. For that reason, the actual return projection numbers for each asset class were almost guaranteed to be different from the eventual market outcome. Callan translates the long-run averages into an arithmetic expected return. They also presents geometric mean returns over different time periods, and he suggested that trustees focus on the geometric mean numbers. It is important to recognize that the world is constantly changing and to incorporate expectations of the impact of those changes on future results. Callan focuses on thinking about inflation and interest rates, as well as embedded expectations for taxes and profit growth. They spend more time debating the bond market expected returns than anything else because they presume that equity investments will have a premium to the bond market.

MR. O'LEARY stated that Callan prepares unconstrained optimizations where the model provides an array of portfolios that provide the highest return for a given level of risk. However, the Board by policy puts a cap on certain asset classes or puts a tilt in a certain direction. The biases embedded in the ARMB policy are a maximum of 5% in absolute return, a current maximum of 7% in private equity, and a more equitable balance between domestic and international equities than Callan's optimization would suggest. Many of Callan's other clients have moved in the direction of the last point as well, and the Investment Advisory Council members have been outspoken in their preference for that direction.

MR. O'LEARY said that all the return estimates this year looking ahead are lower than they were at the same time last year. The principal reasons for that are the substantial market returns in the past year on both the bond side and on the equity side. So all asset categories are less undervalued than they were at this time a year ago.

MR. O'LEARY said that Callan's optimization program does not have any proprietary insight into the financial outlook. They try to be sure that the conclusions make common sense and are reasonably consistent with what has actually happened over the long-run and that the conclusions also take into account where the markets and the economy are today.

MR. O'LEARY showed a chart of annual returns for several asset categories for the last six calendar years to illustrate what a difference one year's returns can make. He also mentioned the extremes of 2008's -37.0% return and the +26.5% return for 2009. He had another graph of the spread difference of the High Yield Index over comparable maturity Treasuries showing that it narrowed through most of the 2000 decade, then became impossibly wide during 2008 and has narrowed quite a bit since then. He mentioned that Mr. Sullivan of Mariner had offered his perspective earlier that looking forward credit spreads had basically narrowed so that the beta part (the big market movement part) of fixed income returns observed last year was basically gone.

Regarding the current economic environment, MR. O'LEARY said the length of the housing recession, now in its fourth year, is amazing. A recent measure of consumer confidence says that consumers are not confident. With 10% of them unemployed and 20% total under-employed, that is easy to understand. The better news is that growth returned in the second half of 2009, as measured by GDP. Callan does not believe that employment will revive until the second half of 2010 at the earliest. So the growth has been coming from an inventory cycle, that inventories had been exceptionally lean and are being replenished. It is important to understand that inventory cycles do not reflect final demand, and growth in final demand is needed for sustained growth. Growth has also come from fiscal and monetary stimulus. Historically, steep recessions have more often than not been followed by steep recoveries. A big exception — and Callan believes that unfortunately the exception applies this time — is that if the recession has been largely attributable to financial stress, then the shape of the recovery tends to be more gradual. That is likely in spades this time.

The provision of massive amounts of liquidity by governments around the world is ultimately going to be a very stimulating factor. In the short run, that is not terribly apparent because there has been such a reduction in liquidity in the private sector. The recession has been global, and even those countries or areas that did not have a contraction in 2008 had significantly slower growth than they had had immediately preceding 2008.

The consumer is 70% of the U.S. economy, and this has been the worst period for consumer spending since the early 1980s. This is not surprising, given the employment statistics and given the loss of wealth, much of it attributable to the decline in home prices but also in financial assets attributable to market weakness. This is a different era than when the typical retirement program was a defined benefit program; now it is more typically a defined contribution program.

Productivity has been going through the roof: some of it was technology related, but a lot of it was that given the contraction in the economy there was an easy ability to increase production without adding to employment.

Inflation concerns evaporated during 2008 when the people were worried about the capital markets even surviving. In mid-2008 inflation actually got up over 5% but, looking at treasury inflation protected securities (TIPS) at the end of 2008, some would have said that the implied inflation rate over ten years was zero percent. There are a lot of assumptions in getting to that conclusion, but it was saying that people were not worried about future inflation during the fourth quarter of 2008. Today, there is fairly wide-spread concern about what may happen with inflation looking ahead, but with so much excess capacity, very few, if any, expect a significant pick-up in inflation over the next one to three years.

The worry about future inflation is typically related to the size of deficits. It is very common and understandable and probably good that deficits increase during an economic recession. The presumption is that as the economy turns around revenue growth to governments will increase and may actually have years of surplus. The debate today is on what is called the normalized level of deficits as a percent of GDP. A mainstream view is that a 2% to 3% level of deficits is a sustainable level. And many would say that right now the longer-term structural deficits are in the 4%, 5% or 6% range, which most would view as unsustainable. Lastly, the amount of credit provided by the government is in almost unprecedented territory.

MR. O'LEARY showed a year-over-year graph of the changing consumer prices. The Consumer Price Index headline inflation at December 31, 2009 was 2.72% on a year-over-year change basis. There are other ways of calculating inflation changes, one of which would be to use an average, in which case it looks like there was no inflation in calendar 2009. Importantly, the CPIU core rate of inflation was even lower.

MR. O'LEARY said that from a policy making perspective inflation is one of the toughest issues that this Board and its peers have to deal with. Callan's economists say that inflation has to take off because of the magnitude of global monetary stimulus and the unprecedented fiscal stimulus. On the other hand, the economists also cite the low capacity utilization, plenty of unemployed people anxious to work at almost any compensation, and low interest rate levels. So the question is, barring something truly extraordinary in the geopolitical front, when will that inflation manifest itself? Very importantly, how will policymakers attempt to extricate themselves from the programs that may have been absolutely necessary to end the financial freefall?

MR. O'LEARY said Callan shares the fairly common view that if people err on the policy front they probably prefer to err by dealing with inflation rather than shutting off the economic recovery by acting too soon. The reason for that is they have a lot of experience dealing with inflation; they have not had much experience dealing with deflation. Policymakers do not want to be Japan, and they do not want to be the U.S. in the 1930s where trying to correct the deficit that existed then through tax increases resulted in a significant further decline in real activity in the mid-1930s.

Callan expects inflation pressures in the near term to remain modest and so they kept the inflation estimate at 2.75%. Some people at Callan could justify, with good reason, a lower number, but they all gravitated around the notion that inflation could average 2.75%. There will be below-average years and above-average years, and the below-average years are earlier in the process over the next five years than later in the process. Callan does not believe the economy will go into a deflationary period, but they acknowledge that there is always that risk.

On the optimistic side for the current economic environment, the credit markets are a lot better than they were a year ago. In fact, they may have gotten too good too quickly, because there still are a lot of fundamental problems, particularly in the commercial mortgage area. While people are not so worried about an individual country, like Greece, they are concerned about what it means for the financial institutions that own the paper and what it means for Euro-land. Hopefully the recession in the U.S. is over and the turn-around started in the middle of last year. But it will have been the longest and deepest recession since the 1930s. Callan expects low interest rates to persist.

MR. O'LEARY presented a graph of price-to-earnings ratios for the S&P 500 Index from 1954 to 2009 and described what was happening during different stock market cycles. He said that right now it is hard to make a case, on the basis of current earnings, that stocks are significantly overvalued or significantly undervalued. A year ago it was easy to make the case that stocks were significantly undervalued, if one could make the assumption that the world was not going to end.

MR. O'LEARY stated that Callan has always looked at the Barclays Capital Aggregate Index as the benchmark for bond returns. Income return is the primary source of total return to an investment grade bond portfolio. The yield to worst on the bond market at the end of 2009 was 3.75%. Callan believes that yield is a good naive projection of the return of the bond market over the next five years. Of course, it will be a little bit higher or a little bit lower than 3.75% because interest rates will change over the next five years. Also, there are securities in the index today that are going to mature in a couple of years that have very low yields because of the incredible steepness of the yield curve, and they will be replaced by things that are yielding more. Also, whoever is issuing debt will want to issue debt that is cheap from their perspective. He said a huge portion of Treasury debt (possibly 40%) has a maturity of less than two years. The 2-year yield today is roughly 85-90 basis points. No one thinks that two years from now 2-year paper will have a interest rate of under 1.0%. So the forecast is that the yield curve is going to be flatter than it is today. That change in the yield curve would not mean that you would necessarily lose money in bond investments, but you are also recognizing that there is a lot of stuff that is going to have to be issued, probably at interest rates that are higher than they are today.

MR. O'LEARY showed a graph of the U.S. Treasury yield curve at each year end since 2004. He pointed out that in 2008 everybody went to governments so Treasuries had a positive return and every other type of bond went in the tank. In 2009, Treasuries had a negative return and every other kind of bond had a positive return. So 2008 was panic-induced flight to quality, and 2009 was some greed back in the investor world. The key question is where do longer-term rates go, and what will the shape of the yield curve look like. When the federal government moves away from providing the extraordinary liquidity that it has provided over the last 18 months, Callan expects that short-term rates will have to move up. The Federal Reserve chairman has stated that the short-term Fed funds rate is going to stay low, presumably at least through this year.

Callan adopted 4.5% as its fixed income expectation over the next five years. They expect cash over the long term to average 3.0%, just 0.25% more than the inflation expectation. Historically, cash as measured by 90-day T-bills has had a slight premium to inflation. But there have been periods where the cash return was less than inflation and periods where it was significantly greater than inflation.

Last year Callan had a fairly high equity return estimate of 9.4%. This year the longer-term estimate is 8.5%, a 90-basis point reduction. Callan came up with a similar reduction for international equity.

The real estate long-term return estimate is 6.8%, which is lower than Callan had previously. Looking at it in an economic sense they could argue for the return estimate to be higher, but they took into consideration the starting value, and there may still be further contraction in that value estimate. Callan is not trying to communicate a real change in the relative attractiveness of real estate and other assets.

MR. O'LEARY presented a spreadsheet of the 2010 capital market expectations for return and risk by asset category (slide 33). He noted that a 5.75% real return estimate for broad domestic equity is below the long-run average that has been above 6.0%. Also of note is that the projected standard deviation of 17.30% for equity is greater than in 2009, and part of that is because the equity market is not as undervalued. As history, the standard deviation for the S&P 500 Index is probably around 15.0%. He also showed a matrix of correlation estimates for the 2010 capital market expectations and explained how to read it. He made the point that correlation estimates are deceptive because they change significantly: in the short run things can be very highly correlated and in the long run have comparatively low correlation numbers. Callan looks at as much correlation history as they can and then looks at the recent correlations, and they generally try to engineer their estimates to be somewhere between the two.

MR. O'LEARY said Callan used ten major asset classes in the unconstrained optimization process to come up with efficient asset mix alternatives. He reminded trustees that all the

return and standard deviation numbers are gross estimates, and the degree of precision suggested by going to the second decimal point merely helps differentiate one policy from another. The current ARMB asset allocation policy, using the 2010 projections, has a lower 5-year expected return than last year — 8.15% versus 9.04%, and the volatility is a little higher than last year — 13.5% versus 12.85%. The lower return estimate reflects the reduction in expected return, and the volatility is up, so the policy may need some tweaking.

MR. O'LEARY explained that the unconstrained optimization does not include some of the unique features in the ARMB's current policy. Each year Callan develops custom estimates for the real assets and for a composite of the fixed income. For example, the Board's earlier action to change to managing the internally managed fixed income portfolio against the Barclays U.S. Treasury Intermediate Index instead of the Aggregate Index means the expected return will be lower, but the correlation will probably also be lower and will provide more of a diversification benefit. Callan will be working with the Investment Advisory Council and staff to evaluate changes in allocations for real assets and fixed income. They will also be evaluating the existing limits on the constrained asset classes private equity and absolute return. Comparing this year's unconstrained optimization with last year's, Callan did not find any real big differences.

MR. O'LEARY encouraged trustees to submit any requests for things they would like to look at so Callan could get preliminary work done in advance of the meeting where the Board will adopt its annual asset allocation policy.

VICE CHAIR TRIVETTE said he assumed Callan and staff would be looking at where the buy-write strategy and commodities would fit into the asset allocation, assuming the Board decided to move forward with commodities. MR. O'LEARY said yes, that commodities, if approved, would become a very small part of the real return category.

MR. BADER recalled Commissioner Kreitzer's report in the morning about the growing number of people who will be retiring in coming years that will increase the demand for liquidity from the investment programs. While everyone is acknowledging liquidity, the ARMB policy has a number of illiquid asset classes. He wondered to what degree, and when, the need for liquidity should start to be factored into the asset allocation policy.

MR. O'LEARY said that if a retirement plan were close to fully funded and net cash outflows exceeded 5.0% of the value of assets, he would say that it ought to be evolving toward a more conservative investment policy. The Alaska retirement plans are significantly underfunded, and the expected contributions significantly offset the cash disbursements. Given the magnitude of those expected contributions, he did not think the Alaska plans would satisfy the 5.0% net cash number in the foreseeable future. However, if for some reason those contributions were not made, then the Alaska plans would be in that

position fairly quickly. His counsel would be to not increase the illiquid portion of the portfolio in aggregate. The illiquid portion is real estate, farmland, timber, energy, and private equity.

MR. BADER commented that each year the Callan capital market assumptions typically call for an increase or decrease in public equity or fixed income, and there is a cost in changing that, even for indexing. He asked how to factor in the cost of changing the asset allocation.

MR. O'LEARY said he thought development of the recommendation should explicitly consider whether it was worth the expense [to make changes]. Also, other than a desire to have performance closely parallel a target index, there is nothing that requires that it be implemented immediately. If that were a big enough concern, he would propose having an interim target on the way to the longer-term target. That is very common when first entering an asset class like private real estate or private equity, where the portfolio evolves to the target.

Contemplating a scenario where there might be less domestic equity in a new policy, MR. BADER said that as long as the actual allocation was within the bands around the target, the retirement funds could get to the target as staff raised capital necessary for benefit disbursements.

MR. O'LEARY agreed, saying a standard recommendation is that any external cash flows should be used as an opportunity to move toward the targets so there are one-way transaction costs. In practice that may be difficult to implement because it affects more [equity] portfolios, but it can be done by planning three months ahead, for example, to replenish the cash.

MR. PIHL asked if the Board would need to widen the bands around the asset allocation targets. MR. O'LEARY said he did not think so, although it depended on what was ultimately recommended as a policy. Typically, the narrower the bands, the more benefit there is from the forced rebalancing. Last year, the ARMB portfolio was helped by the discipline of moving money to equities as the value of equities plummeted. The portfolio was not able to get all the way back to target because of the denominator effects of the illiquid investments. So there should be sufficient leeway in the bands, which he thought the ARMB policy has, but staff and the advisors would review that.

MR. PIHL inquired if there could be short-term bands and longer-term bands around the asset allocations. MR. O'LEARY responded that he did not want to make things too complex, that a reasonable buffer in cash provides a great deal of operating flexibility. He added that part of the problem is the lumpiness of the extraordinary contributions. Maybe a good way to deal with that would be to earmark a portion of those contributions as cash to

accommodate that.

MR. RICHARDS expressed his understanding that the liquidity problem would continue until the last check was paid out to the last remaining participant in the defined benefit retirement trust accounts.

MR. O'LEARY agreed and asked for IAC comments on the capital market assumptions, etc.

DR. JENNINGS spoke first on the rebalancing discussion, saying that generally the asset allocation policy recommendations are 1% and 2% changes from the prior year, which is smaller than the bands around the target allocations. So the consensus opinion just expressed that the bands are generally wide enough is probably appropriate. When the market was declining, staff and the IAC discussed whether to force rebalancing. Transaction costs had gone up, and higher transaction costs would lead to wider bands, so that was when the bands were suspended. He thought the overall rebalancing ranges approach that the Board has taken in the past has been appropriate.

Regarding the capital market assumptions presentation, DR. JENNINGS said he would characterize the inflation projection as higher than other ones he has seen but probably more consistent with his level of pessimism about that. The ARMB has an actuarial 30-year horizon inflation assumption to keep in mind as well. As far as the equity risk premium over bonds, he said he might have layered in a little bit more conservatism this year versus what was done last year. However, it was within the main bands of other assumptions he has seen and ones he holds himself. He said he has heard presentations by consultants where they try to focus on how correlations might have changed. But everything went off the cliff together, and there are some academic studies that point out that the return assumptions are about 20 times as important as the correlations. So the fact that the correlations have not changed that much over time is not a source of concern to him.

MR. WILSON said he would defer to staff on the bands around the target asset allocation because they have the best feel for it in working with the bands on a day-to-day and month-to-month basis. His impression over four years on the IAC is that the bands have worked, and he would not advise changing them unless he got feelings otherwise.

Regarding the capital market projections, MR. WILSON said he agreed with Mr. O'Leary's opening statement that he could be certain the projections would all be wrong. The investment business tends to get quite technical, but it really comes down to another O'Leary statement over the years about the decision to be an owner or a lender, to be in either the stock market or the bond market. That is the fundamental decision, and he repeats that to many people. With interest rates so low, it is hard to imagine that equities will not do better than credit over the next 10 to 15 years. That is how the Massachusetts

fund is betting and how he is managing his personal money, so that principle guides his overall thinking. The ARMB has to layer in the retirement plans' liquidity needs, which is a unique feature, but it is hard to imagine that taking some risk over the next 10 or 15 years will not pay off.

MR. PIHL commented that banks are supposedly awash in deposits and should be lending money. MR. O'LEARY said the banks earn enough on the money they have to more than pay for the cost of obtaining the money. Banks are dealing with a regulatory challenge: on the one hand they want to pass bank examinations, and on the other hand they do not want to explain in Washington, D.C. why they need assistance. Some participants in the economy are getting two different messages from the government: it wants banks to be more conservative in their investment process and to have more capital, and it wants banks to lend to companies who probably have scary balance sheets. It is a time of great uncertainty for businesses, and banks are looking at the probability that a loan will add to their profits. He said there are a lot of small banks in Colorado, which is still a fairly rural state, that are in deep trouble because their primary loan types are to farmers and developers, etc. The number of banks failing nationally is still going up.

VICE CHAIR TRIVETTE called a scheduled break from 2:55 p.m. to 3:06 p.m.

13. Relational Investors LLC - Large Cap Equity

MR. BADER introduced DAVID BATCHELDER and FRANK HURST from Relational Investors to give a report on the large cap equity account they have managed for the Alaska Retirement Management Board since May 2005. *[A copy of Relational's presentation slides is on file at the ARMB office.]*

MR. BATCHELDER spent a few minutes talking about the firm founded in 1996 and with $6.1 billion currently under management. Relational concentrates its investments in about 12 stocks, and they are the largest and most experienced activist investor in the U.S. They focus on mature companies with strong cash flows and strong franchises but that have lost their way and are undervalued in the marketplace. Examples are Prudential, Waste Management, Mattel, and Home Depot.

MR. BATCHELDER stated that he is on the board of Home Depot, and he used it as a detailed example of what Relational does and how they do it. He reviewed Home Depot's rise as a strong retail franchise and the diversification effort into other businesses to achieve growth that failed and dragged down the earnings per share of the stores. When Relational invested in Home Depot stock in 2006 they took a seat on the board and worked with the company to review and change certain strategies - like improving the supply distribution system, causing the company to sell its non-core assets and refocus back on the core store business, and changing the compensation of store management to performance-based. These actions revitalized the employees to provide better customer

service. Home Depot has a lot of margin improvement to come over the next two or three years from the operational changes being made.

MR. BATCHELDER explained how Relational's strength is not just their ownership of shares in a company but also the ownership of a dissatisfied institutional shareholders base that wants change to occur at a company. Relational has a trusted reputation in the institutional community that they will not use the power given to them to do anything other than sell their stock on the open market after a company is fixed and they move on to another company to try and fix it. He also explained how Relational can effect change with just one director on a company's board through being the best-informed director. Relational has a team of three analysts go through each meeting packet and prepare him for the board meeting. They keep track of prior meeting material and follow changing projections in 3-year plans, which is hard for an individual board member to do. Other board members begin relying on the director from Relational and make requests for detailed analysis by Relational's team. The other directors quickly understand that Relational's agenda is the same as theirs, which is for the company to perform well.

MR. BATCHELDER stated that Relational is in these big companies for three to five years because it takes a long time to fix them. Since 1996 they have had 78 of these projects, but they have only had to go on the board 11 times. For example, they recently announced an agreement with Genzyme where they have the right to go on the board if they want to. Relational has found in many cases that having the right to go on the board is as powerful and generates quicker action than actually going on the board. They have found on compensation and capital allocation issues that they need to get on the board and get those fixed; on operational issues they can step back and be patient while the company is fixing the issues that dominate the value of the company in the short term.

MR. BATCHELDER said that since the firm's inception in 1996 these activities have lead to outperformance of about 4.0% annually in the portfolio.

MR. O'LEARY made reference to Relational's use of the S&P 500 Total Return Index internal rate of return and the time-weighted return as comparisons, and said that in this type of investment the inclusion of the effect of timing is an appropriate measure.

MR. BATCHELDER said that with such a small number of stocks in the portfolio it is easy for Relational to measure what drove the performance since inception, and he had a graph to show that. He said that in the marketplace adjustments of 2008 Relational was caught with two stocks that hurt the portfolio fairly seriously. Those were Sovereign and Sprint Nextel. Sprint needed to deleverage, but by the time Relational got on the board to get that done the financing markets had moved away and they were unable to get the company deleveraged in time. Sovereign was a financial institution that was on the fringe of viability in the same time period.

MR. BATCHELDER stated that since 1996 Relational has engaged 49 companies on what they call a serious engagement. They have had investments in a total of 74 companies, but sometimes they begin to buy a stock and it moves away from them in price, and so they never really get engaged with the company. Or sometimes through further due diligence they decide it is not a situation they want to work on. Over time Relational has found that in the period prior to their engagement the companies have had serious underperformance on five-, three-, and one-year metrics. During the period of time in which Relational has engaged the companies, they have outperformed the market by 16%. Interestingly, after Relational leaves and sells its shares, the companies continue to outperform. They also found that it is in the middle third of their engagement in companies, when Relational is doing the heavy lifting, that the companies outperform the most, but they do continue to outperform in the last third of Relational's investment as well. Relational has learned that they need to minimize the amount of investment that they put in the first third of their activities, and they no longer believe that they need to be a top-ten shareholder to have enough influence.

Referring to the 2009 market environment, MR. BATCHELDER said he felt that Relational did fairly good, given that they have a concentrated investment in stocks that are under-leveraged and heavily focused on cash flow generation. When the junk rally began the value stocks could not keep up. Their primary underperformer in 2009 was Genzyme. That was not due to a leverage issue, it was an operational issue where some of the drugs for genetic diseases that Genzyme produces had a virus and that caused them to have to reset their plants. Relational believes those issues were caused by Genzyme's desire to seek diversification, and Relational wants them to stick to their core business of providing very expensive, life-saving drugs to a small population. The second big underperformer in 2009 was Unum Group, a disability insurer, and Relational has a lot of confidence in that company. Intuit is where Relational just went on the board in January, so that will be a three- to five-year project.

MR. BATCHELDER said they are positioning the portfolio in companies with low financial leverage and strong defensible cash flows. To make sure they do no end up with Sprints or Sovereigns in the portfolio again they have adopted a macro risk overlay to address credit risk and consumer risk, etc. to avoid too much concentration of risk in any one area. They have also determined that the faster they can get through the first third of a company engagement the more they can minimize the risk of stalled or failed engagement projects. The portfolio is diversified among most, but not all, sectors. It is diversified on broad macro factors and by early, mid, and late investment stages of projects. He said they are making a difference in the companies in the portfolio, and they are confident in the positioning of the portfolio for 2010.

MR. PIHL observed that, according to the slide showing the portfolio holdings, Home Depot

was way in the red. MR. BATCHELDER conceded that the stock has a long way to go, but it has performed very well so far in 2010. Relational is confident that Home Depot will be an early mover as the economy starts to return and the number of building permits increases. Home Depot is not really in new housing but focuses on do-it-yourself repairs, where a lot of people still use subcontractors. There is a lot of expense leverage on the up side as these companies start to recover. MR. HURST added that Home Depot has been a positive contributor to the portfolio because it was not down as far as the market was down since 2007.

MR. RICHARDS commented that Unum Group is in the mid to late investment stage but is still negative. MR. BATCHELDER said Unum fell with the big insurance companies, however, it is very well capitalized. Relational is working with them now on what they are going to do with the rest of the capital: they could substantially increase the dividend and repurchase shares with the liquidity.

MR. RICHARDS also questioned the code names of two stocks in the portfolio. MR. BADER said the public knowledge of these companies could possibly have an adverse effect on the manager building the portfolio. MR. BATCHELDER explained that Relational has the ability with the SEC to keep positions confidential as they are accumulating the stock of a company. The value investors will front-run Relational if they know what they are getting ready to invest in. That confidentiality usually lasts about 90 days.

VICE CHAIR TRIVETTE thanked the gentlemen from Relational for their presentation.

14. Commodities

[A copy of the Callan Associates slide presentation is on file at the ARMB office.]

MR. O'LEARY gave a presentation on the possible addition of commodities as a subcategory in the Board's long-term asset allocation policy. He said the ARMB has a significant real return allocation that includes commercial real estate, farmland, timber, TCW energy fund, and TIPS. Other public plans are nowhere near as far along in the real return subcategory as the ARMB is. He said that core commercial real estate is a wonderful real return asset, and, despite some pain and suffering, he counseled that it is the largest area of investment opportunity. There are always lessons to be learned on how to access commercial real estate, but it is an integral and significant part of the ARMB's real return portfolio.

MR. O'LEARY said the question for the Board is whether the retirement fund portfolio needs yet another little sliver of the real return portfolio. There is probably not a right or wrong answer, but he intended to describe the potential benefits. He said the first part of the presentation would be general, using a "clean sheet" approach. The second part of the presentation was more customized to the ARMB's situation.

A real return portfolio provides an attractive rate of return by itself and is not dependent upon inflation to be a productive part of the portfolio. But it also provides as a secondary benefit better performance characteristics in an inflationary environment than the rest of the portfolio. It is logical to think that this segment of the portfolio would face a headwind in a deflationary environment.

MR. O'LEARY said that Greg Allen, Callan's president and CEO, put together an illustrative target asset allocation with 15% in real assets. He explained how the funding source for real assets depends on the composition of the real return portfolio. Energy stocks or commodities pull from equities, and the funding source for TIPS would likely be fixed income. NCREIF Index type of real estate has always been in between fixed income and equities, while more aggressive real estate strategies look and feel a lot more like private equity. If liquidity is important to a plan, it could look to securitized real estate (REITs), energy stocks, and other natural resources stocks. It is important to understand that publicly traded, equity-oriented instruments will perform a lot like equities generally.

MR. O'LEARY reviewed data on when the indices for major asset classes were created, along with when the U.S. experienced high inflationary periods. He showed a table of Callan's expected correlation of each real asset category with inflation. He mentioned that the correlation of farmland with inflation was probably higher than shown, but the index data on farmland is so limited that it is probably better to be conservative than overly optimistic about the correlation. Commodities, TIPS, and real estate have the highest correlations with inflation and appear to provide the most effective short-term hedges. The asset classes with inverse correlations with inflation are broad domestic equity, international stocks, fixed income, and long Treasuries.

MR. O'LEARY presented a graph of commodities versus inflation since 1970 and stated that commodities had a positive real return in 73% of the rolling 3-year periods. The nature of commodities is that there is a lot of volatility. The same graph of TIPS versus inflation since 1970 showed a small positive real return in 89% of the rolling 3-year periods at a lot less volatility. Real estate has very low observed volatility, and in 82% of the periods the NCREIF Index generated a positive real return.

MR. O'LEARY displayed a chart of TIPS and commodities returns over almost 40 years to show how important rebalancing is to potentially add value over time from low-correlation, high-volatility assets. Commodities are incredibly volatile, and it is best to have somewhere to put money when things get out of whack. The message is that a simple mix of 80% TIPS and 20% commodities would have outperformed both TIPS and commodities by over 40 basis points with less risk than either. The weakness in the analysis is that the commodity index was dominated by energy in the past, and much of the history for the TIPS index is a theoretical index. Another graph illustrated that a blend of TIPS and commodities had a higher correlation with CPI than either of the two components separately. TIPS also

provide a nice offset to the illiquidity of direct real estate. If a plan was worried about inflation and also wanted to try for a higher return with a more complex real return portfolio, it could add categories like timber, farmland, and infrastructure.

MR. O'LEARY stated that a large investor with 15% or 16% in a real return portfolio that is sliced into a lot of small pieces would have to question if it was worth spending the resources to monitor it, make changes, and manage the cash flow.

Callan's conclusions are that a wide variety of investments are being represented as inflation hedges, but there are no perfect inflation-hedging assets. This Board already understands that a big part of the portfolio should be invested in inflation hedges because undoubtedly inflation will be a problem. Also, that TIPS and commodities in reasonable proportions do provide some benefit against particularly sudden inflationary spikes. The bottom line is that if 15%-20% of the portfolio is invested in real assets and there is a sudden rise in inflation, 80% of the portfolio's assets will not be offering much, if any, protection against inflation in that period.

MR. O'LEARY next covered implementation choices for investing in commodities. The major implementation strategies are:

(1) Natural resource stock portfolios by buying sector funds or hiring an active manager with special expertise. A slightly different approach would be an active manager that had broad flexibility and that could theoretically own some commodities the way the long-only commodity strategies would work, but they also might own some TIPS or some natural resources stocks.
(2) Passive index approaches. Exposure typically would be through the use of futures, options or swaps, which involves taking counterparty risk. The most common type of index for commodity type swaps, which gained a lot of popularity pre-meltdown, was the AIG Commodity Index. This did not mean that AIG was the counterparty to the swap, but it may well have meant that in some cases.
(3) Long-only commodity strategies.
(4) Commodity trading strategies, which tend to employ a lot of leverage and have a lot of transactions. The institutional products tend to be unlevered and long-only.

MR. O'LEARY said that given his understanding that the ARMB would have a comparatively small allocation to commodities, the way to get the most bang for the buck would be more in the pure commodity plays, as opposed to the natural resources stock portfolios. Callan's counsel was that the most cost-effective strategies were #2 or #3 above. The ARMB has some exposure to commodities trading strategies in the absolute return portfolio. Crestline's presentation earlier indicated that the biggest contributor to their since-inception return was commodity trading, but it is a very small part of their total portfolio.

MR. O'LEARY briefly described the differences among the four major commodity indices. He then presented the longer-term return expectation for commodities of 4.4%, which he said was essentially a bond-like expectation. However, the volatility was very high. Commodities are clearly a very good short-term inflation hedge and a good long-term inflation hedge. Commodities provide excellent diversification benefits and strong liquidity. There is limited availability of the product, and when dealing with something other than the physical commodities there is always the potential for a regulatory issue. Because commodities are very liquid, the fees and expenses are comparatively moderate.

MR. O'LEARY stated that TIPS have a lower longer-term expected return than commodities and much lower risk. TIPS have bond-like volatility, but since they are longer duration, they have greater than broad bond market volatility. The correlation of TIPS with CPI is high, and they are a very good short-term inflation hedge and a good long-term inflation hedge. They also provide a flight-to-quality hedge because they are a Treasury obligation. Liquidity is good compared to other real assets. The opportunity to add meaningful value is low. Active managers attempt to add value in TIPS by sometimes not owning TIPS when they find the nominal bonds offer better protection. Depending upon the mandate, the manager may even invest in global-linked bonds that in some cases are non-government backed. The fees and expenses for a TIPS portfolio should be very low.

MR. O'LEARY said that the expected risk for commercial real estate is 16.1%, although the observed volatility has been lower than the bond market. The correlation with inflation seems to be fairly good, and Callan believes it might be the best long-term inflation hedge. The liquidity is poor. There is a lot of real estate for sale and plenty of people willing to manage real estate assets. The opportunity for positive returns are good, but the fees are high.

In conclusion, MR. O'LEARY stated that the Board already has a meaningful real return commitment that is well-diversified. Callan believes that adding a little commodity slice would be helpful, but it requires resources to manage it day to day. Staff is clearly in the best position to determine whether that can be done efficiently or if would detract from a more productive utilization of staff resources. If the Board were to decide to proceed with commodities, it could be done on a largely passive basis or on an active basis. He felt that because of the volatility and because of the possibility of changes in the rules of the game, he would lean toward the active, if he could only choose one approach. He suggested pursuing alternatives in both camps, and if they got all the way through the process to the Board, the Board could then decide which way it wanted to go or select a combination of active and passive. The last point was that a publicly traded natural resources equity portfolio was not the way to provide meaningful benefit to the ARMB's existing portfolio, although it was a viable alternative.

MR. WILSON commented that he has always been struck by the headline risk of commodities for a public pension plan, which was something that Mr. O'Leary's presentation did not address. Having seen pension assets as a topic in the local newspaper in the last couple days, he thought headline risk was something important to keep in mind, especially since the presentation material rated commodities as relatively low expected return and extremely high volatility. People will zero in on the periods when a strategy does not work, and there is something about commodities that make people think about commodities speculation and "what were you thinking when you did that." So he urged the trustees to think about the headline risk as they considered this strategy.

DR. JENNINGS stated that commodities are one area where he could see potential for active management because things can happen with commodities where relationships get out of whack. He did not mean the full-up commodity trading advisors or speculators, but something where judgment is applied. At the same time, the rebalancing slide that Mr. O'Leary showed probably requires there to be some index component to it as well. This would be a case where both passive and active could fit in with whatever the final approach is.

Action Memorandum from Staff:
MR. BADER drew attention to the table of ARMB real assets investments in a memorandum in the meeting packet that staff provided to remind trustees of the percentage of the total ARMB portfolio invested in each asset category, along with the dollar amounts. He said the Board has heard two presentations about commodities, and he would like a decision on whether to go any further. He pointed out that all the assets in the real assets allocation are illiquid, except for the allocation to TIPS. The Board talked earlier in this meeting about the need for liquidity, so it came to the question of whether the ARMB could maintain the current asset allocation and become more illiquid. He submitted that the ARMB would be better off becoming more liquid. The rebalancing between commodities and TIPS with whatever strategy is used presents an opportunity for incremental return, as well as having the diversification.

MR. BADER said staff's recommendation was to engage in a manager search for one or more commodities investment managers and, after review by Callan and staff, that manager presentations be made to the Board.

VICE CHAIR TRIVETTE asked if staff intended to rebalance TIPS and commodities every quarter, if the Board decided to proceed with a commodities component in the portfolio. MR. BADER stated that staff intended to try and replicate the work the Callan did to come up with what would be an optimal rebalancing schedule, given the resources available and given the incremental return that they believe is possible. Staff believes that the volatility of commodities presents a very attractive opportunity to get incremental gain from rebalancing.

VICE CHAIR TRIVETTE inquired if Mr. Bader envisioned any problem with not having the staff to monitor the asset category and manage the cash flow. MR. BADER said he did not see a problem because he thought it likely that the new asset allocation policy the Board would adopt in April would have the same percentage of the ARMB portfolio in real assets. So any allocation to commodities would result in a reduction to another asset category within the real assets allocation.

MR. RICHARDS said he thought commodities was a zero-sum game, so he wondered if the use of an investment manager would lend to the liquidity. MR. BADER replied that the two manager presentations to the Board, while they do not represent a long history in this field, indicate that those managers have had positive returns. He added that there are hedgers in the commodities field who are not out to necessarily make a profit in the commodity that they invest in: they are trying to lock in their profit margins. He said it was a fair question to ask the managers who will make presentations to the Board.

MS. ERCHINGER asked at what point managing so many different strategies with the goal of diversification and for incremental benefits, and now inflation protection in the current environment, would become ineffective, given the number of staff available to do the job.

MR. BADER said there is a decreasing marginal return from diversification. He added that if the Board would not like to proceed with commodities there are other ideas that staff finds more attractive. But the ARMB holds education conferences where people are brought in to explain different strategies, so he thought it important to bring those before the Board to get a thumbs up or thumbs down. He said he was not heavily invested in commodities, although he was recommending it, and it would be fine if the Board said it wanted to put its apples in another basket.

MS. ERCHINGER stated that commodities sounded interesting and compelling, but the Board has to rely on the CIO to say at what point adding new strategies overwhelms staff's ability to be as effective as they can be.

MR. BADER said staff was looking for authority to proceed, but staff was also looking at alternative approaches to getting the same benefit in the portfolio. The Board has already approved looking at the buy-write strategy, and moving forward with commodities would be in line after the board has made a decision on buy-write.

MS. HARBO moved that the ARMB authorize the chief investment officer and Callan Associates to conduct a search for one or more commodities investment managers, including both passive and active investment strategies. MR. PIHL seconded.

MS. HARBO said that having more asset classes that provide liquidity was the important

thing.

CHAIR SCHUBERT indicated she was very supportive of the motion.

Roll call vote
Ayes: Erchinger, Harbo, Pihl, Richards, Williams, Schubert, Trivette
Nays: None

The motion carried unanimously, 7-0. *[Commissioner Galvin and Commissioner Kreitzer were absent for the vote.]*

15. Investment Actions

15(a). Convertible Bond Investment Guidelines - Resolution 2010-01

MR. BADER informed the Board that staff successfully negotiated a contract with Advent Capital Management to manage a convertible bond portfolio, and funded the portfolio with $50 million on November 2, 2009. Staff created a convertible bond pool with different investment guidelines within the domestic equity pool. Unfortunately, the convertible bond investment guidelines the Board adopted do not allow for the investment manager to hold cash in the portfolio, and a fixed income manager should be permitted to invest in cash. This oversight was discovered in a compliance test. Staff proposed a change to the guidelines to fix that.

MR. PIHL moved that the ARMB approve Resolution 2010-01, adopting the convertible bond guidelines as written *[in the meeting packet]*. MS. HARBO seconded.

On a roll call vote, the motion passed unanimously, 7-0. *[Commissioner Galvin and Commissioner Kreitzer were absent for the vote.]*

15(b). Equity Investment Guidelines - Resolution 2010-02

MR. BADER stated that the investment guidelines set forth permissible equity investments, including equity and equity-related securities listed on recognized exchanges. However, the portfolio occasionally may receive some delisted and/or deregistered equity investments through some corporate action, such as a bankruptcy or conversion. Sometimes these securities may have little or no value, and the cost of selling them may be more than the value of the investment. At the same time, those investments may have a call value that could mature. When the Board adopted the particular guideline it was to keep managers from buying securities that staff did not know anything about. But the guideline is problematic for the compliance and accounting staff in the type of situation he just described, and the portfolio staff do not want to get rid of the securities that are simply in the

portfolio as a result of corporate actions. Staff recommended amending the equity investment guidelines so that securities that are delisted and/or deregistered or owned as a result of a corporate action and not a direct purchase, and that are held at a value deemed to be de minimus, can be held in the portfolio.

MR. PIHL moved that the ARMB approve Resolution 2010-02, approving the revised Investment Guidelines for Domestic and International Equities to include the ownership of delisted and/or deregistered securities not acquired via direct purchase. MR. WILLIAMS seconded.

The roll was called, and the motion passed unanimously, 7-0. *[Commissioner Galvin and Commissioner Kreitzer were absent for the vote.]*

RECESS FOR THE DAY

VICE CHAIR TRIVETTE recessed the meeting for the day at 4:40 p.m.

Friday, February 26, 2010

CALL BACK TO ORDER

VICE CHAIR TRIVETTE called the meeting back to order at 9:00 a.m. Trustees Harbo, Erchinger, Richards, Pihl, Trivette and Williams were present at the meeting location in Juneau, and Chair Schubert was present by teleconference.

REPORTS (Continued)

16. The Role of International Small Cap - Callan Associates

MR. O'LEARY mentioned that Callan's Janet Becker-Wold made the initial presentation on the case for international small cap equities at the Board's December 3-4, 2009 meeting. He reported that Ms. Becker-Wold was a finalist for consultant of the year. He also briefly reviewed the key points from Ms. Becker-Wold's presentation in December. *[A copy of the Callan slides for this presentation are on file at the ARMB office.]* International small cap equity has provided a premium return compared to the developed market large cap equity. As expected, the premium has been accompanied by higher volatility. There are fewer active international small cap managers than there are active domestic small cap managers, but the universe is large enough that there is a reasonable set of manager alternatives. The MSCI index family has evolved substantially and, with the inclusion of many more companies, the indices now represent a more complete measure of the world

equity markets.

MR. O'LEARY showed several charts that Ms. Becker-Wold had in her presentation that illustrated that international small cap equity was a relatively good place to be invested over the last 10 years. An updated graph showed that 57% of the international small cap managers would have matched or beat the small cap index, if fees were 45 basis points. Another chart was of international small cap index sector diversification compared to other indices. The most striking difference was that consumer discretionary and industrials in the small cap index are significantly greater than in the EAFE Index, and that financials, while large in the international small cap index, are smaller than they are in the EAFE Index.

MR. O'LEARY said the Callan manager database contains 98 international small cap strategies. Product capacity is a moving target, and many products have reopened recently as a result of the market decline in 2008.

MR. O'LEARY next talked about the ARMB total international equity diversification: 46.1% was in large cap companies at September 30, 2009, just under 32% was in mid cap companies, almost 19% was in smaller companies, and 3.3% was in micro cap (or what in the U.S. would be the smaller end of small cap companies). The sum of the ARMB's international managers is well diversified versus the All-Country World Index ex-US but underweight smaller cap equity versus the MSCI All-Country World ex-US IMI (Investable Market Index). The weighting by international manager mandate was 76% developed markets and 24% emerging markets at September 30, 2009.

MR. O'LEARY reviewed the ARMB's international equity managers individually so the Board could see which of them was bringing a lot of small cap exposure to the portfolio and which was not, as follows:

- Brandes - has good smaller company exposure compared to the indices but much lower exposure to what are labeled micro cap.
- Capital Guardian - has substantial exposure to the small cap area and low exposure to the micro cap.
- Lazard international component of the global portfolio - has below index exposure to both small cap and micro cap, using the ACWI Index ex-US, and significantly lower exposure than the MSCI All-Country World ex-US IMI.
- McKinley Capital - their small cap exposure is meaningfully below the small and micro cap segments of either the ACWI Index ex-US or the ACWI ex-US IMI. The composition of the McKinley portfolio changes fairly radically through time, so September 30, 2009 was just a snapshot in time.
- State Street - has pretty high combined exposure to small and micro cap, and is very slightly behind the ACWI ex-US IMI.
- Eaton Vance - has meaningful exposure to smaller cap (information provided by Eaton Vance). That was one of the appeals of their approach when the Board hired them.

- Lazard emerging markets - has very meaningful small cap exposure.
- Capital Guardian emerging markets fund - has very meaningful small cap exposure.

MR. O'LEARY said he concluded that looked at in aggregate the ARMB has less than broad market exposure to international small cap but good representation in the emerging markets small cap arena. That leads to the question of how the program should be structured, if the Board decided to proceed with international small cap: should it be primarily developed market, or should it be the total international market? Callan believes it should be primarily developed markets. But because of the scarcity of really good active managers, he would not eliminate a manager that had some emerging markets exposure. He preferred that that exposure be lower rather than higher, on average, and/or opportunistic when the manager finds something particularly attractive.

Regarding how many managers would be the right number, MR. O'LEARY said international small cap is a capacity constrained area, and it is not uncommon for these managers to close their products to any more assets. They often try to accommodate their existing clients but may be unable to do so. As with any active small cap manager, the shorter-term variation in their performance from the benchmark tends to be quite high, so diversification to a minimum of two managers makes a lot of sense. He said he understood that adding to the number of ARMB managers was a touchy subject. The Board has a good roster of international equity managers, so the first place to think about candidates would be among the existing managers to see if they have some competency in the area, particularly if it would provide some fee advantage through relationship pricing.

MR. PIHL inquired about the amount of placement, if the Board were to proceed with an international small cap mandate. MR. O'LEARY said he and the portfolio staff were thinking in terms of $200 million to $300 million total.

MR. WILSON asked if there was any way to broaden the mandate of an existing international large cap manager, or if it was a different skill set. MR. O'LEARY said Callan would start by assessing the capability of the existing managers. For example, McKinley Capital is not a viable candidate for international small cap because their investment process does not lend itself to it. But other existing firms may warrant consideration.

VICE CHAIR TRIVETTE asked if Callan would have the manager search results back to the Board by the June meeting. MR. O'LEARY said he was mindful of the schedule and how many tasks the CIO has on his plate as a result of this meeting. He added that international small cap is not a burning priority, so it will be what can fit into a busy agenda. But the June date would not be a problem for Callan.

MR. BADER indicated he agreed with the comments about the urgency of this. Even though items come to the Board in a particular order in the meeting packet, staff does not

necessarily view that as the order of priority to address items. He said that a question at the last meeting about whether international small cap offered additional exposure and an incremental gain, given that the ARMB already has emerging markets managers. Based on Mr. O'Leary's report and staff's independent work, staff believes there can be incremental gain by adding international small cap to the roster. Existing managers is always the first place to look for potential candidates, but the search will not be limited to them. He referred to the action memo in the packet that included a staff recommendation to proceed with a manager search.

MS. HARBO moved that the Alaska Retirement Management Board direct Callan Associates and portfolio staff to conduct a search for one or more international small cap investment managers. MR. PIHL seconded.

The roll was called, and the motion passed unanimously, 7-0. *[Commissioner Galvin and Commissioner Kreitzer were absent for the vote.]*

17. Capital Guardian - Emerging Markets

Relationship manager PAULA PRETLOW and VICTOR KOHN, a portfolio manager and chairman of the emerging markets investment committee at Capital Guardian, spoke on the Alaska retirement fund's emerging markets growth fund investment valued at $382 million at the end of 2009. *[A copy of the Capital Guardian presentation material is on file at the ARMB office.]*

MS. PRETLOW indicated that information about Capital Guardian's investment philosophy and process were included in the handout booklet and, unless there were questions, she would proceed to discuss the emerging markets equity team. The team remains unchanged in recent years, and the firm is happy with how the team is working together and with the results that they are providing. Since the ARMB account began in 1994, Capital Guardian has provided superior long-term investment results to the benchmark.

MR. KOHN reported that 2009 was an extraordinary year in which emerging markets were up 78% to 82%, depending on which index one looked at. It was a crazy, roller coaster year, and Capital Guardian pretty well kept up with the MSCI Emerging Markets IMI. The main drag was having any amount of cash. As usual, what they did well was very good stock selection. The year started with sharp declines in the indices, then towards March the world realized that emerging markets were doing much better than the panic that was wrapping the developed world. The big recovery was in the second and third quarters, with recoveries of 37% and 21% respectively. The peak was in late October, and there was a slight decline from then.

MR. KOHN explained that in January 2009 China introduced very strong stimulus measures, both fiscal and monetary. The question mark was whether China would be able

to counterbalance the external drag from the developed economies. As the year ensued, the answer was a resounding yes, and not just China but India, Brazil, and most emerging markets. That was a very different experience than what occurred in prior decades. Towards the end of the year some large debt issues in Dubai created a big scare, and now the center of attention is Greece and some parts of developed Europe. This is not unique to emerging markets, and there will be many lingering things going forward. The spread of performance between large cap equities and smaller caps in emerging markets was at an extreme. In a year in which emerging markets went up roughly 83%, the largest quintile for market caps was up 60%, and the smallest quintile was up 114% — a very sharp divergence.

MR. KOHN stated that in Asia China was not the bubble that people thought it was; it was up 69% in the year, well below the average. The big fireworks happened in the more commodity oriented countries that had a sharp recovery from the decline of 2008 — mostly Brazil and Russia. They had sharp recoveries in both the stock market and the exchange rate. Overall, the more cyclical sectors recovered the most, such as consumer discretionary and materials, and the more defensive sectors did the least well in the year, with telecom at the bottom of that pile.

MR. KOHN reported that holding cash was a big detriment in 2008, and on average Capital Guardian had about 4.7% cash in the emerging markets fund - more at the beginning of the year and a lot less as the year went on and investors realized that the world was normalizing. That cash position had a negative contribution of roughly 490 basis points in the fund. However, Capital Guardian kept up by very good stock selection, particularly in China, which contributed roughly 890 basis points of return. They are satisfied that the strength of their research and stock selection allowed them to keep up. MR. KOHN briefly went through a list of stocks that were big contributors and also those that were the major detractors in the year. He also included fund holdings that were significantly below the benchmark weight that also helped performance.

Addressing country weights at year end, MR. KOHN stated that the fund had an overweight position in China and in Mexico, and the biggest underweights were Taiwan and Brazil. This was a combination of macro and most importantly micro and bottom-up views of where they see the best risk/reward. Interestingly enough, the 200 basis points of overweight in China is understated because there are quite a few companies in the fund that are domiciled in other countries but that derive a lot of their business strength from China.

Looking at sectors, MR. KOHN said the emerging markets growth fund had a 15.5% position in financials at year end, 800 basis points underweight the index. They were 500-some basis points overweight in telecom versus the index. Capital developed an underweight position in financials starting around 2005, and that underweight position

increased through 2006, 2007 and 2008. At the beginning of 2009 the underweight position in financials was roughly 1,100 basis points. Different than in the developed world, their underweight position in financials was not because they were concerned about the fundamental health of the companies but rather because the valuations of some of those great companies that they had owned for a long period of time started to become very demanding. Capital did not fear a fundamental weakness in the financial company businesses, and actually most of the companies came through the crisis very well for the right reasons. After the crisis of 1997-1998, financials in emerging markets were tightened a lot, and that became very beneficial this time. Valuations for financials started to come back to a range around the middle of 2009 where Capital saw some opportunities, and they added 600 basis points of exposure from the level at the end of 2008. They will continue to look with interest at some of the great companies, if and when valuations make sense.

MR. KOHN said the telecoms were very much a stock and company specific issue. Capital has increased quite a bit the position in fixed line and interwave companies. The market has been assuming that these companies are stagnant and shrinking, but Capital thinks the market is wrong about that, that the great substitution between fixed and mobile has happened in many of the countries. In addition, some of the telecom companies have some very interesting businesses, mostly broadband and pay TV. The valuations of some of these companies are outstanding, 10x or less earnings and double-digit free cash flow yield, and they are returning most of that to shareholders. Capital sees some very interesting values in this area.

MR. KOHN briefly reviewed the roller coaster history of the emerging markets index from 1987 to the present and how Capital Guardian views it. He pointed out that the 80% rise in calendar year 2009 came after a sharp drop of 53.7% during 2008. So from December 31, 2009, the index would still have to rise 35% to get to the level where the market peaked in October 2007.

MR. KOHN showed a graph of the historical valuation of emerging markets equities on a price earnings ratio basis since 1995. The market finished the year slightly above the average valuation for emerging markets, at 18.3x. That is not surprising because it is coming off of a fairly depressed earning base. If you were to take the 2009 estimates for calendar 2010 and apply those estimates, assuming the market is right, the trailing P/E as of December 2010 will be roughly 13x — so fairly undemanding.

He also showed graphs of fundamentals and stock valuations to compare the emerging markets universe to the developed world universe. He said that as the emerging markets went into the Asia crisis of 1997 and the rest of the world in 1998, culminating with the default of Russia in August 1998, the relative profitability of emerging market companies compared to the developed world companies was declining, and the relative stock

performance of emerging markets went down in tandem. Towards the end of 1999, the economies of emerging markets started recovering, and the relative profitability of emerging market companies started to gain compared to the developed world and continued along until another sharp turn upwards in the latest crisis. It was if the market was saying it believed the emerging market companies were growing faster than expected and with better relative fundamental performance, but the market was still very scared of emerging markets because of what happened in 1997-1998 and expected to get set back five or ten years in the next crisis, explaining why the relative valuation was moving upward very slowly.

MR. O'LEARY asked for a comment on what the balance sheets looked like. MR. KOHN said the emerging markets companies went on a deleveraging trend between 1997 and the beginning of the latest crisis. The leverage of emerging markets companies is considerably below that of the developed world companies. So the increase in their return on equity was really due to an improvement in return on assets and a lower leverage, so even more impressive and less risky.

MR. KOHN said this latest crisis was the first time in 30-plus years in which the typical refrain that the U.S. sneezes and the rest of the world, particularly emerging markets, catches pneumonia did not happen. Actually, it will be the contrary. The U.S. suffered a severe bout of pneumonia and many (not all) emerging markets managed to continue through a bad cold but nothing worse than that. That was because of all the good fundamental restructuring that has happened over the last 20 years in emerging markets — levelization of the economies, large scale privatization, moving things from the government entities to the private entities, and much stricter regulation of banks post 1997-1998 in terms of leverage. Actually, many things that were gradually happening for 20 or 30 years were vastly under estimated. For example, the development and deepening of the local capital markets. There has been a revolution in pension plans in emerging markets. Now the larger marginal players in emerging markets are local players, and what Capital Guardian or the ARMB's other managers or hedge funds are doing is considerably less important than it was 15 years ago. Emerging markets depend on external capital much less than they used to, and this has added a lot of stability.

MR. KOHN referred to a graph of the price to cash earnings for emerging markets divided by the price to cash earnings of the world. In the mid-1990s, emerging markets sold at a premium multiple to the developed world because people appreciated how much faster the emerging markets grow than the developed world. Going into the crisis of 1997-1998, that ratio fell to half the multiple of the developed world, and basically emerging markets spent the following decade digging out of that hole. This latest crisis will again change the way that emerging markets are viewed. He thought the new range would be between parity and a premium again, the way it was before the crisis of 1997, because emerging markets have shown that they can perform well both in good times and in times of trouble.

In conclusion, MR. KOHN said 2009 was an extraordinary year, but it should not be viewed in isolation and should be looked at paired as 2008-2009. Capital Guardian looks at emerging markets through the prism of its very large internal research to see very different opportunities, some of which they review by countries and industries. Emerging markets going forward look very healthy and valuations are quite reasonable. Emerging markets are roughly 13% of the equities in the world index, and capitalization-wise they are larger but have a bigger discount of float. And they are roughly about 37% of the gross domestic product of the world. Capital Guardian has a strong conviction that the 37% will grow and the capitalization of emerging markets stocks will go in the same direction rather than visa versa.

VICE CHAIR TRIVETTE asked what the valuation comparison graphs would look like if carried out two or three years. MR. KOHN thought the emerging markets return on equity would come down somewhat due to emerging markets doing very well, but the relative return on equity of the developed world will recover, particularly in the financial area. It will be a slow normalization of the developed world. But over the next few years the emerging markets return on equity will stay at a fairly elevated rate compared to the developed world. He expected it to have a slowly upward sloping trend because there are many areas in the emerging world that still have to go through a bigger transition from government ownership to private ownership. The Chinese government is privatizing chunks of the economy, the Indian government wants to accelerate that process, and Russia has more to go. That will mean a bigger generation of profits, and given current multiples, the emerging markets will continue to outpace the developed world by a significant amount.

VICE CHAIR TRIVETTE inquired if Capital thought prices would continue to be reasonable in the next two or three years. MR. KOHN said he thought so. He said Capital Guardian is finishing its 24th year of investing in emerging markets. The market goes from euphoria to panic and back again because people worry about everything that can go wrong and then they worry about a potential bubble developing, and they spend very little time in between. He thought that was abating and that emerging markets were proving to be much more stable than in the past so that hopefully people would spend much more time in the middle.

MS. HARBO asked about investing in Vietnam, saying she thought the country had an up and coming economy. MR. KOHN said Vietnam is a very dynamic economy but still has a very small and immature stock market. Vietnam actually falls in the category of a frontier market.

MR. SHIER mentioned that Capital Guardian listed energy in what some would consider mutually exclusive growth areas: coal and green technology. He asked how they were reconciling what people in the U.S. are hearing about how evil coal is and its great capacity to produce energy.

MR. KOHN responded that China is doing a lot of work in diversifying their sources of energy. China has a huge nuclear program going forward, along with solar and wind technology, etc. But for the foreseeable future coal will be the source of energy. He expected that the most interesting technological developments will be in carbon sequestration and in working with coal but in a cleaner fashion. There is no alternative to coal for a long, long time.

MR. O'LEARY congratulated Capital Guardian on a great 5-year+ record in emerging markets, noting that there were some anxious moments along the way several years ago.

MS. PRETLOW responded that they appreciated the ARMB sticking with them.

VICE CHAIR TRIVETTE asked if Capital Guardian had any difficulties getting good people to work in the emerging markets countries. MR. KOHN said they focus on having a stable and growing team of analysts in the emerging markets area. They now have 22 analysts devoted to emerging markets equities, and in addition they have about six analysts devoted to studying emerging markets fixed income and macro. Fairly unique at Capital, since 1994 they have had a team that invests in private equity in emerging markets. It is the only area where they do private equity. Today they have over a dozen professionals around the world doing that, and they can get inputs from different parts of the emerging markets universe, which are important at different periods of time. Most of the people are located in the key offices at Capital, so some in the U.S., some in Europe, and some in Asia, particularly Hong Kong and Singapore. In the summer of 2008 they opened a small office in Mumbai, India, which will grow gradually over time. In the summer of 2009 they also started a small research office in Beijing, where they are going to have mostly local people doing very specific grassroots research. Capital has never had offices outside of the developed world, but they view this as very important and key for them to understand not just emerging markets but the overall world.

VICE CHAIR TRIVETTE thanked Mr. Kohn and Ms. Pretlow for their report.

UNFINISHED BUSINESS

1. Disclosure Reports

MS. HALL stated that the financial disclosure reports since the last meeting were included in the packet, and there was nothing significant to report.

2. Meeting Schedule

MS. HALL said there had been no change to the meeting schedule from the previous version.

3. Legal Report

Board legal counsel, ROB JOHNSON, commented that he has been working behind the scenes on a number of items. He also reported that he and Mike Barnhill of the Department of Law met with the Department of Revenue staffers two days ago to work through some practical-type issues that are facing the investment staff. There are a lot of efforts currently underway, and they felt it was valuable to meet with the staff. Assistance from the lawyers on a more regular basis is probably warranted just to make sure that everyone is operating with the same information.

MR. BARNHILL reported that he attended the National Association of Public Pension Attorneys meeting earlier this month in Washington, D.C. It was great to have the opportunity to sit with general counsel from public pension funds around the country and hear their stories and legal issues. He said he provided his notes from that meeting with staff from both the Division of Retirement and Benefits and the Treasury Division, and would be happy to share them with the Board as well. On another topic, he said it is never fun to give a client bad news, and it is even worse in a governmental context because it usually means they are going to have to do a lot of work. He had to inform the Division of Retirement and Benefits about the PricewaterhouseCoopers loss of information last month, and he appreciated the amazing job that DRB and the Department of Administration did when they were informed they would have to start communicating with 77,000 people. The time frame in which they did that was also extraordinary.

NEW BUSINESS - None.

OTHER MATTERS TO PROPERLY COME BEFORE THE BOARD - None.

PUBLIC/MEMBER COMMENTS

VICE CHAIR TRIVETTE checked in the audience and on line and determined that there was no one who wished to speak to the Board.

INVESTMENT ADVISORY COUNCIL COMMENTS

MR. WILSON said he found the change of the decade a fascinating time to reflect back over ten years, and he found Mr. O'Leary's capital markets presentation particularly thought provoking. Every decade brings amazing surprises, but the 2000s started out with amazing P/Es that ended in the dot-com bust. He was struck by the fact that the U.S. stock market returned zero for ten years, but the 15-year number was actually in the 8%-9% range. The most important decision the ARMB has to make is the asset allocation policy. Right at the time when most investors did not want to be in the market, and many were switching away from asset allocation decisions they had held for many years — because the classic investment decision was 60%/40% coming out of the Great Depression. Some

notable institutions in the 1990s had great success being much more aggressive, and a lot of people moved from 60/40 to 80/20 or 85/15 balanced towards equities at exactly the wrong moment. So he was struck by all the historical data in Mr. O'Leary's presentation, and was reflecting on how we got to the real estate crisis we are in today. It was based upon using historical data used in very sophisticated models to project that real estate prices would never decline. People lost the big picture that house prices do not go up 20% a year.

MR. WILSON said he has been thinking about what that all means for the next decade or two, as the Board is again looking at its asset allocation policy. He keeps coming back to the interest rate environment today where the rate is at zero. He is hoping that the next decade will be different than the zero rate of return from stocks, and it certainly seems like it is a good time to be where we are relative to having a lower allocation to bonds. That is the most important decision the Board probably has to face on a regular basis.

MR. WILSON stated that the charts about the massive amounts of federal deficit the country is facing really jumped out at him yesterday. Probably the second most important decision the Board has to make in its asset allocation decision is how much is invested in the U.S. Most U.S. investors are U.S.-centric. The world indices are about 41% U.S. stocks. The ARMB portfolio right now is about 60%. So there is roughly a 50% overweight relative to the markets. That is something the Board will have to continue to think about. The portfolio has had a gradual movement towards the world indices, but right now there is a very big bet that the U.S. is going to do better than the rest of the world. The Board just heard a presentation that it may be something to think about. And the last most important thing continues to be cost, passive versus active, as the Board looks at the asset allocation.

DR. JENNINGS indicated he had made his comments throughout the meeting.

TRUSTEE COMMENTS

VICE CHAIR TRIVETTE asked the IAC, Mr. O'Leary, and the portfolio staff to think about how much debt the U.S. government has now and if there are strategies that the Board ought to be looking at to use that to the retirement plans' benefit in terms of rate of return.

MS. HARBO thanked Mr. Barnhill for keeping the trustees individually informed on a number of issues. She also expressed appreciation to the Department of Administration and the Division of Retirement and Benefits for handling the massive influx of calls from former and current state employees about the lost personal data.

MR. BADER mentioned that there is a custom of investment managers leaving the room when their colleagues from other firms are making a presentation. He wanted the Board to

know that Melody McDonald of RCM was listening on line during Mr. O'Leary's presentation on international small cap equity, but she disconnected when it was finished and was offline during Capital Guardian's emerging markets presentation.

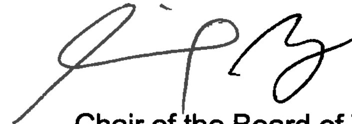
FUTURE AGENDA ITEMS

VICE CHAIR TRIVETTE stated that things have changed rapidly in recent years, and he wanted the Board to review all the indices used in the portfolio and take a forward look at any changes coming down the line. He mentioned that he is often looking at two or three indices for a given manager's return history. He used to think that was not right, but he is beginning to believe that it is sometimes good to have more than one way to look at what the managers are doing. A manager's mandate does not always fit perfectly against one index.

MR. PIHL said he wanted the Board to address the massive amount of government debt at a future meeting. For example, when is the massive writedown of government debt going to occur, or is it going to occur?

ADJOURNMENT

There being no objection and no further business to come before the board, the meeting was adjourned at 10:10 a.m. on February 26, 2010, on a motion made by MS. HARBO and seconded by MR. WILLIAMS.



Chair of the Board of Trustees
Alaska Retirement Management Board

ATTEST:

Corporate Secretary

Note: An outside contractor tape-recorded the meeting and prepared the summary minutes. For in-depth discussion and more presentation details, please refer to tapes of the meeting and presentation materials on file at the ARMB office.

Confidential Office Services
Karen Pearce Brown
Juneau, Alaska