State of Alaska
ALASKA RETIREMENT MANAGEMENT BOARD
MEETING

Location of Meeting
Juneau Room, Downtown Marriott Hotel
820 W. 7th Avenue, Anchorage, Alaska

MINUTES OF
April 23-24, 2009

Thursday, April 23, 2009

CALL TO ORDER

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

ROLL CALL

Eight ARMB trustees were present at roll call to form a quorum. Tom Richards arrived at 10:15 a.m.

ARMB Board Members Present
Gail Schubert, *Chair*
Sam Trivette, *Vice Chair*
Gayle Harbo, *Secretary*
Kristin Erchinger
Commissioner Patrick Galvin
Commissioner Annette Kreitzer
Martin Pihl
Tom Richards
Mike Williams

Investment Advisory Council Members Present
Dr. William Jennings
Dr. Jerrold Mitchell

Consultants Present
Robert Johnson, outside legal counsel
Eric Wohlforth, outside legal counsel
Michael O'Leary, Callan Associates, Inc.
Mike Barnhill, Alaska Department of Law legal counsel

Department of Revenue Staff Present
Jerry Burnett, deputy commissioner
Gary M. Bader, chief investment officer
Pamela Green, state comptroller
Zachary Hanna, state investment officer
Judy Hall, liaison officer
Scott Jones, assistant state comptroller

Department of Administration Staff Present
Rachael Petro, deputy commissioner
Patrick Shier, director, Division of Retirement and Benefits
Kevin Worley, Div. Ret. & Ben. chief financial officer

Invited Participants and Others Present
Jeff Pantages, Alaska Permanent Capital Management
Theresa Obermeyer
Thad Gray, Abbott Capital Management
Jonathan Roth, Abbott Capital Management
James Chambliss, Pathway Capital Management
Terry Melican, Pathway Capital Management
Jason Jenkins, Pathway Capital Management
Leslie Thompson, Gabriel Roeder Smith & Company
David Slishinsky, Buck Consultants, Inc.
Michelle DeLange Buck Consultants, Inc.
Christopher Hulla, Buck Consultants, Inc.
Mark Giambrone, Barrow Hanley
Matt Egenes, Barrow Hanley
Paula Pretlow, Capital Guardian
Terry Ragsdale, Capital Guardian
Alex Slivka, McKinley Capital Management
Rob Gillam, McKinley Capital Management
Steven Bloom, Quantitative Management
Deborah Woods, Quantitative Management
Melody McDonald, RCM
Scott Migliori, RCM
Ray Edelman, RCM
Jay Delany, RPEA
Joelle Hall, Alaska AFL-CIO
John Alcantra, NEA-Alaska
Anne Johnson, Alaska Department of Law

PUBLIC MEETING NOTICE

JUDY HALL confirmed that public meeting notice requirements were met.

APPROVAL OF AGENDA

MS. HARBO moved to approve the agenda. MR. WILLIAMS seconded.

MR. BADER asked to exchange the time slots for item #18 Investment Actions and item #19 Litigation Update on Friday, at the request of Mr. Barnhill.

There were no objections to the agenda as amended.

PUBLIC/MEMBER PARTICIPATION, COMMUNICATIONS AND APPEARANCES

JEFF PANTAGES, chief investment officer of Alaska Permanent Capital Management (APCM) in Anchorage, said they have $2.2 billion of fixed income assets under management. Dave Rose, now deceased, was the firm's founder and the first executive director of the Alaska Permanent Fund Corporation. Although the State invests its bond portfolio internally, he wanted the Board to consider APCM if it ever decided to diversify its fixed income management. While APCM does not have a New York, Los Angeles or Seattle zip code, they have an enviable track record in fixed income management. That record is easily accessible on the Alaska Permanent Fund's web site. Many bond portfolios blew up last year and even provided negative returns, despite a big rally in Treasury bonds and declines in Treasury yields. Bonds and managers did not provide the diversification benefits that bonds typically do. But APCM's bond portfolios did provide that anchor in the wind in 2008, with solid positive returns. APCM professionals have all the credentials of other firms, the firm has analytical systems, and they can make good presentations. They are not asking for a handout but for a chance to show this Board what they can do.

THERESA OBERMEYER stated that she was worried about the financial solvency of the State of Alaska. She suggested that everyone be concerned and create a great debate. She handed out a page of what Stephen J. Van Goor [Bar counsel, Alaska Bar Association] said during the renewal of the Alaska Bar Association, that the Alaska bar examination is a test of minimal competency. She asked on what basis the Alaska Bar Association believes it has a right to make her husband and her go through what they have lived through for 25 years. She said it is time for something fair in Alaska.

APPROVAL OF MINUTES

MS. HARBO moved to approve the minutes of the February 12-13, 2009 meeting and the February 25, 2009 meeting. MR. TRIVETTE seconded the motion.

MR. PIHL noted that he was not present at the February 12-13, 2009 meeting, as indicated on page 1.

The minutes were approved unanimously, with the one noted correction.

REPORTS

1. Chair Report

CHAIR SCHUBERT welcomed Kristin Erchinger. She reported that she is scheduled to be deposed in the Mercer litigation in June.

Other trustees indicated that they were scheduled for deposition as well. MIKE BARNHILL, special assistant attorney general, speaking by telephone, stated that all depositions have been postponed because Mercer has retained new counsel. The Attorney General's Office will contact trustees to reschedule the depositions.

2. Committee Reports

A. General Consultant RFP Evaluation Committee

Committee Chair MARTIN PIHL stated that the committee met April 22 and would have a report later in the agenda.

3. Retirement & Benefits Division Report

A. Legislative Update

COMMISSIONER KREITZER said three bills were introduced to repeal the defined contribution retirement plans, and those did not pass. The bills remain active for the next legislative session. Two bills were introduced that deal with medical benefits of disabled peace officers. The Governor was seeking to continue the tool of rehiring retirees, and that bill did not pass. So people who are working as retirees under a waiver have been notified in writing that the legislation did not pass and they must make a decision by June 30, 2009 regarding whether to suspend their retirement or not. There are about 28 employees in the executive branch who are affected.

COMMISSIONER GALVIN requested more information about the bills to repeal the defined contribution retirement plans and the prognosis for the bills next year. COMMISSIONER KREITZER said that Senate Bill 23 was in Senate Finance after moving out of at least two committees on the Senate side. The Governor has not taken a position on these bills at this point.

MR. TRIVETTE asked about the state contribution to the Public Employees' Retirement System (PERS) and Teachers' Retirement System (TRS) in the state's operating budget. Director of the Division of Retirement & Benefits (DRB), PATRICK

SHIER, said the last version of the FY2010 budget he saw included the contributions from the general fund to make up the difference between 22% and the actuarially required employer contribution rate. MR. TRIVETTE said there was originally additional money in the budget over and above that amount. MR. SHIER replied that no additional contributions were made.

COMMISSIONER KREITZER reported that bills dealing with the divestment of investments in Sudan did not pass, but they are still available for consideration next year.

B. Defined Contribution Plan Fee Structure

MR. SHIER referred to a chart in the meeting packet showing the actual dollar impact of Great-West's recordkeeping fee increase to PERS defined contribution plan participant accounts at different balance levels, as well as for Supplemental Benefit System (SBS) and Deferred Compensation Plan (DCP) participants. Great-West's proposed recordkeeping fees go into effect July 1, 2009 under a contract that expires June 30, 2011.

MR. TRIVETTE referred to pages 6-7 of the February 12-13, 2009 minutes where the Board was promised a copy of the communications package about the increase in Great-West recordkeeping fees, as well as some of the background information on the renegotiated rates. He said the trustees did not have that information so he was requesting that it be put on the agenda for the next board meeting. He also expressed concern that he had no idea from prior discussions that the intention was for Great-West to raise its recordkeeping fees for SBS and Deferred Compensation participants, as well as the defined contribution plan members.

MR. WILLIAMS noted that Great-West's proposed fee percentages were different for SBS and Deferred Compensation, but he thought the plans were substantially the same in terms of operations. He asked why there were different fee structures for those two plans.

MR. SHIER said the fee structures are a product of the originally bid contract that has to do with the expected volume of money traveling through SBS and DCP. The Deferred Compensation Plan has a relatively small balance, while the SBS has a predictable, steady stream of cash because of the mandatory contributions. The same is true of the PERS and TRS defined contribution plans.

MS. HARBO noted that page 19 of the TRS comprehensive annual financial report (CAFR) shows a 47% increase in administrative costs from 2007 to 2008. She asked why the increase was so large. MR. SHIER responded that DRB will be talking to the Department of Revenue about the results of a cost-share audit. The audit revealed that DRB was not properly billing the various funds for some of the fees being taken out. There will be a joint presentation about the cost-share audit at the next board meeting. MS. HARBO indicated she looked forward to seeing something in writing.

MR. TRIVETTE requested an update on retiree health insurance. MR. SHIER reported that the DRB held its first in-person meeting yesterday with the new third party administrator, Wells Fargo Insurance Services of Alaska. The DRB team members, Wells Fargo, and their subcontractors are currently meeting in Anchorage to plan the implementation, and by the end of next week there will be an implementation schedule available to those interested. DRB is encouraged by the talent that Wells Fargo Insurance Services brings to the table, including Mike Wiggins, who worked for a prior third party administrator for the state. MR. TRIVETTE asked if the contract protests had been concluded. COMMISSIONER KREITZER said she has responded to one protest, and she has another on her desk to respond to. Additionally, Premera has filed a lawsuit. MR. TRIVETTE said he would appreciate the Board getting regular updates on the protests and lawsuit so trustees can respond to member inquiries.

MR. BARNHILL offered to have the person in the Department of Law who is handling that case field any questions during his legal report on Friday. CHAIR SCHUBERT accepted his offer of that update.

Again referring to the Teachers' Retirement System CAFRs, MS. HARBO asked for confirmation that the difference between the 7% employer contribution rate to the defined contribution retirement plan and the rate the Board adopts goes into the defined benefit plan. She said it is not clear in the CAFR, that the financial report says just the amount between the 12.56% and the 7% goes into the defined benefit plan. DRB chief financial officer KEVIN WORLEY replied that those were two different things. The 12.56% that is paid into the TRS defined contribution plan is a combination of the employer match and the contributions for the occupational death and disability rate, the retiree major medical plan, and the health reimbursement account. If a combination of those four items is less than 12.56%, that would go into the defined benefit plan. The amount over 12.56% versus the rate the Board adopts also goes into the defined benefit plan. MR. WORLEY said the information is listed in several spots in the CAFR, but he could address it specifically in one area. MS. HARBO said she would like it made clear how the entire amount for the rate the Board adopts for every defined contribution employee is broken down.

C. HRA FY2010 Rates

MR. WORLEY presented information about the fiscal year 2010 health reimbursement arrangement amounts that are paid by employers on behalf of defined contribution employees. He explained that the Board and consultants do not prepare this rate, rather DRB computes the rate for the upcoming fiscal year and reports it to the employers. There is a slight increase from FY2009 because the calculation is based on the average salaries of all employees in the PERS and TRS plans.

MR. PIHL mentioned that the CAFRs are fine reports, but there were several errors that he wanted to go over with Mr. Worley at some point.

4. Treasury Division Report

State Comptroller PAMELA GREEN gave the report on behalf of Deputy Commissioner Jerry Burnett. She reported the Legislature's general fund appropriations to the retirement plans: $107,953,000 for PERS; $173,462,000 for TRS; $1,550,000 for the Judicial Retirement System (JRS); and $1,722,500 for the Military System. These appropriations should go into the plans soon after July 1, 2009.

MS. GREEN stated that the Department of Revenue Treasury Division's FY2010 budget was approved as submitted, with all the requested increments on behalf of the ARMB and its components. The Treasury has experienced one retirement in Asset Accounting and has another one coming up in Cash Management. The Department is happy with the longevity of its staff and has gotten hiring-freeze waivers to fill the vacancies caused by the two retirements.

MR. PIHL asked which actuary report the PERS and TRS legislative appropriations were based upon. MR. SHIER said it was the prior actuary report (2007) used to set the rate for fiscal year 2010. MR. PIHL mentioned his concern about the subsequent market events since July 1, 2008: the 2008 actuary report to be presented at this meeting says the funding ratios of the plans have gone up and recommends a reduction in the employer contribution rates. He added that unless the state is very aggressive about funding the unfunded liability, there will be a lot of pressure about aborting the defined contribution plans.

MR. SHIER responded that Commissioner Kreitzer was apprised of that issue, and she requested the actuary to estimate the effects of different economic recovery scenarios, which will be part of the actuary report later in this meeting. The idea was to put on the table what the Board should be thinking about in terms of rate setting, given some extraordinary economic circumstances.

MS. HARBO remarked that the Board for several years has talked about the lag time between the actuary report and the Board setting the employer contribution rate. The lag-time problem has not been solved, but it especially has an effect on setting the rate right now.

COMMISSIONER KREITZER stated that while the lag-time problem has not been completely solved, the Division of Retirement & Benefits has taken steps toward reducing the amount of lag time. Regardless, it is important to look at what the assumptions are going to be going forward, which is why she asked the actuary to provide some additional information on that point.

MR. SHIER said DRB has solved the lag-time problem significantly from what it was, however, the division and the actuary have discussed estimating results to compress the time frame even more. The trade-off in order to get an even quicker turnaround is less certainty in the actual numbers used for the calculation — and the Board may decide that is more valuable.

4. Chief Investment Officer Report

Chief Investment Officer GARY BADER reported on the following items:

- Sold $110 million of fixed income investments to purchase $60 million of domestic equity and $50 million of international equity.
- Buck Consultants' response to the AON audit of the actuary, which was presented at the last board meeting. Two items mentioned in the audit, the amortization method and the investment return rate, will be discussed later in this meeting.
- Moved funds from fixed income to futures account for the cash securitization program. The program's intent is to maintain the equity exposure when the investment managers hold cash. That has worked to the ARMB's disadvantage in the declining markets of the past year and a half. Staff had directed that only about 30% of the cash be equitized, and this scaling back of the program has minimizing the recent disadvantage.
- Sold domestic equity and international fixed income to purchase emerging market equity. Staff has a responsibility to the Board to stay within the asset allocation bands for each broadly stated asset class. A subcomponent of international equity is emerging markets. The general consultant performance reports measure the retirement funds against agreed-upon benchmarks, and staff judged that they needed to rebalance to stay within the Board's directives.
- Transitioned from Barclays Global Investors funds that allow securities lending in them to non-lending versions of those funds, which particularly impacted the defined contribution accounts and the Deferred Compensation Plan accounts.
- Rebalanced between the PERS and TRS accounts to maintain the asset allocation set by the Board. This is done at least once a month.
- Transferred retirement system assets into various pools, per the Board's creation of pooled investment vehicles at the last meeting to better manage the funds. There are over 40 accounts for which staff are responsible for maintaining asset allocation, for investment returns, and for reporting on. Zachary Hanna on the investment side and the asset accounting staff largely took care of what was a complex task.
- News sources keep people generally informed of what is happening in the securities markets and how it is affecting the ARMB returns. Investments in private markets do not get reported, but what is happening there is probably very similar to what is happening in the public markets. New accounting rules require valuation "authenticity," which can be hard to determine if there is no transaction to set the market value of a

private asset like real estate.

MR. BADER stated that real estate portfolio returns are lagged returns that do no necessarily reflect the most current market. Big sell-offs in the stock market create a contagion effect in the private markets as well. Recessionary impacts and the lack of financing are putting many of the real estate investors in a very hazardous situation. The ARMB's separate account portfolios, the core of the real estate program, are suffering markdowns but doing relatively well, given the economic environment they are operating in. They tend to be not as levered as some of the commingled funds the ARMB is also invested in. The farmland investments, which the Board approved almost doubling several months ago, are bringing back positive returns in a very troubling market. The Board will be hearing from its private equity managers later in the agenda, and in absolute terms the performance picture will not be rosy.

MR. BADER discussed three real estate managers that staff has been tracking more closely than normal. The Coventry Fund focuses on developing retail properties. The portfolio is leveraged, and they are having difficulty borrowing. The limited partners have come together and asked Coventry to hire a third-party consultant plus additional legal counsel, out of the fund's dollars, to review the responsibilities of the limited partners in terms of their involvement in talking with Coventry about these issues. The consultant is to do an independent evaluation of the portfolio and give advice to the limited partners on the advisability of additional capital infusion, if at all.

The second real estate manager staff is working on is the Lehman Real Estate Fund. The general partner Lehman Brothers is the general partner of Lehman Fund. Initially, the estate of Lehman Brothers believed that they should sell the general partner's interest plus the limited partnership interest that they held. There was a process to solicit bids that did not yield the estate the expected result. As a consequence, the estate of Lehman Brothers is now considering the possibility of engaging a manager to manage the Lehman estate interest in the fund. The limited partners, of which ARMB is one, are actively engaged in this process. State investment officer Steve Sikes has been to New York and helped interview prospective new managers for the Lehman Fund. Staff is keeping Commissioner Galvin apprised of the situation with Lehman. The Board allowed the commissioner to speak on behalf of the Board if a quick decision were needed relative to voting the ARMB's limited partner interest.

The third real estate manager of concern is the Lowe Hotel Fund. Hotels throughout the nation are in distress because travel is down and they are not getting the cash flow to meet their debts. The Lowe Hotel Fund finds itself in a position of having negative cash flows and may be asking the limited partners to put an additional $10 million into the fund. The ARMB's initial investment in the fund was $50 million, Lowe returned $11.5 million of capital and profits, and the current investment is worth about $40 million. Staff is continuing to check on the advisability of an additional investment. MR. BADER said he believed that the Board has granted him authority to act in this regard under two real estate investment policies (one, that he can increase the allocation to a manager by up to 25% of its current investment and, second, that he has authority to make investments in funds in good standing up to $50 million). He does not intend to do anything at this point without conferring with the Board.

MR. BADER asked the Board to put Lehman Real Estate Fund on the Manager Watch List because of new management.

MS. HARBO moved that the ARM Board place Lehman Real Estate Fund on the Manager Watch List because of new management. MR. TRIVETTE seconded. The motion passed unanimously, 7-0. [Commissioner Galvin and Mr. Richards were absent.]

MS. HARBO moved that the ARM Board place Coventry Fund on the Manager Watch List. MR. TRIVETTE seconded. The motion passed unanimously, 7-0. [Commissioner Galvin and Mr. Richards were absent.]

MR. BADER stated that master limited partnerships are units in a partnership. Many of them trade on the stock exchanges very similar to stocks. The ARMB investment guidelines do not list master limited partnerships as a permissible investment, but managers see some that are attractive. Staff will request permission in writing at the next meeting to invest in master limited partnerships. He viewed this more as an administrative detail than as a policy issue for the Board. In the interim, he asked for approval to invest in master limited partnerships until the next board meeting.

MS. HARBO moved that the ARM Board approve investments in master limited partnerships. MR. TRIVETTE seconded. The motion passed without objection, 7-0. [Commissioner Galvin and Mr. Richards were absent.]

CHAIR SCHUBERT asked the chief investment officer if he was still comfortable with the 3% limitation on cash holdings in manager portfolios that the Board put in place several years ago. MR. BADER said the current limitation is 3% cash for large cap equity managers and 5% for small cap managers. He said managers are not hired for the purpose of timing the market by holding cash. While it served some managers well to keep cash during the market decline, in March the active managers that held cash had negative returns. Without the offset by having the cash equitization program, the retirement funds would have suffered. He is content that the current cash limitation is a good policy, but staff could provide an update at the next meeting.

6. Fund Financial Report

The meeting packet contained the Treasury Division's February 28, 2009 financial statements. MS. GREEN reviewed the following highlights:

- The total ending fund assets were $13.7 billion, a decrease of $4.6 billion over the eight months of fiscal year 2009. That loss equates to about 25%.

- For the eight-month period, the PERS system had a 26.5% loss, or $2.9 billion. The TRS system had a 26% loss of $1.2 billion. The Judicial System had a 29% loss, or $38 million. The Military System had a 15.4% loss of $4.2 million. The SBS Plan had a 19.2% loss, or $409 million. The Deferred Compensation Plan had a loss of 20.65%, or $104 million.
- For the month of February, the retirement funds had a total investment loss of $703 million, which equates to a 5.5% decrease.
- The preliminary March numbers indicate an overall increase of about one percent. The March reports will be on the web site shortly.
- The PERS defined benefit plan actual asset allocations for domestic equity and global equity were at the low end of their target allocations in February. Global equity was actually outside its bands but was rebalanced subsequent to month end. The more illiquid assets, private equity and real estate, are at the higher end of their target allocations.

COMMISSIONER GALVIN pointed out that the values used for equity assets are more current because they are priced daily. Real assets and the private market are not priced daily, so there is a lag in reflecting any loss of value there. That means the reported actual asset allocation may not be an accurate reflection of the asset values today; it is merely the best information the financial reports have, given the lag time in reporting illiquid asset values.

MS. GREEN agreed, adding that the chief investment officer weighs that, and looks at what the whole market expects to be, when considering where to rebalance assets.

COMMISSIONER GALVIN said that when reports show an asset category as outside the allocation bands, global equity being an example in February, it may not be an accurate depiction of the actual values at that particular time but instead be a function of the information availability for pricing more illiquid assets.

MR. O'LEARY stated that when Callan does the performance measurement they wait to include the real estate preliminary returns that come from Townsend. The "black hole" is private equity, particularly at calendar year end, when there can be a very long delay in getting updated valuations. The industry convention is that the most recent valuations are updated for subsequent cash flows in and out, but that information is comparatively old. Private equity is a major agenda item for today, and the Board will be able to ask about reductions in value that are not reflected in the performance reports because the information is not available.

MS. GREEN continued reviewing the financial reports:

- The PERS health care trust fund report is fairly new. The fund does not have absolute return or private equity investments yet.

- The TRS defined benefit plan data for the fiscal year is similar to that for the PERS. Global equity was slightly below the bands around the target allocation. The fund was at the lower end of the asset allocation for the equity portion and at the higher end for private equity and real estate.
- The Judicial defined benefit plan does not have private equity investments yet. Real estate assets are at the top end of the asset allocation bands.
- The Military Trust Fund had total invested assets of $23.1 million.
- On the Schedule of Investment Income and Changes in Invested Assets, total fixed income decreased by 5.25% in February, representing about $110 million. Total domestic equity dropped 8.7%. Global equities had losses of 9.1%, or $170 million. Private equity lost 2.2%, and the absolute return pool had positive income of $4 million. Total real assets had an $8 million loss, although farmland and energy did better than the rest of the asset class.

MR. WORLEY reviewed the supplement to the Treasury Division financial report, prepared by the Division of Retirement and Benefits, that showed non-investment changes to the funds for the fiscal year to date, as well as the month activity for February. He noted that funds identified with an (a) next to them receive employer-only contributions. He said that expenses in PERS and TRS are predominantly on the defined benefit side, specifically the retirement trust funds and the retirement health trusts. The lone other expenditure is for the defined contribution plan member retirement funds, which reflects employees refunding or rolling out of the PERS or TRS plans. The Judicial plan is only a defined benefit plan, so outflows are for pensions or health care. The Military is only a pension system, so payouts are either monthly or lump sum at the time of their retirement. Primary outflows for SBS and Deferred Compensation are refunds when someone terminates from a participating employer or rolls an account into a different plan.

MR. PIHL noted that the total contributions were $65 million for February while the total expenditures were $106 million, a difference of $41 million. Multiplying that by 12 months is a bigger number than the combined legislative appropriations of $107 million for PERS and $173 million for TRS. He said the retirement funds are going further in the hole.

MS. ERCHINGER inquired why there were no administrative costs for the defined contribution plans that have employer-only contributions. MR. WORLEY replied that so far no administrative expenses have been allocated to those funds, so there are none to report. MR. SHIER explained that the law that set up the defined contribution retirement plans had a general fund appropriation to cover administrative expenses and start-up costs. DRB is just now getting to the end of those funds this fiscal year. He expects to see expenditure allocations show up in future reports.

CHAIR SCHUBERT called a scheduled break from 10:15 a.m. to 10:28 a.m. Trustee Tom Richards joined the meeting during the break.

7. Private Equity 2009 Tactical Plan

State Investment Officer ZACHARY HANNA introduced the ARM Board's private equity investment managers present in the audience. He indicated that details of the annual review and plan for private equity investments were included in the meeting packet. Abbott Capital Management, Pathway Capital Management, and Callan Associates have all reviewed the plan and the recommendations.

MR. HANNA first provided background information about private equity investments. He said the appeal of the private market is driven by: (1) a very broad universe of investment opportunities; (2) that private companies are generally less efficiently priced and less efficiently operated than their public counterparts; and (3) there is control and strong alignment of interest between owners and management in a properly executed private transaction, and the ability to focus on longer-term value with less quarterly pressure than in the public market. This creates an opportunity for private equity groups to buy companies at low valuations, create value by making operational and financial improvements, and then sell the companies at higher valuations. The less-than-positive characteristics are that private equity is illiquid, fees are high, there is high dispersion between manager returns, there are portfolio transparency and valuation issues, and the data and benchmarks for private equity are fairly poor.

MR. HANNA described the structure of private equity investments, which are typically made through limited partnerships. Limited partners, like the ARMB, provide most of the capital, with liability limited to their investments. Limited partners often use advisors like Abbott, Pathway and Callan. General partners provide the private investment expertise. They also share in the profits and have full discretion and liability. The partnership makes investments in underlying portfolio companies. Most partnerships have a ten-year life with the possibility of extensions. Initially, the limited partner makes a commitment of capital to the partnership. The general partner then calls capital from the limited partner as investments are made, usually during the first six years. Capital is then distributed back to the limited partner as investments are sold. The period of heaviest distributions is usually years three through eight. Through 2008, the ARMB had invested in 183 partnerships with 70 firms. There are three primary private equity strategies: (1) venture capital funds that generally invest in earlier stage technology or life sciences companies; (2) buyout funds that invest in mature operating companies; and (3) special situations funds, a catch-all for groups that either have a multi-strategy or a specialty focus.

MR. HANNA stated that manager selection is critical in implementation. Top quartile managers significantly outperform median managers: the average difference over the past 20 years is 12 percentage points. To invest with this top tier over time, access, and careful due diligence and monitoring are required. Diversification is also important, since private equity can be a cyclical business. The goal is to build a well-diversified portfolio of high quality partnerships.

Addressing the private equity market in 2008, MR. HANNA said that fundraising was still relatively high, and most of it took place prior to the significant market down turn in the fourth quarter. Overall, buyout fundraising decreased from the all-time highs of 2007, while venture capital fundraising remained consistent through the last three or four years. Despite the capital market down turn, there was a relatively high level of deal activity in 2008. This activity was much more concentrated in the first half of the year, and some of it was the completion of deals agreed to in 2007. Pricing and leverage multiples decreased but remained historically high. It is notable that leverage dropped off more significantly than did pricing. At this point, it is difficult to arrange any debt for a typical leveraged buyout transaction. The initial public offering (IPO) market dried up almost completely, going from $20 billion a year over the prior four years to almost nothing in 2008. That is the lowest level of IPO activity since 1990. Other forms of traditional private equity exits — like merger and acquisition activity, and leveraged recapitalizations — were also effectively closed.

MR. HANNA said the ARMB's private equity program started in 1998, and the asset allocation has increased from 3% to 7% of the overall retirement fund. There are two gatekeepers, Abbott and Pathway, and both have discretion to invest on the ARMB's behalf. The ARMB also makes investment directly in private equity partnerships. During the volatile period since 1998, the ARMB and its advisors have built a high-quality, well-diversified portfolio. Relative performance has been good. In the Callan comparison in December with partnerships that started investing in the same year, six out of the past eight vintage years through 2005 were top quartile, and the other two were second quartile. Returns have decreased since last year but are still strong. The internal rate of return (IRR) since inception is 11%, down 300 basis points from 2007. Staff calculated a public market equivalent return using actual ARMB private equity cash flows to simulate buying and selling public market indices. The 11% IRR for the ARMB private equity portfolio compares favorably with public market equivalent returns of -3.1% for the S&P 500 Index and -2.5% for the Russell 3000 Index. As private equity goes through a period of expected write downs, these large excess returns should decrease.

MR. HANNA stated that initially partnerships call capital as they make investments in portfolio companies. The capital and gains are then returned as the investments mature. The lack of exit opportunities in 2008 resulted in distributions decreasing dramatically to $112 million, roughly one-third the level of 2007 distributions. Contributions also decreased to $240 million, down 24% from 2007. Through 2008, the ARMB had $2.5 billion in total commitments to private equity, with $1.7 billion paid into partnerships. The total value at year end, including distributions of $2.3 billion, was 1.3 times the amount paid in.

The private equity portfolio is well diversified by strategy. The target diversification is 25% to venture capital, 45% to buyout, and 30% to special situations, with fairly wide bands around these targets. The portfolio is close to these guidelines, and staff expects this diversification to remain in line with long-term targets.

MR. HANNA showed graphs depicting the diversification provided by the more than 2,000 portfolio company investments in the ARMB's private equity program. The portfolio is well diversified by industry, with no single sector making up more than 21% of the portfolio (below the policy maximum of 25%). The portfolio is diversified by geographic region. International is now 33.5% of the portfolio (below the policy maximum of 35%). The portfolio is also reasonably diversified by investment stage. The exposure to buyout may moderate over time, though it will always be significant.

MR. HANNA stated that the commitment target for 2008 was $380 million. During the year, $376.4 million was committed to 27 partnerships. The commitments were low for venture capital overall, less than half the ARMB's long-term target.

The current outlook for private equity does not hold much good news. The investment pace for private equity will continue to be slow. Leveraged buyouts are practically impossible to complete at this time, and partnerships are more focused on their existing investments. Exits and liquidity events will also remain slow. The public market is not receptive to IPOs, leverage recapitalizations have halted, and acquisitions are really a buyer's market. Private equity valuations will be lower and more volatile, given market conditions and the increased focus on fair value. Some of the more cyclical investments with high leverage are already in distress and more will likely follow. Fundraising will also be slow, since many investors have liquidity and allocation issues. As a result, the ARMB's commitment targets for 2009 may be difficult to achieve. The only silver lining is that the current market turmoil will also present attractive investment opportunities to private equity firms. Historically, private equity investments made during down turns have generated strong returns.

MR. HANNA said that staff is recommending a commitment target of $320 million for the 2009 tactical plan: $130 million for Abbott, $130 million for Pathway, and $60 million for direct ARMB investments — with a gradual increase over the next five years. Due to the current environment, staff has adjusted the ARMB private equity allocation model to include a 30% write down in net asset values over 2009, as well as a continued slow down in the distribution and contribution pace through 2010. Even with these adjustments, private equity remains above its allocation target of 7% in the model. Staff expects this to moderate over the next three to five years through a combination of increases in the rest of the portfolio or additional private equity write downs.

MR. HANNA said staff recommended that the Board adopt Resolution 2009-07 (in the packet) approving the 2009 annual tactical plan.

CHAIR SCHUBERT inquired about the Board's authorization to give the chief investment officer discretion to invest an additional $50 million in private equity annually and how that related to staff's recommendation for $60 million in commitments to direct ARMB investments in 2009. MR. HANNA stated that the Board sets the annual allocation for the direct investments managed by internal staff, the same as the Board does for Abbott and

Pathway. The private equity guidelines also allow the chief investment officer to go $50 million above the annual plan allocation if he deems it prudent.

MS. HARBO noted that each investment has about a ten-year life span, and private equity is a fairly illiquid asset class, so she wondered at what point the ARMB would have to exit the private equity strategy in favor of more liquid assets to meet the cash flow needs of the closed defined benefit retirement plans. MR. BADER replied that staff have looked at the actuarial projections that Buck Consultants has done and believe that it will be at least 15 years before the retirement fund peaks and starts to have lesser balances. At the same time, the defined benefit components of the defined contribution plan will grow in value, so staff does not feel that the retirement fund is in jeopardy of becoming too illiquid by continuing to invest in private equity.

MR. TRIVETTE moved that the Alaska Retirement Management Board adopt Resolution 2009-07 approving the 2009 Annual Tactical Plan for private equity. MS. HARBO seconded.

The motion passed unanimously, 8-0. [Commissioner Galvin was absent for this vote.]

MR. TRIVETTE complimented Mr. Hanna for a superb job of capturing the essence of private equity investing and for describing the components of the ARMB's private equity portfolio so concisely.

8. Abbott Capital Management

JONATHAN ROTH and THAD GRAY of Abbott Capital appeared before the Board to give an annual report on the private equity portfolio the firm has managed for ARMB since January 1998. *[A copy of their presentation booklet is on file at the ARMB office.]*

MR. ROTH stated that the private equity market is bifurcated into three distinct types of strategies. Buyouts and special situations partnerships that invest in the more mature or more specialized strategies employ a meaningful degree of leverage to make the investments successful. Beginning in the fall of 2007 and continuing to accelerate and deteriorate throughout 2008 the credit market essentially came to a standstill. As a result, the investment rates done by these partnerships began to decline, although they did not decline nearly as much as the credit market shut down because some of the closing that took place in 2008 were actually announced in 2007. The investment rate now is much slower. The limited partners can expect reduced capital calls. At the same time, a muted exit market that will continue will also have a dramatic impact on the flow of distributions or cash back to limited partners.

Responding to CHAIR SCHUBERT, MR. ROTH said there are two triggers for capital calls - when the general partner finds an investment opportunity that they need to fund, and for fees associated with participating as a limited partner, which occur either quarterly or semiannually. He added that there could be a capital call if a restructuring is taking place as a result of a company that needs an additional capital injection. But new investment activity has slowed down dramatically.

MR. ROTH stated that general partners today are all about surviving, focusing on their existing companies and trying to get them to work through the challenges of the economic recession. No general partner is immune; there has been nowhere to hide in the current environment. The importance of diversification is illustrated by general partners who were very prudent in deploying capital and not spending it all during the frothy period of 2006 and 2007. They are in a better position with cash reserves to find newer investments in the current environment. General partners who rapidly deployed capital in 2006-2007 now find themselves with a full set of portfolio companies purchased with very high prices and leveraged capital structures that they have to try to work through in the next three to four years.

MR. ROTH said that the last ten years have been a very difficult period for venture capital and growth equity strategies. They have not had an exit environment in terms of IPOs or mergers/acquisitions of substance, so they are actually a bit more experienced in dealing with a prolonged period of limited exit activity.

MR. ROTH said one of the big issues in private equity today is the denominator effect. To the ARMB's credit, the Board has done a good job in feathering into private equity beginning in 1998. Some other institutions found themselves tremendously overallocated into private equity as their overall pension fund, endowment or foundation shrank dramatically in 2008. Abbott, as a gatekeeper for ARMB, can take advantage of some situations and buy other people's interests in private equity. Another issue is the impact of fair value accounting (FAS 157). When the ARMB program began in 1998 there were some unusually large gains because of the tech bubble. Then beginning in 2000-2001 that bubble collapsed, and it took two to three years for the partnerships to slowly write down those investments. With FAS 157, effective for all fiscal years ending 2008, the general partners are required to rigorously assess the fair market value today. As a result, Abbott is seeing much more dramatic write downs in private companies, particularly in the fourth quarter.

Regarding the financial market distress, MR. ROTH said high yield bond issuance basically shut down in the second half of 2008 but there has been a slight opening up. However, CVC, one of the large to middle market pan-European buyout funds in the ARMB's portfolio, recently announced a $4 billion transaction. They bought the exchange-traded-fund shares division of Barclays, and Barclays provided a lender note to CVC for 70% of the purchase price. It illustrates the creative ways that partnerships are trying to structure their deals.

MR. ROTH and MR. GRAY described the impact of the financial crisis and recession on private equity in 2008:

- Slower investment rate. General partners will have more time to invest their capital, which means they will not be raising a fund every three to four years but maybe closer to five years.
- Private equity as a percentage of global mergers and acquisitions has dropped more than 30%, back down to more normalized levels.
- The number of public to private transactions is down dramatically, and the number of large deals (over one billion dollars) is down dramatically as well.
- Private equity bankruptcies have increased.
- Buyout investments have declined.
- Prices have come down, but a gap remains between what a buyer is going to pay and what a seller is willing to accept. Over time sellers' expectations need to come down. Buyers have actually increased the level of scrutiny they are applying to prospective investments.
- The watch words in venture capital and growth equity are patience and survival. Exits are constrained, and parts of the exit market are completely closed. The volume of mergers and acquisitions has also declined significantly from the prior two years.
- Private equity firms have to emphasize how their portfolio companies will survive this drought in the capital markets. The early stage venture capital firms in particular have to put aside significantly larger reserves for their companies that are still burning cash. It is a real challenge to figure out how much to set aside, because what they set aside may be the only source of financing for those companies for many years into the future, given that the IPO and M&A markets are no longer available.
- This is impacting all stages of venture capital, but clearly the later stage part of the portfolio (growth equity), where many companies are cash-flow positive, are much better positioned to survive the down turn than the early stage companies.
- The lessons from the dot-com crash are being repeated. Venture capitalists are being forced to go through a process of triage where they simply have to decide which companies in their portfolio are going to drive returns for limited partners, and basically support those companies. They will have to say goodbye to the companies they do not believe will be the impact companies because they will not make it through the cycle.
- Abbott continues to focus on a very tight selection process for new investments. They have been weeding out groups from the existing portfolio that have not hit the return hurdles, many of which are early stage venture capital groups. Abbott continues to focus on diversification in constructing a venture and growth equity portfolio. The ARMB's portfolio is nicely balanced between the early stage component and the later stage component, which have completely different risk profiles.

COMMISSIONER KREITZER asked for some examples of groups that were not meeting Abbott's return hurdles. MR. GRAY referred her to the appendix and listed Austin Ventures and Mayfield in the venture capital and growth equity segment where Abbott did not invest the ARMB in a group's most recent funds because of prior disappointing returns. MR. ROTH explained that every partnership group that comes up for a potential investment opportunity goes through the exact same rigorous due diligence process, regardless of whether it is an existing relationship in the portfolio or not. It is Abbott's job to revisit each and every limited partnership opportunity and determine if a group is delivering return for the firm and its clients. In some cases, Abbott has stepped out of participating in a group's next fund and then come back when performance improved, InterWest Partners and TA being two examples.

MR. GRAY next discussed the near-term outlook, which he characterized as being as different as night from day compared to the near-term outlook Abbott presented to the Board in April 2008. Abbott refers to this as the post-Lehman environment because things changed dramatically from the point in September 2008 when Lehman declared bankruptcy. There has been a dramatic decrease in fundraising across all strategies. Most funds that were in the market have not raised much capital at all since October 2008. Those funds that hit the market since the fourth quarter of 2008 are raising capital at a very slow pace. Abbott views that as a positive development on several levels. First, the cases of general partners raising funds in a matter of six weeks, causing Abbott to make decisions quickly, are over. That gives Abbott ample time to review the opportunities. Another positive is that, given less capital, Abbott is finding that the general partners suddenly are looking for higher returns on the money they are putting out, they are focused on what they are good at and cutting out the parts of their strategy that they are not so good at, and they are doing their own deals. A third distinct advantage is that terms for the investors are improving. Two blue chip groups now in the market raising funds that had 25% carried interest structures have been told by Abbott and three other investors that they were going down to 20% — and they did. Other terms and conditions have improved in the last two to three months as well, and Abbott expects more of that going forward.

Regarding the near-term outlook for portfolio management, MR. GRAY said that because there are fewer new deals the general partners are focusing on their existing portfolios and positioning them to survive the down turn. That means making sure the companies preserve cash and manage their expenses more tightly than ever. In the case of leveraged buyout funds, where the companies have lots of debt, there has been a laser-like focus on covenants and figuring out when the big principal repayments are taking place.

MR. GRAY stated that recessions can be a very good time to deploy capital. Abbott understands that the key is to know when the bottom of the recession has been reached: it is better to make a mistake investing a quarter or two after an uptick in a cycle than a quarter or two early. Most of the general partners Abbott invests with understand that, which is why they have been so conservative about putting money out into the market.

MR. GRAY spoke about potential transaction types in a very unusual economic environment:

- "Rescue" financings - companies with basically good businesses but balance sheets with a lot of debt overhang. Abbott has seen several of those equity infusion transactions lately, both in the growth equity segment and the buyout segment of Abbott's portfolio.

- Add-ons to existing investments - companies buying their strong competitors and increasing the market share of the target companies.
- Purchasing portfolio company debt - where the senior debt of the capital structure is trading at 60-65 cents on the dollar, and the general partner knows the company extremely well and is confident that if the bank held the debt it would get back all the interest and principal. That can translate into cash-on-cash returns similar to what an investor would get in equity, plus it improves the balance sheet of the target company.

MR. GRAY said that Abbott remains very opportunistic about the secondary market. In the 2002-2003 period, Abbott was opportunistically buying secondary interests in the market at 30%, 40% and 50% discounts until the markets started to take off again. They left that market when those discounts evaporated overnight in late 2003. Those discounts are now the rule again in the market. The secondary business requires a lot of patience, and Abbott finds the opportunities one by one, rather than buying an entire portfolio at once. Abbott has closed two transactions in four different venture capital partnerships in 2009, all of which were acquired at discounts in excess of 50%.

MR. ROTH briefly gave an update on Abbott Capital Management. There has been no senior level turnover in the 11-year history with the ARMB. A few years ago, Ray Held, one of two co-founders of Abbott, announced his intention to retire and follow the same five-year wind-down program as the other co-founder, Stan Pratt. Mr. Held anticipates being fully retired during 2009. The transition that began many years ago continues, and the firm now has 44 people. ARMB staff has plans to visit the firm in New York this year.

MR. GRAY presented the 2008 investment activity for the ARMB portfolio. Abbott reviewed 475 new transactions and had closings on 11 partnerships that translated into commitments of $149.8 million, right at the target level for 2008. It was clearly a stronger year for investments in European-based buyout funds and a weaker year in the venture capital and growth equity category. That trend appears to be reversing somewhat in 2009. Abbott committed just under $18 million to the Candover 2008 Fund on behalf of the ARMB. The situation is that the management company was owned by a U.K.-based public vehicle which announced that they were not going to be able to fulfill their commitment to the fund because of liquidity reasons. That gave Abbott and the other investors in the fund the opportunity to opt out of the rest of the fund. There has been a six-month standstill agreement, where basically the partnership has been frozen. There is currently only one investment in that partnership, which represents less than 10% of the committed capital of the fund. Based on the standstill agreement, Abbott anticipates that the commitment to the Candover Fund basically will be reduced down to the remaining existing portfolio company, or about $1.8 million (10% of the commitment), and the rest of the fund canceled.

MR. RICHARDS noted that an Abbott graph (page 11) depicts a good return in recession years and the ability to make money even in the subsequent two years. He asked where the ARMB was making commitments — and would want to be — that appear to be making money in recessionary periods and the two years following.

MR. ROTH explained that a vintage year is the year that a fund was raised and makes its first investment. The funds usually have four to six years to make subsequent investments. So a fund denoted as a 2001 vintage year was raised in 2001, made its first investment in 2001, and probably made investments in 2001, 2002, 2003 and 2004. He said the graph to which Mr. Richards referred illustrates that the ARMB does not want to be out of the market when things look bleak because vintage years that were within past recessions have ultimately proven to have been good times to have committed funds. The entry prices in recession years and the following two years have been much lower than the two to three years running up to the end of a cycle before a recession begins. Over the 11 years of its private equity program, the ARMB has been disciplined in not trying to time the market. It is important to consistently dollar-cost average into private equity on a vintage year basis.

MR. RICHARDS asked how that policy reconciled with what Abbott reported about general partners not wanting to deploy capital into the market too early. MR. ROTH said that it takes a longer period of time for that performance to develop because general partners take longer to find the investments and to call the capital. But when the return is compounded over four to five years and the investments are ultimately harvested, they have generally generated very nice returns. MR. GRAY added that it means a steeper J-curve, but once those funds come out of the J-curve the returns can be very attractive compared to other vintage years.

MR. GRAY reviewed the ARMB portfolio summary as of December 31, 2008. The portfolio is balanced between buyouts, special situations, and venture capital and growth equity. Within the venture capital strategy, the portfolio is tilted toward later stage. The ARMB has paid in a total of $1,058 million and has received distributions back of $781 million, or 54% of the commitments. The latest portfolio valuation was $640 million. The net internal rate of return for the program through 12/31/08 is 9.4%.

MR. O'LEARY asked if the 12/31/08 numbers reflected the fourth quarter valuations or the third quarter numbers adjusted for cash flows. MR. GRAY said it was the latter because Abbott is still conducting the required FAS 157 review of the audited financial statements that are currently coming in. Abbott will be looking at the net asset values the general partners are reporting and reducing those if they do not believe the values are in line with how other private equity firms are calculating their partnership valuations. MR. O'LEARY asked approximately how big the adjustment might be at the ARMB portfolio level. MR. ROTH said that with 75% of the data in from the partnerships, the ARMB's latest $640 million valuation has declined to about $586 million.

MR. O'LEARY stated that Abbott Capital has multiple fund holdings with a large number of general partners. If there is a problem with an investment, and the general partner has a follow-on fund in operation that is considering investing in that company, it could cause a conflict for Abbott. He asked how Abbott handles that. MR. ROTH replied that there is language in some partnership agreements that addresses this potential scenario, whereby for a newer fund to invest in an older fund's portfolio company oftentimes they are required to bring in a new third-party institutional investor to set the price. The newer money coming in is looking for the best price possible, while the existing fund that has the troubled investment is trying to argue for a higher valuation for its company. If it is the same general partner, they are holding both sides. That is the reason for bringing in the third independent party to set the objective criteria. Advisory boards are sometimes utilized to help the general partner figure out the best way to handle that potential conflict. MR. GRAY added that many portfolio companies do not want any cross investments between funds - unless all the money goes in at the same time in both funds, and Abbott respects that view.

MR. PIHL requested the internal rate of return for the last year and what the net IRR would be on the ARMB's portfolio valuation adjusted to $586 million. MR. GRAY said that adjusting also for distributions that have been in the first quarter of 2009, as of March 31 the net IRR would be 7.98%. The one-year return through 12/31/08 was -23%, and probably three-quarters of that decline took place in the fourth quarter related to FAS 157 adjustments. The three-year return was just under 8%, the five-year return was 13.8%, and the 10-year return was just under 8%.

In closing, MR. ROTH stated that the portfolio Abbott has assembled for the ARM Board is high-quality and well-diversified. It is not diversified with a market weighting. Had Abbott done market weighting, the ARMB would have had a lot more exposure to the large buyout fund market. The ARMB has some exposure to the mega cap category, but it is to a much lesser extent than public pension funds of the same size. The ARMB is NOT invested in groups that have received attention in the news: Apollo, Bain, Cerberus, some of the newer Blackstone funds, TPG, and Premera. Abbott intends to continue deploying capital on a regular basis to the best of their ability. But with fundraising activity slowing, it may be more difficult to achieve the $130 million target for 2009. Abbott will never make an investment just for the sake of hitting the target. To date this year Abbott has made decisions to close on three primary commitments, and they have two secondary partnership transactions that have closed. There is still a lot of work to do in 2009, and they will have a better idea toward the latter half of the second quarter and into the third quarter whether the $130 million commitment target will be achieved. Short-term changes in the environment should not necessarily influence long-term strategic portfolio decisions. Every partnership group that Abbott potentially invests in goes through a due diligence process that has been honed over the years.

9. Pathway Capital Management

JAMES CHAMBLISS, TERRY MELICAN and JASON JENKINS joined the meeting to give their annual report to the Board on the private equity portfolio Pathway manages for the retirement fund. *[A copy of Pathway's presentation material is on file at the ARMB office.]*

MR. CHAMBLISS started with a brief overview of Pathway, mentioning that the firm has one new owner this year, Valerie Ruddick. He said they have focused over the last several years on growing their support staff and the back office accounting and compliance monitoring. Since inception of the firm 17 years ago, not one senior level professional has left the organization.

MR. MELICAN said Pathway's assets under management were up in 2008 over the prior year but are lower than they were in 2002. Pathway had an evolution in its business model whereby they shifted their focus and assets under management to a discretionary model. Over that time they increased the number of investment professionals, so they have more investment people monitoring a smaller capital base for their clients. While there has been talk in the press about a flight to quality, Pathway's focus has always been on the top groups in the private equity asset class because that is where they can capture excess returns. Their rigorous investment selection and due diligence process mean they have averaged investing in only 3% of the funds that they see in any one year. That is a way to mitigate risk in the private equity asset class. They follow exactly the same process for a manager that they are backing for a second or third time as they do for a manager they are considering investing with for the first time.

MR. CHAMBLISS stated that global economic issues are affecting private equity. The fundraising market has come to a screeching halt, making it a very challenging market for even the brand-name general partners in private equity. The good news for Pathway is that it is a good time to negotiate better terms on investors' behalf. Brand-name general partners have agreed to reduce 20% carry, lower fees, stricter restrictions on what they can and cannot do, and better safety economics.

MR. CHAMBLISS said the deal environment for general partners making investments in underlying companies globally has declined about 70%. During the first quarter of 2009, there were only two deals of $500 million or higher completed. The debt levels have come down as the credit markets have contracted. Lenders are requiring the private equity general partners to put more equity into the deals. The IPO and merger/acquisition market has come to a halt as well: there were 11 IPOs in 2008 and only two in 2009. For the first time ever in the history of the venture capital asset class there were two consecutive quarters without a single venture-backed IPO. These are really historic times. The performances of the underlying companies in the ARMB portfolio and across the private equity spectrum are down, debt is difficult, and the companies are dealing with the over-leverage that they took in 2005, 2006 and 2007.

MR. CHAMBLISS stated that it is very difficult to find new investment opportunities, and general partners are very focused on managing their current portfolios through this environment. However, Pathway has started to see some light of what is possible to come

— smaller deals getting done at lower valuations, and also situations of corporate carve-outs. An example is Barclays Bank selling iShares, one of their prized possessions, for $4.4 billion to CVC Capital Partners, which is in the ARMB portfolio. Barclays thought so highly of this asset that they agreed to finance the entire debt package themselves. Another example is Onex Partners, in ARMB's portfolio both through Pathway and directly. They recently made public that they bought up a significant stake of the debt in Tropicana, the casino operator in Las Vegas that is going through a chapter 11 bankruptcy reorganization. Onex Partners is trying to take equity control of this company out of the chapter 11 reorganization and own the equity at a very significant discount. The number of these examples is limited, but Pathway expects to see that type of thing going forward.

MR. CHAMBLISS stated that general partners in the ARMB portfolio are reducing debt and cutting capital expenditures, focusing on the core business and away from growth. The companies that are significantly over-leveraged from the boom times are pursuing debt exchange offers, debt buybacks, covenant amendments and equity cures, including putting in more equity to satisfy their lenders. Investment opportunities are structured equity and buying leveraged loans and bonds at heavy discounts. Venture capital funds are focused on efficiency within their companies and reducing cash burn, because the financing market in the venture capital space is very difficult right now. The opportunities in venture capital are that it is a lot cheaper to finance start-ups today than it was ten years ago. Technology companies continue to innovate through a recessionary environment: companies like Cisco, Microsoft, Google and Oracle were all founded during prior recessionary markets. Distressed debt is the one group actually benefiting from this environment. Default rates were at historical lows for the last several years and are now at about 4%. S&P and Moody's are predicting that default rates will get to about 15% before the end of the year, which is higher than the last two recessionary or distressed debt cycles. Pathway has always felt that it is helpful to have distressed debt as a portion of the ARMB portfolio because it is counter-cyclical to the other equity strategies like acquisitions and venture. The Pathway portion of the ARMB portfolio started in 2002 coming out of a recession, and the very first investment was with OCM4B, a distressed debt manager that generated almost a 50% net return and completely eliminated the J-curve for this portion of the portfolio. This may be a similar environment to that period.

MR. MELICAN mentioned that a silver lining to the doom-and-gloom news is that the first two vintage years following a recession historically have turned out to be outstanding vintages for the buyout fund space. The experienced general partners that Pathway has invested with are going to find this a good period to be investing.

MR. CHAMBLISS next gave an update of the ARMB portfolio. Pathway accomplished what it promised in the 2008 tactical plan for the number of partnership commitments, the size of the investments, and the breakdown by strategy. They used the 10% over-allocation during the year, committing $174 million versus the target of $160 million. That was largely a result of opportunity toward the end of the year to invest with NEA 13, which is a long-standing relationship with Pathway but a new commitment for the ARMB.

MR. MELICAN reviewed the investment strategy diversification chart, noting that the acquisition value has been decreasing and will probably continue in 2009 as further write downs occur. All the strategies are within the ranges set out for Pathway in the tactical plan. The diversification by industry in the ARMB portfolio is very broad, with no industry representing more than 17% of the portfolio's market value.

MR. CHAMBLISS reviewed the financial summary of the ARMB portfolio as of September 30, 2008. Commitments since inception total $970 million and capital called for investment is $621 million. Distributions of $282 million plus the portfolio market value of $535 million result in a net IRR of 19.8% since inception.

MR. CHAMBLISS recalled that last year he and Al Clerc told the Board that it felt like the peak of the market cycle and that they would not have such good things to say in one year — and that in fact has happened. The since-inception net IRR has gone from 32.1% to 19.8%; the gain/loss in the portfolio year over year is 18.9%, resulting in a -3.8% one-year return as of September 30. This is the first time Pathway has generated a negative one-year return since they started investing on the retirement fund's behalf.

MR. O'LEARY said he recognized that the 12/31/08 numbers were not all in but wanted the Board to hear Pathway's estimate of the market value decline in the ARMB portfolio. MR. CHAMBLISS said their estimate is about 15% decrease in value at year end. Running that forward through the returns would mean the since-inception net IRR would go from 19.8% to the 11%-12% range.

MR. O'LEARY asked if the TPG Fund had invested in Washington Mutual. MR. MELICAN said yes. MR. O'LEARY asked for comment on the problem with the Candover 2008 Fund and what Pathway planned to do with that. Regarding TPG and Washington Mutual, MR. CHAMBLISS said that although it gathered a lot of headlines, the portion of that portfolio that was in Washington Mutual and the impact on the ARMB's overall portfolio was very insignificant. The Candover 2008 Fund has a public parent listed on the U.K. stock exchange called Candover PLC, and it has some liquidity issues that resulted in their inability to fund Candover 2008 investments going forward. Pathway has a member on the advisory board. The limited partners have suspended the investment period for Candover 2008, which means no new investments and no fees being called for six months and allowing the general partner and Candover PLC the opportunity to find a suitable outcome. Nothing can happen in terms of the outcome without the approval of the limited partners collectively, which puts them in a strong position.

MR. PIHL inquired how the estimated 15% decrease in market value for year-end would impact the ARMB's one-year net return through December 31. MR. JENKINS said the estimated one-year return would be -21% to -22% as of year end. MR. PIHL asked them to quantify what has happened in the first quarter of 2009. MR. CHAMBLISS said the new accounting requirements are in place as of year end. It is very hard to say at this point if there will be further write downs for March 31 because Pathway has a very limited number of March performance data in. Pathway expects returns to continue going down but to what extent is hard to say.

MR. CHAMBLISS reported that the ARMB portfolio has enjoyed strong outperformance against public and private market indexes over all time periods since the account's inception. Based upon Pathway's estimated numbers at year end, a since-inception net IRR of 11-12% for the ARMB's portfolio compares to the private equity index return of 5.8% for the same period and the S&P 500 Index return of -10.4%. So while Pathway's performance has come down, the spread between Pathway's portion of the ARMB portfolio and those indexes has actually increased.

Turning to the 2009 private equity tactical plan, MR. MELICAN said Pathway's allocation is $130 million in commitments. Referring to a chart showing the expected commitments by strategy and number of partnerships, he said the acquisition buyout space is going to see less dollars, with potential upticks in restructuring and special situations categories. To date, Pathway has already closed one commitment to a buyout-focused partnership. They have two other partnerships in the pipeline and have closed on one venture capital commitment of $4.25 million.

In closing, MR. CHAMBLISS said the ARMB portfolio is in good shape, although it has not been unaffected by what is going on in the world today. Downward pressure on valuations at year end and in the first quarter of 2009 will continue, possibly through all of 2009. The ARMB is in a terrific position because it has ample capital to invest, unlike many institutions in the marketplace today. The success of a private equity portfolio is predicated upon the ability to have access to, and to find, the best general partners and to also continually invest year over year, regardless of the environment. The Board has done a fantastic job of putting itself in that very favorable position. Pathway believes the next several years may be a very good time to invest. He said Pathway appreciated the continued confidence the Board placed in them.

DR. MITCHELL asked if Pathway participated in the secondary market. MR. CHAMBLISS said yes, that they closed on a secondary opportunity on the ARMB's behalf in 2009. Their approach to secondaries is different. There was a distressed seller in the HIG Bayside Fund where not a lot of capital had been called, so that distressed seller was willing to get rid of their partnership position for free. Pathway took over a portfolio at a hundred percent discount and agreed to take over contributions going forward. They expect more of those opportunities will be available in 2009 and potentially into 2010, and the ARMB may see that in its portfolio.

LUNCH RECESS

At 12:05 p.m. CHAIR SCHUBERT recessed the meeting for the scheduled lunch break. All nine trustees were present when she called the meeting back to order at 1:19 p.m.

REPORTS (Continued)

10. Performance Measurement - 4th Quarter 2008

MICHAEL O'LEARY, executive vice president of Callan Associates, Inc., presented the total fund performance for the fourth quarter and the year ended December 31, 2008. *[A copy of Callan's presentation material is on file at the ARMB office.]* He noted that the performance report for the fourth quarter was unusually late because of the meeting schedule, and that the first quarter of 2009 had already ended.

MR. O'LEARY said the fourth quarter was a terrible market environment for all major asset categories. Credit markets froze around the world. Extraordinary governmental policy actions were initiated quickly, but there was a time lag between the Lehman Brothers demise and the passage of legislation. There was another time lag before the policies started getting implemented. The flight to quality resulted in sharp declines in government rates, and they made all bond managers look terrible - unless the bond managers owned nothing but governments. Commodity prices that peaked last year fell sharply. The U.S. dollar strengthened in spite of the flight to quality. That actually had a negative impact on foreign profit, and it made a weak international stock market even weaker because of currency depreciation.

MR. O'LEARY stated that domestic fixed income returns were positive in the fourth quarter but only because of U.S. Treasury securities and agency securities. Commercial mortgage-backed securities and asset-backed securities performed poorly, and corporate junk bonds were totally junk. High yield bonds were yielding more than 15% by the end of the quarter, and their effective yield over comparable-duration Treasuries was in excess of 10%. When returns like that are available, why would anyone own a stock? It was more a reflection of the illiquidity of even liquid assets.

Comparing domestic and international stocks in the fourth quarter, the local currency EAFE Index returns actually did better than domestic equities. International returns measured in dollars also were better than U.S. stocks. But over the full year, developed international market stocks were down a mind-blowing 43%. Emerging market stocks were down 53%.

MR. O'LEARY said that during the fourth quarter the NCREIF Index for real estate was down 8.29% and over the full year was down 6.46%. The income return remained basically flat but vacancy rates went up a little bit. Looking-forward income estimates were moderated because of the severe economic contraction, but very importantly the capitalization that was used to value that future income stream increased. The effect of that is to reduce its present value.

Using the PERS fund as the illustration, MR. O'LEARY stated that the stock assets were significantly below the target asset allocation at year end because they plummeted in value. Fixed income was essentially at target, and real assets and private equity were well above target. This is because of the denominator effect that was discussed earlier in Ms. Green's financial report. There were a few changes in how the retirement fund asset class weights compare to Callan's public fund database. The domestic equity exposure is lower than average, and the international equity exposure is greater than average. The biggest differences are significantly lower than average fixed income exposure and greater real assets and alternatives exposure. Real assets include real estate, timber, farmland and energy. Alternatives include private equity and absolute return strategies.

The PERS/TRS performance for the December quarter was -13.81% versus the benchmark return of -14.02%. Over the trailing 12 months the portfolio return was -24.61%, and the target index return was -25.89%. MR. O'LEARY mentioned that when the ARM Board gets the final year-end numbers for private equity they will be able to see whether private equity actually added value or not. Domestic equity managers slightly outperformed their targets for the year. High yield had a positive effect, though hardly discernible. Real assets underperformed largely because the ARMB's real estate portfolio, which is a combination of real estate investment trusts (REITs) and direct real estate exposure, underperformed the benchmark. Almost all the real estate underperformance happened in the fourth quarter. Callan bases the real estate performance report on Townsend's return calculation, which was preliminary in this case, awaiting numbers from one fund.

MR. O'LEARY said the PERS intermediate term performance for three and five years look positive only relative to the target index, but it does not look positive relative to the discount rate assumptions. In a relative sense, the fourth quarter was not strong compared to other public funds, but the full year was better than median. All the longer periods remain very attractive. MR. O'LEARY said he is pleased about the longer period comparisons because the ARMB return numbers include more of the effect of the illiquid markets than the typical fund in the Callan database. That is partly why the fourth quarter performance looks the way it does. Also, the ARMB fund's total bond exposure is lower than other funds in Callan's public fund database. That has been an important part of the Board's strategic policy, but if there was ever a time for bonds to help the returns it was clearly in 2008. The total fund's decline is severe enough that it has pulled down the very long-term return below the 8.25% discount rate.

MR. O'LEARY reviewed the performance of each asset class in the retirement fund:

- Large cap equity portfolios for the year were essentially at the S&P 500 market return and a bit better than the Russell 1000 Index.
- Small cap equity for the fourth quarter was a little bit better than the Russell 2000 Index and for the fiscal year and trailing 12 months slightly worse - but better than the median small cap manager in Callan's database.

- The total fixed income pool, including the high yield bonds and the internally managed portfolio, was below the median public fund for the year. But the spread in returns among public funds was extraordinary during the year.
- The in-house bond portfolio compared to Callan's core bond style group was a tad below median for the full year. It was significantly below the benchmark during the fourth quarter, but that is attributable to the heavy credit emphasis (CMBS and asset-backed securities) within the in-house portfolio, as well as the lower-than-index weightings in government securities.
- Total international equity, while down 43% for the year, had strong performance relative to other public funds. When emerging markets are excluded, the one-year return number is a bit better.
- Emerging markets managers did better than the Callan emerging markets equity database, but in aggregate they were still down over 50% for the year.
- The one global equity manager is Lazard, and they added value for the year.
- International bonds did not fare well in the December quarter but were terrific for the full year. Mondrian, with its strong government bond orientation, returned an attractive 11.57% in the year.
- The REIT portfolio, which has been on the manager watch list and has made changes, moved closer to the index return for the full year and the fourth quarter.
- The combination of absolute return managers had comparatively strong returns compared to Callan's hedge fund-of-fund style group. Losing only 16% for the 2008 year actually helped total fund performance. But it is apparent that nobody has achieved the long-term target return of Treasury bills + 5%.

MR. O'LEARY next talked about what has happened in the market subsequent to year end:

- Stocks declined sharply in January and February but turned around significantly in March. The rebound was not enough to wipe out January and February losses, but the market has been strong in April on balance.
- The pain continues because of subsequent write downs in the illiquid asset classes - real estate and private equity. The NCREIF Index has a sub-index, which is comprised of the open-end real estate funds, and it is published typically after the end of a quarter. For the first quarter of 2009 that index is down over 14%. The 12/31/08 valuation numbers for private equity will impact performance results in the March quarterly reports for everybody who is in that space. The write down cycle is probably largely through for core real estate.
- There are clear signs that the pace of the decline in the real economy has decelerated. Cynics would say this is the result of the huge liquidity that the government pumped into the financial markets in response to the Lehman bankruptcy. The decline in interest rates has been so incredible that banks would be rolling in money if it were not for their continued write downs of old investments, because the cost of money is miniscule relative to what the banks can earn on the money. Some investors, like ARMB, are going after that return through the TALF Program (Term Asset-Backed Securities Loan

Facility), where the federal government is willing to let investors leverage at close to 20-to-1 and to give investors the financing to do it that has the same interest rate risk as the assets being purchased. If the assets are bad assets, the investors lose 100% of their equity. But with very short-term assets (including student loans), investors might be able to earn 14%-15% because of that leverage. People who buy slightly more aggressive assets cannot get the same degree of leverage from the federal government but they get a higher potential return. The ARMB investment staff are going to be inundated by managers broaching deals. The Idaho retirement system is thinking of doing this for themselves, using just student loans and a local broker. Many investors are hesitating because the rules seem to change so frequently that the investment might sound good today but tomorrow it could mean something different.

- Callan has not seen many changes in investment policies, although the results of asset liability studies may have implications for policies. Some funds that had been unwilling to rebalance have become very active in rebalancing.
- There has been a significant improvement in the short-term spread between the LIBOR rate and Treasuries. It is still historically high but in a place where it has been before. This is all the result of the central banks around the world providing huge support to the financial systems. Delinquency rates for residential mortgages, consumer loans, and commercial and industrial loans are rising.
- Longer-term bond spreads over Treasuries are still very wide. There has been some improvement in the mortgage sector. The asset-backed sector has also improved but is still very expensive. Asset-backed securities are part of the TALF Program, which has had only two offerings - the beginning of March and the beginning of April.
- Historical data indicates that it is typical for unemployment to continue to increase after a recession ends.
- Mortgage rates are now under 5% and fairly attractive in absolute terms. While the spread of mortgage rates is fairly wide relative to Treasuries, it is a lot lower than it was during the fourth quarter of 2008. Attractive mortgage rates, combined with the huge decline in housing prices, make housing affordability lower now than it has been in decades. The problem is that people need to have money to buy a house, and many people cannot refinance because they have negative equity in their house. The mortgage programs that have gotten a lot of press do not seem to have been implemented in any meaningful way.
- The size of the deficits and the government support being provided to market sectors from banks to auto companies come at a price. Right now interest rates are very low so it is not costing a lot to issue debt, but much of it will have to be repaid quickly or there will be crowding-out issues at some point in the future. Ten-year inflation expectations have begun to edge up a bit, but there is absolutely no sign of inflationary worry this year and, most would argue, next year.
- Many of the traditional metrics for gauging stock value point to stocks being comparatively cheap despite the good recovery in March and April. The market free-fall in the fourth quarter was truly an aberration because of the fear of depression; the country is definitely in a recession but probably not in a depression. One does not sell

on low price/earnings ratios on cyclically weak earnings; theoretically you should sell at higher price/earnings ratios as people anticipate a recovery to more normalized earnings.

MR. O'LEARY discussed where things can go from here. There is a lot of concern about whether the policy actions that have been taken are going to be more harmful than beneficial. Almost everyone agrees that massive injections of liquidity through much of the fourth quarter were necessary to avert systemic financial collapse. History will examine which aspects of the federal government program were most beneficial and which were counter-productive. Now we are into a different stage of longer-lasting types of efforts, and that is where the debate seems to be getting highly politically charged. Most people expect that because there will be less leverage used in the economy it will have some effect on the long-term sustainable growth rate. For example, if the real growth on average over a long period was 3.5%, now one would have to think of 2.75% or 3.0%. That is a real difference, but it is still growth. There is concern about the effectiveness in the allocation of capital, in particular those who are potentially "TARP-ed out" in compensation. Some high-priced people have left some of the leading firms that are subject to the Troubled Asset Relief Program (TARP) and gone to non-TARP employers.

MR. O'LEARY stated that Callan does a report twice a year tracking assets of investment managers on a performance-adjusted basis. They just released a report that has gotten a fair amount of press recently. The assets tracked are down 42%. Investment management firms where all the revenue is asset-related and their assets have declined by 42% are making tremendous changes. They had planned for markets going up and for launching successful new products, and they staffed in anticipation of that. Callan believes there are still more changes to come at investment firms. T. Rowe Price, which has a wonderful business model and has done relatively well, finally announced this week that they were reducing staff by over 5%. MR. O'LEARY said if he had to pick a number for staff reductions at big investment management firms he would say it was closer to 15%-20% now. Almost everybody went through 10% reductions starting in the fourth quarter of 2008 and many are going for a second round. It is not an environment where investment management firms can increase fees either.

MR. BADER reported that he spoke to T. Rowe Price about staff reductions, and none of the people who work on the ARMB account have been released.

MR. O'LEARY stated that it is a great environment, in the private markets in particular, to get the things that are important to the Board, such as greater transparency and better economics.

MR. O'LEARY drew attention to the performance for the SBS Plan investment options, noting that it includes the new choices that have been made available to SBS participants. The Capital Guardian Global Balanced Fund one-year return was probably the biggest miss from the target index. Most of the other funds were pretty close to their target indexes on one side or the other. Almost all the managers on the watch list had reasonably decent shorter-term performance.

MR. O'LEARY took some time to share information from a project that Callan is doing for Orange County Employees' Retirement System. Callan is in the midst of an asset liability study for that fund, and one of their board members asked to look back at other major market declines and recoveries to see what happened. *[He said he would send the ARMB staff an electronic copy of his presentation.]* The study looked at three asset allocation policies for each major market decline and recovery cycle: 40% stocks, 50% stocks and 60% stocks, with the rest being in bonds.

CHAIR SCHUBERT asked if there was anything different about the current market decline that stands out in comparison to prior market declines. MR. O'LEARY said yes, that in every other market decline that he personally observed as a professional (starting in 1973-74) there was never really a serious issue about the financial system's viability. This time there clearly was an issue, and still is in the minds of some. Some of the most bearish people he knows or is aware of are beginning to back pedal on that now, with the observed improvements in the financial system functioning. But spreads remain as wide. There is always a risk of something going amok, like a nuclear bomb in Saudi Arabia and what that would do to energy prices. Normally, in his mind, that type of risk is a 5% probability, and for a week or two it got up to a 30% probability. Now it is probably down to 10% — so still a small probability but much higher than normal.

Stressing that he was not making any sort of political statement, MR. O'LEARY said there was a tremendous risk with the credit default swaps because somebody on one side of the equation thought they had hedged a risk, but it became clear to them that their counter-party in hedging that risk was AIG. When using futures, there is always somebody on the other side of the transaction, and there are collateral requirements that provide a good measure of protection. To him, AIG has been the toilet bowl for financial assistance, but it was dealing with being the central place for all the credit default swaps. If those were not honored, then people who theoretically should not have been in trouble would have been in big trouble. That is how the cascading effect develops. He said he was outraged that something as small as that unit was could have such a dominant role in the financial system. That was really unusual. There have been periods when people loaned too much money, made credit too inexpensive, and banks that have done stupid things in the past, but the levered impact of that was nowhere near what happened this time. He said he did not understand how all the geniuses with their risk-control models were oblivious to this. The faster the credit default swap contracts mature and are ultimately settled, the happier he will be. He is quite confident that the credit default swaps, while a good concept, will not find their way back in the same manner and pose that type of risk again.

CHAIR SCHUBERT asked what Mr. O'Leary thought would be the effect of the level of government intervention on the recovery process. MR. O'LEARY replied that without a doubt the monetary side has been very supportive and the fiscal side will be stimulative. The government cannot spend as much money as it is without affecting shorter-term economic activity. He has been keeping track of tax hikes and it is worrisome, particularly when including state taxes. There is clearly a need to reduce the longer-term structural budget deficit, and that can only be done through spending reductions or revenue increases. If the revenue increases are achieved through upward changes in the tax rate, that may not be supportive of high growth.

MS. ERCHINGER asked what role Mr. O'Leary thought mark-to-market rules have had on creating the downward spiral effect. Also, if he were making decisions, would he have suspended the mark-to-market policy to prevent the downward valuation of assets that has caused downward pressure on stock prices, or was there a strong benefit to that.

MR. O'LEARY responded that he has had some great debates internally with some of the quantitative people at Callan. When he shows the Board standard deviations of returns he likes to use five years' worth of quarterly data because it provides 20 data points. One of the quantitative guys said they could improve the statistical voracity if they used monthly data, and even two years' worth of data would provide more data points and be statistically more meaningful. Mr. O'Leary agreed that the statistics would be more meaningful but it would only capture two years. Because it is easy to have information now, people would make the judgment that the value of an asset is less than the carrying value whether mark-to-market was forced on them or not. He said it is silly to think one can take an illiquid asset and sell it immediately. There is no doubt that assets in the midst of the market turmoil were grossly undervalued, and there becomes a self-reinforcing nature to it. There is no good answer to the question, because mark-to-market could have been suspended, and the market could have gone on and imagined the worst because the tools exist to do that. Regarding the affect on policy actions, if the banks did not have to mark down their assets as much, would they have needed to raise as much capital? As long as there are people who could sell their stocks short, they might not have had an alternative but to raise the capital to prove that there was still sufficient confidence in them. That issue will be studied in detail as the economy emerges from this.

COMMISSIONER GALVIN requested Mr. O'Leary's comments on Callan's "non-merger" with Mercer. MR. O'LEARY stated that there will be no merger with Mercer, and no other transaction will occur, period. Callan had a management committee meeting subsequent to the public announcement that the merger was not going to proceed and came away excited and energized and very appreciative of the things that are easy to take for granted. They are very happy with the employee ownership of the firm and the culture of knowing basically all 170 employees at the firm. The big business drivers behind the notion of a merger were the commitment to become a notch better than anybody else in the world by doubling the research staff, and the globalization of business. When Callan deals with a multi-national corporate client they cannot do anything to help the client with their U.K. plan or Canadian plan or Australian plan. Callan has said no to those things for 10 or 15 years and will have to continue to say no to those things. Callan people always thought their firm had a lot of advantages, and they became convinced of that through the talks about how the two operations would be consolidated. They now have absolutely no intention of combining with somebody else.

11. Actuarial Valuation Review - Fiscal Year 2008

A. Certification of Draft FY08 Actuarial Valuation PERS/TRS

LESLIE THOMPSON of Gabriel Roeder Smith & Company (GRS), the actuary firm hired by the ARMB to review the first actuary's work on the Public Employees' Retirement System and Teachers' Retirement System June 30, 2008 valuations, presented the results of GRS's recent audit. She characterized the draft report provided to board members as a "very good report card." *[A copy of the GRS draft actuarial review is on file at the ARMB office.]* She referred to a one-page summary that gave the status of issues from the prior year audits: there were four items that have not been resolved and which Buck Consultants will continue to look at into the future. She stressed that the issues are de minimus with respect to the valuation. For example, regarding the unused sick leave in the TRS program, GRS is not concerned that it is material for the valuation results. The concern is if a special study were done just on sick leave they would not want those results distorted because of a particular estimation technique.

MS. THOMPSON referred to a spreadsheet showing the present value of each benefit for a sample person in PERS. GRS replicated that valuation for each person in the PERS system and reported the difference between Buck's and GRS's calculations. The audit results are excellent. She also presented a spreadsheet of a TRS example, noting that in some cases GRS put a benefit in one category while Buck put that benefit into another category, but it is all there. Again, the GRS calculation of the total present value of benefits was an excellent match with Buck. Years ago, a private sector ruling said that within 5% or 7% was okay, but she feels that tighter matches are needed these days. Plans used to be a lot smaller, but the numbers get really big when dealing with a 1% difference in billions of dollars. So GRS tries to match even closer, and in the case of PERS and TRS, a less than 1% difference is an excellent match.

Turning to PERS retiree medical, MS. THOMPSON stated that the GRS total retirement present value of benefits has a 0.5% difference from Buck. They also tested the present value of benefits for inactives, and those all matched very well. GRS concluded that the Buck audit is replicating well within standard. The report on the TRS retiree medical was labeled "Not Final" because when the draft was released she was concerned about the present value of benefits for the inactives, where there was a 9.3% difference on a retiree, which would not be acceptable.

GRS was able to work with Buck over the last couple of weeks and resolve that issue. GRS had wrongly assumed that if someone elected straight life that the TRS retiree medical benefit was still paid as a joint/survivor. Now, instead of a 9.3% difference between GRS and Buck in the present value of benefits on an inactive retiree, it is 0.7%. And the vested termination difference is now 1.3% instead of 28.6%. Once again, the valuation results are right on target.

MS. THOMPSON stated that in conclusion the June 30, 2008 valuation results for PERS and TRS are very reasonable, and there is nothing of concern. GRS had to work hard to find any differences, but those have de minimus impact in the valuation. GRS considers this a very clean valuation.

Referring to page 12 of the GRS draft report dealing with death benefits, MS. HARBO pointed out that post-retirement pension adjustments (PRPA) are annual increases based on CPI, and the cost-of-living adjustment is the 10% additional benefit to retirees living in the state. However, GRS uses the terms interchangeably.

MS. THOMPSON promised to clean up that language for next year. The point she was making in the report is that the Buck system is not able to value the COLA based on the age of the person actually receiving the benefit because it is based on the original benefit recipient. GRS agrees that it is de minimus but recommends further investigation into this issue so the Board understands the implication of that valuation procedure.

MS. HARBO said that when Mr. Fornia of Aon Consulting presented his audit report in February he mentioned that the Governmental Accounting Standards Board (GASB) does not allow money for defined contribution plan employees to go into the defined benefit plan. She asked for Ms. Thompson's comment. MS. THOMPSON said the most important thing to remember is that GASB is only making a pronouncement relative to accounting and is not telling the systems how to fund.

MR. SHIER stated that the employer contributions that are assessed on the defined contribution plan payroll that flow into the defined benefit fund are unique from a contribution for the defined contribution plan that might otherwise be diverted. He made it clear that the state is not steering any defined contribution money to the defined benefit plan.

MS. ERCHINGER requested clarification about GRS's comment that Buck's system limitations prevent them from making a change. MS. THOMPSON said it is not at all uncommon for a valuation system to have a limitation in modeling complex benefits. It is the actuary's role to develop estimation techniques that come close to mimicking the necessary liabilities of that plan feature. GRS learned through discussion with Buck about a particular system limitation and therefore they adopted a certain estimation technique. That is completely acceptable and well within an acceptable limit because it creates a de minimus variance on the valuation results.

MR. TRIVETTE thanked Ms. Thompson for the very useful chart of GRS recommendations that included the status of prior year issues. He also praised the comments throughout the GRS report that hopefully will assist the Board in developing more credibility with the data. Lastly, he felt that minor changes in figures for COLA and PRPA could potentially make a huge difference in benefit calculations. If the system cannot calculate those benefits very well, that should be fixed. Perhaps modeling can do a good job, but the COLA and PRPA have a high impact on the retirement funds to some degree.

MR. PIHL asked for comment on the dramatic five-year smoothing impact on actuarial results. MS. THOMPSON stated that she is doing a lot of asset studies right now for clients for those very reasons. These dramatic times are producing interesting results. In all the things that GRS does as the Board's auditing actuary they are all committed to keeping an eye on the long-term picture. Smoothing is nothing but a mechanism to minimize volatility and prevent creating permanent reactions to impermanent results. She is currently working with a client that uses five-year smoothing and is looking at whether to follow CalPERS and go out to 15-year smoothing. The down side is that 15-year smoothing does not recover very quickly when there is a market recovery. There is nothing magic about asset smoothing: assets will go to market because market is all that plans can ever pay benefit payments from. So whether smoothing is over three, ten, or fifteen years, it all ends up at the same place.

MR. PIHL inquired if actuaries ever look at subsequent events — for example, what a dramatic impact the last eight months could have on an actuarial valuation — or if they stay with historical data. MS. THOMPSON replied that actuaries look at subsequent events; they may be asked to do interim projection modeling, taking into account what has happened over the last year or the last six months. If the question is whether the annual valuation reports take into account recent events, generally they do not, not in the sense of changing without having some look at longer-term experience. It is for the very reason of not wanting to make permanent decisions over impermanent results.

MR. BADER asked if Ms. Thompson's answer about smoothing would change in the context of a plan that has a finite life. MS. THOMPSON said she was not as sensitive to asset smoothing, whether it is a closed or open plan. She is a lot more sensitive to the amortization method. But she would not go to 15-year smoothing in a plan with a horizon of 22 years. To answer the question, she would be very careful to look at the tail in modeling, which this Board does. The ARMB does not want to be in a situation 21 years from now where the whole thing has blown up because of over-smoothing or under-amortizing, that a desire to not look so volatile today pushes the volatility out into the future.

MS. HARBO stated that five-year asset smoothing is the most commonly used, and only the trustees or the systems reacting emotionally to a very volatile bear market would change that. MS. THOMPSON said that based on survey material at the state level five-year smoothing is the most common. She cautioned that CalPERS put bells and whistles and corridors in their 15-year asset smoothing model so the system may only have eight-year smoothing in the end.

B. FY08 Draft Actuarial Valuation Report - PERS/TRS

DAVID SLISHINSY, MICHELLE DELANGE and CHRISTOPHER HULLA of Buck Consultants, Inc., the state's actuary, presented the draft fiscal year 2008 actuarial valuation results for the State of Alaska PERS and TRS defined benefit pension plans. *[Buck's slide presentation and other report materials are on file at the ARMB office.]* They would present the annual valuation reports for the Judicial Retirement System and the National Guard and Naval Militia Retirement System at the June meeting. The ARM Board has responsibility for PERS, TRS and NGNMRS. The commissioner of Administration and the ARM Board are responsible for the Judicial Retirement System. MR. SLISHINSKY indicated that later he would review some projections of what could happen going forward under different economic recovery scenarios.

MR. SLISHINSKY stated that there are no changes in the benefit provisions since last year. There are no changes in the asset valuation method or the funding method. There were specific changes with regard to the health care valuation for both PERS and TRS. The Board adopted the Society of Actuaries' Health Care Cost Trend Model, with a slower reduction in those rates, extending the higher health care cost trend rates over a longer period of time. The other health care change was to decrease the assumed Medicare Part B portion for retirees from 5% to 4%. There was no change in the health care base claim cost rate methodology for PERS and TRS except for differences in time lags that Buck applied, and also partially reflecting the Alaska-specific trend during the experience period.

MR. SLISHINSKY presented a comparison of the fiscal year 2008 and 2007 data that was used in the valuation for PERS:

- The number of actives declined to 28,850, a reduction of about 8%. Given that the plan is closed and all new entrants go to the defined contribution plan, Buck expects the active participant number to decline each year because of those that terminate and retire.
- There was virtually no change in the number of inactive non-vested members participating, and a slight increase in vested terminations.
- The number of retirees increased to 24,082, or 4.7%. The total number of members

participating in the PERS plan decreased by 1.5% to 74,489.

- With the decline in the number of active members, the total annual compensation for those members dropped down below $1.6 billion. Adding in the compensation for the defined contribution participants, that number is $1.879 billion, which is used for the contribution amounts. The average compensation was up about 6.8% for the year.
- The market value of assets at July 1, 2008 was $10.727 billion, down slightly from 2007.
- The actuarial value of assets was up over $11 billion. Last year the actuarial value was less than market (90.6%), and as of 2008 the actuarial value was almost 103% of market. Last year there were significant gains that were deferred, yet to be recognized in the actuarial value. This year there are now some losses to be deferred.
- Annual benefit payments were $531 million, which includes $454 million in pension benefits and $77 million in retiree health care benefits that were paid for the period March 1 through June 30, 2008. Buck did not have the health care claims information on the Retiree Health Fund. But if annualized, there would be roughly $231 million in annual payments for health care for a combined total of $685 million for pension and health care payments.
- The accumulated member contributions were up slightly to almost $1.6 billion.

MR. SLISHINSKY reviewed the total PERS system assets and how Buck developed the actuarial value of assets. Once the preliminary actuarial value has been calculated, they use the smoothing technique that recognizes 20% of each of the previous five years' gains or losses that are better than or worse than the assumed return rate of 8.25%. For 2008 that amount of recognition was $92 million of gains from previous years, which is added to the preliminary value. There are also future smoothing amounts that are unrecognized, and those now happen to be losses of about $313 million. That is subtracted to reach the market value of assets of $10.727 billion. The ratio of market value to actuarial value is 97%. Also included in the asset methodology is a corridor: Buck does a final test to make sure that the actuarial value is within 80%-120% of market value. The ratio of the actuarial value to market value provides that test. With the returns that Buck has seen through the current fiscal year — depending on what happens between now and June 30, 2009 — that corridor may impact the value of assets as of June 30. At this point it is very close.

MR. JOHNSON asked for an explanation of the five-year asset smoothing and the future smoothing amount. MR. SLISHINSKY stated that each year Buck recognizes 20% of those gains or losses that were measured in the five previous years. So the five-year smoothing number is a collection of those five years, the first four years of which were gains in the 2008 calculation and the fifth year was a significant loss. Those amounts that have yet to be recognized come to a total of $313 million (80%

of last year's losses, for example, and 60% of the previous year's gains, 40% of gains in the year prior to that, etc.). That number is negative, which means the system is now deferring net losses to be recognized over the next four years.

MR. SLISHINSKY displayed a graph of the history of the comparison between the actuarial value and the market value for PERS that showed the impact of the asset smoothing. The actuarial method was changed in 2002, and the actuarial value was set equal to market value at that time. The smoothing method was implemented after 2002. Of note is that the loss on market value has resulted in the market value now being below actuarial value. Buck measured returns on market of -3.1%, but because of those prior gains that are still being recognized in the smoothing method, the actuarial value of assets returned 10%, which is 1.75% greater than the assumed return rate. In 2008 there was a gain on assets, surprisingly, even though there was a market value loss of 3.1%. That is occurring because of the smoothing method.

MR. SLISHINSKY reviewed a summary of the PERS actuarial valuation results under the entry age actuarial cost method, split out between pension and health care (slide 8). The total accrued liability for pension and health care combined is now $15.888 billion. By subtracting out the actuarial value of assets of $11.04 billion, you arrive at the unfunded actuarial accrued liability of $4.848 billion. As of June 30, 2008, the funded ratio is 69.5%. Last year the funded status was 68%. He explained the calculation to arrive at the employer/state contribution rate of 27.96% or $525 million. That rate is up slightly from last year's 27.65% contribution rate.

MR. SLISHINSKY presented a graph of the PERS employer contribution rate history since 1999, both that measured by the actuarial valuation and the Board-adopted employer rate. Another historical graph showed the growth in the actuarial accrued liability. While there is growth on the pension side, there is greater growth on the health care side of the accrued liability. A graph of the PERS funding ratio history showed the ratio rose since 2006, but Buck expects to see the funded ratio go down as the recent market losses are experienced.

MS. HARBO said she thought the funding ratio numbers prior to 2005 were false because the actuary, Mercer, was adding the pension assets and the health care assets and dividing by the pension liabilities. MR. SLISHINSKY explained that Buck is using the total actuarial value of the assets for both pension and health care and the accrued liability for both pension and health care. MS. DELANGE said she thought Mercer was dividing by the total pension and health care liabilities, but she would check on that. MR. SLISHINSKY said he recalled that Mercer showed two different ratios, one assuming that all the assets were used for pension purposes only.

MS. DELANGE next reviewed the actuarial valuation report for the Teachers' Retirement System, noting that what Mr. Slishinsky described for PERS also applied to TRS. She presented a comparison of the fiscal year 2008 and 2007 data that was used in the valuation for TRS:

- The population on the active side is declining because it is a closed system. The vested terminations and retired and disabled population are growing as people move from active status into a retired status or termination status. The total number of members in TRS at July 1, 2008 was 22,401.
- The total annual compensation for this group was about $550 million.
- The market value of assets was about $4.8 billion, slightly less than the actuarial value of $4.9 billion. The system is now deferring losses instead of gains, as Mr. Slishinsky explained in the PERS group.
- The actuarial value of assets was about 103% of market value.
- Annual benefit payments of $340 million represent only four months of the health care payments because the remainder was taken out of the Retiree Health Trust until it was exhausted this year.

MS. DELANGE covered TRS total system assets, noting that during fiscal year 2007 the contribution rate was 26% of payroll, while it was 54% in FY08. That accounts for the large increase in the contributions from one year to the next. The calculation recognizes $47 million for the smoothed value of assets, but it is still deferring $133 million in losses.

MS. DELANGE displayed a graph of the TRS actuarial value of assets versus the market value since 1996. She noted that this is only the second time since the Board reset the actuarial value equal to market value in 2002 that the system is deferring losses instead of the gains that were deferred over the last few years.

MS. DELANGE reviewed a summary of the TRS actuarial valuation results under the entry age actuarial cost method, split out between pension and health care. The total accrued liability for pension and health care combined is now $7.6 billion. By subtracting out the smoothed value of assets of $4.9 billion, that leaves an unfunded actuarial accrued liability of $2.7 billion on the total TRS plan. As of June 30, 2008, the funded ratio is 64.8%. The pension side is 70% funded and the health care is about 53% funded. The total contribution rate after taking into account the member contributions is 38.56% or $245 million.

MS. DELANGE presented several graphs:

- The total TRS employer contribution rate history versus the Board-adopted rate.
- The actuarial accrued liability history for pension and health care separated out. There is a slight increase in the liability this year, much of it due to the health care benefits increasing, and that was primarily because of changing from the traditional method to the Society of Actuaries' Health Care Cost Trend Model.

- The percentage of the liability associated with health care (31%) versus pension. This is a slight increase over last year because of the trend table change.
- Historical funded ratios for the TRS plan. Last year it was at 62% and this year it is 65%. Primarily this is due to the actuarial value of assets increasing as a result of the asset smoothing method (the actuarial value return was higher than the expected return of 8.25%).

In conclusion, MS. DELANGE stated that assets are the big news. Market value return for the plans was about -3.0%, and on the actuarially smoothed method the return was about 10%. So while the market value return was less than the expected return of 8.25%, the smoothed value return was greater than expected, so that produced positive results for fiscal year 2008. The gain on liabilities was due to some decremental experience — some positive experience on termination rates. The loss on liabilities was primarily due to the health care trend rate change. There have been significant losses on the market value of assets since June 30, 2008. The debate is when, and to what extent, there will be a recovery. Buck suggests that the ARM Board discuss the current investment return assumption and its reasonableness in the current economic environment.

MS. DELANGE addressed why there is an increased employer contribution rate for PERS and a decreased employer contribution rate required for TRS. The contributions coming in during FY08 were greater than the actuarial contribution as of June 30, 2007. Most public systems have some sort of delay in their contribution rate, commonly one year, while the state of Alaska has a two-year delay, However, Buck's valuation assumes zero year delay. For PERS it came in at 32% of pay, but Buck is expecting about 28% of pay. For TRS it came in at 54% of pay, but the expectation is about 40% of pay. That accounts for the positive experience here.

MR. SLISHINSKY explained that as the retirement system starts recognizing losses the impact of the two-year delay will be in not amortizing those losses sooner. The delay over the next three or four years is going to be greater on the loss to the plan than what the Board has seen previously.

MS. HARBO said it is not easy to compare dollar amounts when there are no percentages assigned to the sources of gains or losses for the total accrued liability. MS. DELANGE explained that because Buck is not able to break out the experience for the normal cost rate, it gets difficult for them to show what the changes are on the contribution rate side. Buck has looked at this because of a previous request from the Board. MS. HARBO asked for Buck's opinion on the effect of mortality on the PERS total accrued liability. MS. DELANGE said it is a $6.8 million loss out of the total $52 million experience gain or loss, so not very significant at this point.

Responding to MR. TRIVETTE, MR. SLISHINSKY said that depending on what happens between now and June 30, if Buck measures investment losses for the year at the same magnitude being seen currently, then there will be increases in the actuarial rates that Buck is calculating as those losses get recognized in the asset smoothing. If the market value of assets drops such that the actuarial value is more than 120% of the market value, Buck will adjust the actuarial value downward to match the 120%. So any additional losses would then be immediately recognized in the actuarial value and not smoothed. The extent to which those losses are recognized, and the employer contribution rates increase, then there is an issue with the fact that those rates are not effective for two years because of the two-year time lag. As a result, if Buck were looking next year at some losses that are increasing the employer rates, there would be losses for the time lag because the rates for FY10 were really set in the 2007 valuation. With increasing employer contribution rates, the fact that there is a delay increases the amount of the loss each year for the two-year lag.

MR. TRIVETTE asked if it would be positive on the other end if the systems had a lot more money coming in. MR. SLISHINSKY said that is what Buck is seeing in TRS this year: the $99 million contribution delay is because 54% of pay is being applied to this year, which is more than the actuarial employer contribution rate that was measured in the valuation for the year.

MS. ERCHINGER observed that if the contribution is delayed due to the two-year time lag in a market that is experiencing negative returns, it seemed that would be a positive outcome because there is less money to lose. MS. DELANGE stated that as Buck looks at the 2007 unfunded liability and rolls it forward to 2008, they expect a certain amount of contributions to come in. The positive effect of having more contributions come in than expected is under the contribution delay. She understood Ms. Erchinger to say that if the retirement system lost money on those contributions it would be an asset loss instead of an asset gain in calculating the unfunded liability. The asset gain/loss and the contribution delay numbers are separated out in the calculation.

CHAIR SCHUBERT called a scheduled break from 3:33 p.m. to 3:45 p.m., after which Buck Consultants continued their actuarial presentation.

MS. DELANGE concluded her comments by presenting the change in the employer contribution rates from 2007 to 2008. PERS had a slight increase in the contribution rate of 0.31%, and for TRS, it was an actual reduction in the contribution rate of almost 1%. The TRS contribution rate dropped primarily because of having a larger contribution (54%) coming into the system than expected (26% the year before). The PERS funded ratio increased 1.5% over the last year, and TRS increased 3.3%. Primarily this is due to the actuarial value of assets having higher returns than expected.

MR. HULLA offered conclusions and comments regarding the health care valuation. The retirement plans offer prescription drug benefits that are more valuable than what Medicare would pay, and Medicare reimburses the Division of Retirement & Benefits for that. Buck has explored other options with various clients and has looked at the data for the Alaska retiree medical plan. Buck continues to believe that it might be more valuable to switch from providing the current level of benefits and taking a subsidy back to a wrap-around or prescription drug plan approach. However, due to recent changes in Congress, especially regarding reimbursement to Medicare providers, Buck expects that advantage will dissipate. For accounting purposes only, the Governmental Accounting Standards Board (GASB) rule is that Medicare Part D reimbursements should not be recognized until actually received. For funding purposes, Buck reflects the projected benefit cost net of the Medicare subsidy.

MR. SHIER reported that two years ago the Division requested and received $9 million in federal subsidy on retiree prescription drug benefits. This year the subsidy will exceed $11 million. The amount is not insignificant, which can generate a discussion about how material it could be going forward because GASB will not allow the state to value the subsidy prospectively. Meanwhile, DRB intends to collect as much of the Medicare Part D subsidy as possible and deposit it back into the retiree health trust.

MR. HULLA said another aspect of how Medicare impacts the post-retirement medical liabilities is that there are a couple thousand retirement system members currently receiving medical benefits who do not have Medicare Part A (because they did not have 40 quarters of coverage under FICA prior to retirement). There is a cohort of older retirees who, individually, have very significant hospital bills. If they had Medicare Part A, Medicare would pay 80% to even 90%-plus of that given hospital bill. Right now Buck calculates the health care cost projection for that higher claims cost group on a percentage of the total basis. Buck continues to refine analysis of the claims data to isolate that to the individuals involved. That will help Buck refine the picture because over time the claims of that group will leave the system and the health care cost projection.

MR. TRIVETTE asked when Buck would have the data on the no-Medicare Part A group of retirees. MR. HULLA replied that he did not think Buck would be able to isolate this group for the June 30, 2009 valuation. Perhaps a year from now, when they present the 2009 valuation results, Buck will at least be able to give the Board a picture of where the data would have come out if they had had it isolated in time to get the valuation done.

MS. HARBO asked Mr. Shier if the 2005 membership audit questionnaire to verify eligibility of members and dependents asked if members had Medicare Part A coverage. COMMISSIONER KREITZER said she would check if the 2005 audit asked that question. MS. HARBO opined that it would be a good question to add to a future audit.

MR. HULLA next reviewed the impacts of GASB statements 43 and 45 on the retirement systems. In addition to the nuance of Medicare Part D subsidies coming in and how they can be recognized for accounting purposes versus funding purposes, a larger difference in the accounting world under these new standards is that the discount rate used to value the liabilities *for accounting purposes only* is defined by what percentage of the required contribution actually is contributed. In past years Buck illustrated that gap was wider due to the 5% escalation limit on the employer contribution, except for TRS in one recent year when it was the opposite. There will be a blip in the numbers that show up in the CAFRs (comprehensive annual financial reports) for those prior years that are now rolling into the financials, where less than the annual required contribution was contributed for health care, therefore a lower discount rate has to be used for accounting — and that increases the accounting liability. So there will be a one-year period with a 4.5% discount-rate-based liability for health care that shows up in the financials, and then it will switch back to the 8.25% basis because the full annual required contribution will have been contributed going forward.

Responding to MR. TRIVETTE, MR. HULLA conceded that the requirement to use a 4.5% discount rate instead of the typical 8.25% would be a "penalty" in the sense that it almost doubles the health care liability in the financials. But it does not impact the thought process about how to fund the plans. It is simply how much to recognize in any one fiscal period. Many government retirement plans do not fund at all for post-retirement medical, so they are just going to switch to the 4.5% environment.

MS. DELANGE reviewed slides of the 30-year projections for the PERS as of June 30, 2008, assuming that earnings are 8.25% from July 1, 2008 going forward. These projections were shown in the valuation report and do not reflect any recent asset information. The projections were for the active member count by tier, the inactive member count by tier, contribution amounts based on the actuarial required rate, and the funding ratio based on the total defined benefit and defined contribution payroll and level percent of pay amortization. She noted that the PERS plan will be over 100% funded from year 2030 through 2039. The funding ratio continues to go up because of the two-year delay and residual contributions coming in, and the plan does not recognize the fully funded status until two years later. In reality, the Board may do something different at the point that the PERS plan is fully funded, in light of it being a closed plan.

MS. DELANGE also reviewed slides of the 30-year projections for the TRS as of

June 30, 2008, noting that results are very similar to the PERS. She said the projections are a bit outdated, and Mr. Slishinsky would talk about PERS and TRS 30-year projections based on more recent asset return information and different recovery scenarios.

MR. TRIVETTE stated that this year the Legislature appropriated $107 million to the PERS plan for FY10. Buck's calculated contribution amount is $533 million for FY10. MR. BADER indicated that the $107 million state contribution is for the remainder of the calculated contribution above the 22% employer contribution. MR. TRIVETTE asked how much the employer contribution would be. MR. BURNETT said the $107 million in the current budget for FY10 is the calculated amount to reach the PERS projected contribution chart amount ($533 million). That is different than the appropriated amount in FY09 that was in excess of the cost-share amount, which is why the contribution figure declined for FY10.

MR. SLISHINSKY said he spoke with Mr. Shier recently about the projections in the report and that recent investment experience had made those projections out of date. For another state Buck had put together some scenarios to test sensitivity to not only a slow recovery but to a modest and a strong recovery. They thought it would be good information to present to the ARM Board and put together three different recovery scenarios that take into consideration the actual investment return through December 31, 2008, which was -18.4%. Buck assumed that there would be no return for the next six months so that for the fiscal year ending June 30, 2009 the investment loss would be -18.4%. As Mr. O'Leary reported earlier, typically after a weak market there is a period of recovery. However, no one knows when it will happen or to what extent the recovery will be.

MR. SLISHINSKY explained that in the slow recovery scenario, after fiscal year 2009, the investment returns go back to the long-term return rate of 8.25%. The modest recovery scenario includes some returns that are in excess of the actuarial rate to model a recovery where markets perform better than expected for a short period to make up for some of the losses. Buck used a return of 16% for FY10 and 12% for FY11, and then the 8.25% for FY12 and thereafter. The strong recovery scenario has a return of 24% in FY10, 18% in FY11, 12% in FY12, and then returns go to the assumed 8.25% rate thereafter. Buck assumed that all the decrement assumptions during the period are exactly realized with regard to salary increases, mortality, and retirement patterns. Buck used the five-year smoothing method on the actuarial value of assets. The caveat is that the projections are estimates and that future results may be different based upon actual demographic experience and investment returns during the period.

MR. SLISHINSKY stated that PERS projected employer contributions in the strong recovery scenario are very similar to the projections in the valuation report based on an 8.25% return going forward from July 1, 2008. If the recovery is not that strong, the result is that long-term expected contributions will be greater than that. For instance, in 2029, in the strong recovery scenario, contributions on PERS would be a little over $800 million per year. Under the modest recovery scenario, the contributions would be $1.1 billion per year. Under the slow recovery scenario (if the difference is not made up), the employer contributions would $1.3 billion per year. This is before the basis are fully amortized and contributions go down, but there is still some loss basis that are created by these investment losses that would still be amortized even out beyond 2034.

MR. SLISHINSKY said the results are similar for TRS. In the projections in the TRS valuation report based on an 8.25% return going forward from July 1, 2008, the contribution rose to $462 million in 2029. In the strong recovery scenario, the contribution amount in 2029 is probably a little bit greater than that but very close. So the patterns of the contributions are very similar. That says that to make up for just the losses that have been experienced since July 1, 2008 takes three quite strong years of investment returns.

MR. O'LEARY commented that what he described at the end of his performance report was prepared totally independent of Buck's work. In literally any of the recovery periods that Callan worked on, the diversified portfolio appears to have had a double-digit return. It does not say when the recovery begins or how long it lasts. But the bottom line is that it is a very reasonable assumption to think that after a large asset loss there would be a period of above-average returns.

MR. SLISHINSKY said that is what Buck was trying to illustrate for the Board. It is anybody's guess what is going to happen in the next three to five years. Depending upon whether you are an optimist or a pessimist, there may be higher returns or not-so-high returns, and different expectations in the employer contribution rate changes.

MR. SHIER said he deduced from Buck's contribution projection graphs that, unless there is a strong recovery, the retirement systems have essentially added to the unfunded liability, even though the closed plans will not add any new members. MR. SLISHINSKY confirmed that the unfunded liability increase is due to the losses that are being recognized and then amortized over a new 25-year period. The extent of those losses from 2034 to 2039 reflects the magnitude of the losses that are experienced. There is enough investment return under the strong recovery scenario to wipe out the losses, so the net losses do not extend beyond 2034.

MR. PIHL said he appreciated Buck's analysis, but he thought he would see earlier recognition of the need for additional funding. Buck's contribution projection graphs do not show any impact until 2013. MR. SLISHINSKY explained that the smoothing in the asset valuation method means only recognizing 20% of those losses per year. Second, the amount being recognizing is amortized over 25 years. Those two aspects mean the losses are not being recognized fully but in essence are being recognized over the entire projection period.

MR. PIHL said the PERS unfunded actuarial accrued liability is $4.8 billion. He had hoped there was a way to look at what has happened in the markets in the last eight months and come up with a number that the Department of Administration could recommend for an additional state contribution to start addressing the liability sooner and make it not so abrupt.

MR. SLISHINSKY stated that the real question is how to set the parameters to determine the amount. One process would be to look at the recovery scenario results and maybe say the strong scenario is too optimistic and the slow scenario is too pessimistic, so maybe the modest recovery scenario is most expected. Then develop some kind of contribution package, whether it be an amount for one year or amounts to be contributed over a period of three years or so, that would push the modest scenario contribution projection path closer to the strong recovery projection.

COMMISSIONER KREITZER stated that it was one of the reasons she asked the actuary to look at different investment return scenarios. But she is also aware that the Legislature and the Governor are concerned about cash flow issues in the upcoming fiscal year, so any attempt to increase contributions will have to be weighed against where the state is financially in the next fiscal year. However, it is something the Department of Administration will be talking about.

MR. O'LEARY said the Board has heard talk in the past about the possibility of pension obligation bonds. From a purely investment perspective, a risk exists with the timing of the bond issuance. The Board had heard mention of staging the issuance. From the information that Callan has seen, if there were any possibility of that occurring over the next five years, it would be much more beneficial if it could occur earlier in that period.

COMMISSIONER GALVIN informed fellow trustees that the Department of Revenue continues working on the pension obligation bond (POB) issue and has a meeting scheduled with various consultants next week to look at the current status of the market. Department staff had the project on the verge of being ready to go forward with a marketing plan in the fall just as credit markets froze up. It has been put off since then. He expects the consultants to say the POB project is worth continuing to look at, given that the state had a very successful general obligation bond issuance of its own that, while a different type of bond, is indicative of a change in the market. The policy side of the decision is that the market events of the past year have put the risks into sharp focus: the idea of exchanging a contingent liability for a fixed liability and playing with the arbitrage on the obligated returns versus the expected returns is not a sure bet. The potential down side associated with that is the knowledge that the extended tail, which a year ago may have been merely identified, can actually happen. The retirement systems could end up in a difficult position to ever recover what was initially laid out. Going forward with pension obligation bonds requires accepting that fact. That said, given the data that Mr. O'Leary showed earlier about recovery after fallen markets, if the state was going to do this, now is the time to look at doing it because the potential to immediately see a nice spread is probably higher now than at any other time. But it is not a sure bet and requires extremely close scrutiny.

Regarding Buck's presentation on the impact of possible recovery scenarios on the retirement systems, COMMISSIONER GALVIN said an important concept for the Board to recognize is that there is a false sense of accuracy or precision to the methodologies of establishing a particular gain assumption or earnings assumption versus the actuarially established obligations. It is important to recognize that it is within a band of potential experiences. Senator Stedman, when he spoke to the Board at the February meeting, was trying to make the point that there is a lag time associated with the actuary reports and that there should not be a false sense of comfort with regard to where the retirement systems are because it is masking or hiding some of the actual experience from the last six months. The countervailing argument is that experience cannot be straight-lined; everything is a balance. The more information the Board has available to it, the better the decisions. But none of the information gives the Board a clear path, rather the Board has to weigh everything as it proceeds. He said he appreciated the information presented so that the Board is aware of the potential range of outcomes.

Citing the time lag in asset pricing and valuations, MR. SHIER asked Mr. Slishinsky to comment on the expected result in a roll forward instead of an actual full valuation based on audited numbers. MR. SLISHINSKY said he spoke to DRB about a suggested change in the methodology used in setting the rates: instead of using the 2008 valuation results to set the FY11 contribution rates, Buck could get a better calculation of the FY11 rates by using more recent asset information. They could do that by taking the 2008 results on the accrued liability and rolling that forward to June 2009, assuming there are no actuarial gains and losses on the demographic side. Once Buck got actual investment information for the year ended June 30, 2009, they could calculate the actuarial value of assets and determine a rolled forward unfunded liability that would take into consideration investment losses that are expected to be realized as of June 30, 2009 to give a better calculation of the employer contribution rates — that still could provide the state with enough time to use that for FY11 budgeting purposes. With the size of the investment losses that will come rolling in — to the extent that they are offset by any gains from a recovery

— the lag means the losses will not really hit the employer contribution rates for a couple of years. So the Board is losing time in trying to pay off unfunded liabilities that are increasing. The change he just explained cuts the investment experience from two years to one year.

MR. TRIVETTE requested that Buck prepare a proposal to discuss at the June meeting. He added that the Board and DRB have been talking about cutting down the lag time for years, and anything that seems feasible is worth looking at. MR. SLISHINSKY agreed to do that, adding that it might be a good exercise to look at the contribution rate for FY09 if the Board had done a roll forward last year instead.

MR. O'LEARY asked if Buck was aware of any programs where the recognition of an unfavorable variance from the actuarial value of assets to the current market value of assets is recognized at a quicker rate than a positive variance. MR. SLISHINSKY replied that it is not acceptable under actuarial standards: actuarial asset methods require the same recognition for gains versus losses.

COMMISSIONER GALVIN asked if it made a difference over a 25-year period to eliminate the lag time in setting the employer contribution rate, when employers will be over paying some years because of not recognizing the big gains over recent years, and other years employers will be under paying because of not recognizing the most recent losses.

MR. SLISHINSKY replied that if the gains balance out with losses and vice versa then it is just a timing issue. Buck likes to say with regard to funding pension systems that it is a "pay me now or pay me later" proposition. It affects the timing of the contributions and the amount of the contributions, which affect the volatility of the funded ratios and also the calculation of new employer contributions.

COMMISSIONER GALVIN observed that it depends on when the start time is. Today, if the Board reduced the lag time, it would give the impression of avoiding paying less now in order to have to pay more later. Whereas if a strong market recovery happened — as Mr. O'Leary reported has happened historically — and returns were greater than normally expected, and a year from now the Board looked back and set the lag differently, then employer contributions would be less than what they would be otherwise. He thought that today it may feel good to reduce the lag time, but next year the Board might say it would be prudent not to reduce the lag. He questioned what was accomplished from an actuarial standpoint.

MR. HULLA responded that the accomplishment by decreasing the lag time from two years to one year is eliminating or reducing one source of variance - each year things come out different than expected. It would be nice to be more accurate, whether it is a gain year or a loss year.

COMMISSIONER KREITZER said that she looked at the statutory requirement that the state prefund its retirement systems and, for her, that is why it matters to know how close the systems are to being funded.

COMMISSIONER GALVIN stated that his goal is the same: the issue is how to establish what the liability is, because the liability is based upon expectations and assumptions. The question is, what is a reasonable assumption going forward? Then the question is, what is the goal to meet the statutory obligation? He said it goes back to the false sense of precision, that the Board has to recognize that it is making assumptions based on the best it can achieve at this point. The Board cannot fool itself into thinking that one particular methodology is necessarily more precise or more accurately reflects the actual liability than another, when both arrive at exactly the same spot at the end of the 25 years. It is just a matter of the path to get there. That is why he was challenging the sense that one path was more accurate than another.

MR. O'LEARY offered the reminder that benefits equal contributions plus earnings less expenses. The benefits are what the benefits are going to be, but what is not known is what proportion of discharging that obligation will come from contributions and what proportion will come from investment earnings. Ultimately, that is the trade-off that is on the table.

MR. SHIER recalled the discussion at a board meeting in Fairbanks about compressing the lag time. DRB worked with the Department of Revenue and the actuaries and took several months off the lag time, but physically they have compressed it about as far as they can. June 30, 2008 is not yet one year away, and there is no small amount of work after the end of that fiscal year, getting the final numbers in July or August, and then going through the actuarial calculations and review process. So if the Board is concerned about any remaining time lag, the next thing to examine is other processes. What Mr. Slishinsky described would allow the calculation of a contribution rate earlier on. It is easy to forget that the fiscal year actually begins a year prior to what it is called.

MR. PIHL mentioned that the ARMB has come a long way in adopting the actuary's recommended contribution rates. The Legislature has set the cost share with the retirement systems, and the state has shown the willingness, when it can, to fund more than the cost share difference. As an ARMB trustee, he feels the Board has accomplished a lot by going to the actuarial rates. He would like the burden to be on the shoulders of the Departments of Revenue and Administration to look at the calculations and recommend to the state some additional contribution - and doing it earlier. If the actuary has changes to recommend besides, that would be great.

MS. HARBO congratulated the actuary and the Division of Retirement and Benefits for continuing to fine-tune the health care data to get accurate information so the Board gets a truer health care cost for the retirement systems.

RECESS FOR THE DAY

CHAIR SCHUBERT recessed the meeting for the day at 4:50 p.m.

Friday, April 24, 2009

CALL BACK TO ORDER

CHAIR SCHUBERT called the meeting back to order at 9:00 a.m. Trustees Schubert, Trivette, Harbo, Williams, Richards, Galvin, Erchinger and Pihl were present.

REPORTS (Continued)

13. Medical Investment Research

DR. WILLIAM JENNINGS, a member of the Investment Advisory Council since 2003, stated that professors tend to divide their time among teaching, research and service. The things they learn from one kind of service activity have great synergies: although the ARMB is the largest investment pool he is associated with, he can bring into play things from his other activities. As the academic IAC member, he sees his distinctive role as bringing finance scholarship to the table and relating it to the Board's work.

DR. JENNINGS stated that in February 2006 the ARM Board had a presentation from LaSalle on investing in medical office buildings, the idea being that maybe these office buildings had a special benefit for the ARMB, given the large medical liabilities the retirement systems face. The minutes of that meeting reported the following: "Deputy Commissioner Brooks remarked that the growth of medical costs dominates the Board's liability discussions, and this investment in medical office buildings is an opportunity for the ARMB to make some money on the other side of the equation." He said that statement made sense to him, but he was not aware of any academic research that supported that view. He followed up by looking for what other people had to say on this and was not able to find anything. He then looked to some colleagues to add anything to the discussion. It resulted in a paper entitled "Do health care investments hedge health care liabilities?," coauthored by Jennings, Steve Fraser and Brian Payne. The main motivation for other people interested in the topic is what should they do about health care expenses that are large and growing.

DR. JENNINGS presented Goldman Sachs research that highlighted how GASB 45 is going to force states that have not been putting a number on their medical liability to put that on the table, characterizing the overall situation as "a trillion dollar question." Around the time the researchers were looking at the question of health care investments, General Motors set up and funded its Voluntary Employee Benefits Association (VEBA), a $35 billion medical trust for UAW (United Auto Workers) benefits. There was a statement in a *Pensions & Investments* article to the effect that VEBA is like a pension with a twist, and it should be invested similarly to a pension fund, except that it will need to take into account unforeseen medical inflation down the road. Again, the idea that the investment pool would be adapted to reflect the particular liability. Yesterday the Board heard from its actuary that the Alaska retirement system's medical liabilities are large and growing. The PERS total accrued liability was 42% related to medical and for TRS it was 31%.

Looking at another article about what other organizations have done, CalPERS made a $700 million private equity investment doubly focused on the liability. Not only was it in medically related investments but it was specifically looking at targeting cost control. Again, the idea is that if CalPERS can control the escalation in medical inflation it will help with the liability.

DR. JENNINGS stated that talking today about liability driven investment can help set the stage for looking at the results of the asset liability study the Board commissioned and maybe have some benefits beyond just his simple answer to the health care question. He presented the two approaches to investment: the classic mean variance optimization as opposed to liability driven investing. Mean variance optimization is what informs the annual asset allocation. It basically looks at a risk-return trade-off in the classical sense. Liability driven investing changes things slightly by focusing on a surplus return — return in excess of the growth in liability as well as surplus risk. Both of these approaches put weight on diversification. The difference is that liability driven investing puts extra emphasis on assets that are correlated with the liability. So if an asset were perfectly correlated with a liability, the optimization process would really load up on that. He asked Mr. O'Leary which assets the liability driven investing approach likes.

MR. O'LEARY's reply was assets that have the same duration as the liabilities, and generally that means interest-rate sensitive assets. DR. JENNINGS agreed, adding long Treasury bonds because they are longer in duration than the corporates. For corporate pensions, they are using AA corporates as one of the ways they have to value their liabilities, so those get extra emphasis. In England, where there are a lot of inflation-indexed pensions, inflation-linked bonds get some extra weight.

DR. JENNINGS said that to consider how to hedge medical liabilities the ARMB would probably look to the same asset classes. But there might be some intuition that health care stocks or the medical office buildings that LaSalle put forward two years ago could be good assets to hedge the medical liability. It is a reasonable intuition. The data shows that health care inflation has massively outpaced overall inflation, and yet health care investments have massively outpaced overall equities. That this makes sense as a way to invest is the accepted wisdom, which is what deputy commissioner Brooks was talking about. The point of the paper was to investigate whether this is a wonder drug or snake oil, and does the accepted wisdom make sense. The ARMB is not the only entity that cares about finding an investment that would help immunize the liability: health-oriented nonprofits would want to invest in that, and individuals could use retirement medical accounts to fund medical benefits in retirement.

DR. JENNINGS stated that the short answer is that you can slice and dice health care investments a lot of different ways, and you can slice and dice medical inflation a lot of different ways, but in short the research found them uncorrelated and not a good hedge. Their research included considering variations, such as inflation surprises; a range of different ways to invest in health care (all generally equity related investments); and just looking at the health care effect of health care stocks (taking out the market effect). The answer invariably was that the investments were uncorrelated and not a good hedge. In conclusion, the folk wisdom is not right.

MR. TRIVETTE thanked Dr. Jennings for bringing this topic back to the Board. The Board is always looking for something to move to, but sometimes the decisions they do not make can be the more important ones if they do a thorough analysis first.

MR. O'LEARY asked if the researchers tried to experiment on the impact of government policy, such as the possibility of nationalized health care or a significant change in reimbursement policies that could distort long-run data. DR. JENNINGS replied that they did not specifically try to pull those out. However, they did look at sub-periods. Their inclination was to think that some slight up weight in health care investments would have made sense, and the big surprise was that the results were compellingly zero every time they looked at it.

Referring to the graph showing that health care equities have outperformed the market, MR. BURNETT asked why not have investments in health care equities purely to get additional returns over time. DR. JENNINGS said that is reasonable. The conclusion to take from the research is that the Board would look at health care investments on their investment attributes, not on their hedging attributes. The question is, is that likely to continue? The researchers found that the mix of health care equity investments did not necessarily correspond to the mix of things that go into health care inflation — there was a bias toward big pharma as opposed to medical delivery, etc., things that weakened the hedging argument.

MR. RICHARDS asked if the analysis gave a clue as to what sector might be a good hedge against health care inflation. DR. JENNINGS replied that the best hedge was Treasury Inflation Protected Securities (TIPS). Even though linked to overall inflation, the inflation-linked bonds were a better hedge, but the returns are so low that it loses the point of Mr. Burnett's question. He said that one of his colleagues on the project left the Air Force and retired, and at the time he left there was lots of money for real estate research in Florida. They got some data on medical-related real estate, and preliminary results are, again, that the correlation to medical liabilities is almost zero. So they did try to look at other things but have not found the wonder drug yet.

14. Economic Round Table

MR. BADER, acting as moderator, introduced the panelists for the economic round table, all representing ARMB large cap equity managers: ROB GILLAM, chief investment officer for McKinley Capital Management; SCOTT MIGLIORI, co-chief investment officer of RCM San Francisco; MARK GIAMBRONE, portfolio manager for Barrow Hanley; and TERRY RAGSDALE, investment specialist at Capital Guardian.

Question: *Despite the last few weeks in the market, are things as bad as the stock market suggests?*

MR. GILLAM: We would turn the question around a bit; the stock market is actually discounting a little bit better news at the economy level. The market has rallied in the last three to four weeks. The market is a leading indicator and tends to lead the economy by six to nine months, on average. Clearly, we are starting to see some less negative news in the market, which generally bodes well for earnings and, as a result, for the economy. From our perspective, which is the earnings perspective, earnings are less worse that we've seen.

Question to Mr. Migliori: *Why would anybody want to own a finance stock?*

MR. MIGLIORI: In this environment, that is not a strange question to be asking. Despite some of the things that are coming out of Congress that might make you question it, we are still a market-driven economy. A market-driven economy depends on a well-functioning financial system. So, like any other sector, we are always looking for opportunities where the market has mis-discounted or mispriced stocks or sectors. While I certainly would not say that on a broad basis RCM is bullish on financials — we're not, even as a growth manager there are opportunities to find stocks that have been thrown overboard unnecessarily and actually are presenting opportunities to make money with a longer-term outlook. Without going into specific stocks, there are areas, even within banks and even within brokers, where we are finding companies that are taking market share, that still have very strong capital structures, and that are well positioned to come out of this in a better position than they went into it.

Question to Mr. Giambrone: *Would your firm want to own a finance stock these days?*

MR. GIAMBRONE: We're the value manager of the group, and we have been underweight financials for a long time. It ties both of these questions together, to some degree. Financial stocks have clearly led the market down. There has been some real peril within the financial area, and some companies that were at one time big brand-name firms are now out of existence. From our perspective, being underweight was appropriate. What is critical within the finance area is to find companies that have enough capital to be able to survive this bad period that we are clearly in, meaning that as losses mount and reserves need to be added to, capital levels come into question. You would not want to own companies, regardless of the valuation or the potential up side on the other side, if you thought there was potential peril between now and whenever we come out of this. Barrow Hanley has found some companies it believes have the capital and the wherewithal to survive even under a stress test scenario, not necessarily like the government is discussing now, but thinking about the companies' balance sheets and their own capital loss rates, etc. So if you can find companies to make it to the other side, the answer would be yes, because what is currently being discounted in the market today is a very difficult situation, appropriately so. But on a normalized earnings basis, there are doubles, triples, quadruples out there a few years out, as long as you are comfortable that a company can make it to that point and does not dilute the shareholders dramatically along the way.

Question to Mr. Giambrone: *As a value manager, what are the earnings implications to corporations from the decline in assets in defined benefit pension plans?*

MR. GIAMBRONE: There is an impact. For the most part, companies have to contribute into the pension when it becomes underfunded. The vast majority of pensions at this point are underfunded relative to what the market has done over the last year or so. Therefore, we would expect cash contributions and some impact on earnings. It is important to know that different companies account for those contributions over a longer period of time in some cases and some right up front. So the implications for each individual company are a little different than they are for the overall market. But it is clearly something to pay attention to at this point when you think about earnings growth rates or earnings power for a business and the size of underfunded pension obligations.

MR. RAGSDALE: There is clearly going to be an earnings impact to corporate America. But I guess we at Capital Guardian are thinking more about the funding needs in the near term, to what extent folks need to raise debt or conceivably equity. It feels like the same sort of conversations we were having back in 2002 and the early part of 2003. It is a big issue as billions of dollars are going to have to go in over the near term, if the situation that we are in right now continues unchanged. But if there is a bit of a rebound in the equity market, and if rates move back north over the next couple or three years, it is amazing how quickly that situation can go right back the other way.

On financials, Capital Guardian is a core manager — at neither end of the spectrum — and we happen to be about market weight in financials, which looks like we don't think the situation is too awful or that we think it will be too great. It is almost a little bit random that we are market weight in financials, but what we have are a few very large positions in financials. I would echo some of the comments the other gentlemen made about some big opportunities for market share gains by the guys that have strong balance sheets and who will get to the other side of this. What kind of returns can financial companies generate over time going forward? Clearly, as an industry, less than they have in the past. They are going to have to have more capital, they are going to have the regulators all over them, etc. But we do think there are a handful of companies that will really stick out to the positive side, that will gain share, and potentially have quite strong earnings growth over the next few years, and we have big exposures there. Goldman Sachs and JP Morgan are two of those. These are the guys that have come through this the best so far, and we think that will be sustained.

Question: *We appear to be in one of the most severe recessions since the post-World War II period. What do you perceive to be the key reasons for this, and what are you looking for to convince the U.S. and the rest of the world that we are headed back to growth?*

MR. MIGLIORI: There is more than one answer to that question, and we can have a lively debate about it. Ultimately, there was too much leverage in the system, both at the financial institution level and at the consumer level. There was a lax regulatory system that enabled that to take place and without any sort of controls or checks on it. There was monetary policy that was too accommodative for too long. So when it got to the point where there was a drop in housing prices, it had a ripple effect that has now resulted in a massive deleveraging or deflationary environment. That has been the real trigger. The policy responses to that, at least initially, were somewhat ad hoc and had the unfortunate effect of exacerbating confidence and resulted in risk aversion.

MR. GILLAM: As a follow-on to part of the question that talks about what will come out of the other side first, typically on a mathematical or probability level it is always what goes in first comes out first. So that would suggest the U.S. in particular. But setting that aside, this is a bit of a different time frame relative to previous crises in that a lot of the emerging market economies and companies are stronger than even U.S. companies. A couple of years ago people talked about problems with Chinese financials; now they are talking about problems with U.S. financials. So emerging markets in particular — China, India, Brazil, those types of economies — while they may not come out first, will probably be some of the stronger areas as the rebound occurs.

Question: *Dr. Jennings just expressed his belief in the long-term investment value of TIPS, but right now TIPS do not seem to indicate any inflation on the horizon. Yet, the talking heads on television say that the country will be into hyperinflation like pre-World War II Germany, and so on. Are there any views on the long-term outlook for inflation?*

MR. GIAMBRONE: Clearly, we are currently in a deflationary environment, at least for a big portion of the economy. Many of the programs being put in place could potentially be hyperinflationary. The assumption is that programs will not be executed flawlessly, meaning that there is a chance that some of the programs could be pulled back and that some of the inflationary measures would be muted relative to some policy implications a few years down the road. That makes the assumption that timing of policy decisions is right, and Barrow Hanley is not comfortable in assuming that. Therefore, there is a high probability that inflation is coming, but at the same time it is not imminent. TIPS are appropriate, particularly for longer-duration type benchmarks.

MR. RAGSDALE: How good is the Fed? How immune are they from political pressure? Will they turn off the spigot at the right time in the right program to the right degree? I agree that deflation is the issue in the near term. Capital Guardian has a lot of concerns about inflation over the long term, but they are not doing anything significant in portfolios right now to position for a highly inflationary environment. It is not clear to them that it will happen, and even less about when it will happen. But they are very worried about it.

Question: *A popular question to these panels is to ask for the personal pick for the best-performing asset class in the next 12 months, beyond each firm's own areas of investment.*

MR. RAGSDALE: High-grade corporate bonds. Spreads are way out there. Before there can be a sustained rally in equity markets, it probably has to be seen in corporate bonds. Having said that, show a decent rally in corporate bonds and we will see it in equities pretty quickly after that.

MR. GIAMBRONE: I would say exactly the same thing, because we are going to see an improvement in the fixed income markets first. Spreads are at ridiculous levels. The question of, is there any implication to all the policy measures taking place today relative to fixed income investments, the reality is the spreads between governments and corporates are dramatic. There seems to be real opportunity within the high yield corporate area.

MR. MIGLIORI: Just to be different, I will disagree with my two esteemed colleagues here, at least in terms of what RCM's expectations are. I realize it is somewhat self-serving to say I believe that high quality equities will be the best-performing asset class. High quality corporates will do well, but the thing that is different this time than perhaps coming out of prior recessions is the amount of free cash flow that corporate America is generating. The free cash flow yield of large cap companies is actually equivalent to their underlying bonds, which is very unusual at this stage of a recessionary cycle. Because of that, RCM expects to see equities continue to outperform high-quality corporates. The conventional wisdom is to typically see fixed income or the credit markets lead the equity markets. But statistics over the last several years show it is pretty haphazard. There are times when equities lead, there are times when fixed income instruments lead. Given the free cash flow yields and generation we're seeing, there is a good argument that equities will continue to outpace bonds.

MR. RAGSDALE: I hope he is right and I am wrong.

MR. GILLAM: I think all of us here hope he is right. I will talk about more the mathematical. It is almost always that things which lead in the real short term are those that have lagged the most in the near term. So even looking at the first quarter, those things that underperformed the most in January and February outperformed the most in March. Looking around the world to see what has really been underperforming, a lot of the emerging market countries, certain types of equities, so again, China, a disaster last year in terms of performance leading the world this year.

Question from Mr. O'Leary: *This morning Ford announced negative earnings but not as bad as many had anticipated, and that helped the stock market rally again. How does a company that has not had access to government funding compete with entities in the same business that in effect have a significantly lower cost of capital? Do investment managers even think about things like that when they are deciding what is attractive?*

MR. GILLAM: The main driver of McKinley's process is earnings, so of course we think about it. Companies that are receiving federal aid, like Goldman Sachs, there are a few strings attached to the aid. Those strings determine what a company can and cannot do. The companies that are able to survive without the aid, even though they might be a little bit more precarious on the funding side, also have a lot more flexibility to run their businesses the way they see fit - and hopefully to generate better earnings. That is what McKinley looks at. McKinley is also an owner of Goldman Sachs.

MR. RAGSDALE: On Ford, Capital Guardian is not jumping up and down about the automobile companies in either direction. We have not participated there in a while. But we do think about the extent to which government assistance provides a different sort of competitive advantage versus the competitive advantage we are normally looking for. One has to look at the time frame regarding auto companies. It is not the first time for government assistance in the auto business, and it is not clear that that government assistance differentiated those who got it in terms of their prospects over the long run.

MR. GIAMBRONE: The risk is to end up with some perverse incentives and some perverse outcomes. To the extent the government is successful in coming to some sort of restructuring of General Motors that might relieve them of some of their labor agreements, that could actually put Ford at a competitive disadvantage. That is one of the issues of the government's involvement in this particular issue: there are unintended consequences that could have negative impacts, even for companies that are doing well without government assistance.

Question: *Are there any economic indicators that you particularly value, in terms of looking at market trends?*

MR. MIGLIORI: The housing market is certainly paramount. Again, it is part of what got us into this mess, and it is going to have to at least stabilize before there can be any visibility of getting out. On that regard, RCM looks at inventory levels, looks at transaction levels, both in existing home sales and new home sales. The number this morning was pretty good on the new home sales front. Pricing has continued to deteriorate, but the rate of price decline seems to be basing out. So there are some reasons for optimism. Part of why the Fed is engaged in the quantitative easing path is to bring down mortgage rates. They are now below 4.9% on a 30-year conforming loan. If that could get down closer to 4.5%, which may be the Fed's goal, that could see a nice stabilization of the housing market, which would be key for economic activity going forward.

MR. RAGSDALE: It would be nice to see a little more bank lending into the real economy, as opposed to purchasing securities, and it would be nice to see a little more normalcy in fixed income markets. One could argue that things have gotten better on the new issue front. There is significant investor demand for reasonable quality new issues. There is not enough demand for the issues that are already in the secondary market, and that would be another thing nice to see as a leading indicator of improvement in the economy.

MR. GILLAM: As a follow-on to that, housing prices and general availability of credit stimulates the consumer, and when the consumer is buying things that tends to be good for general earnings. McKinley likes to see those earnings at the corporate level.

Question by Mr. O'Leary: *It seems that corporate attitudes toward paying dividends have changed, that they think it does not do any good to maintain the dividend, even if they are able to maintain it. What are Barrow Hanley's thoughts on that, as a value manager that has a long history of looking at dividends as part of your process?*

MR. GIAMBRONE: Dividends are very critical to Barrow Hanley's overall process. Looking back at the overall market in the century of the 1900s, the return was about 10.7%. The return just from dividend yield over that period of time was about half. It is not only very appropriate for Barrow Hanley to pay attention to yield but to have yield reflected in the portfolio, because they do not want to leave that portion of return on the table. What is different today from a yield perspective is the biggest level of yield cut in the S&P 500 that has happened since the last substantial depression. Barrow Hanley's thoughts are that there are companies that have real peril and need the liquidity. There are other companies that are making decisions about taking the cash flow coming from that dividend on a short-term basis, rather than having to go to the fixed income market or the lending market and pay unreasonable rates, from their perspective. Barrow Hanley is also seeing companies take advantage of opportunities to make acquisitions. The companies are taking a portion of that fund from the yield and making investments that they believe will contribute substantially in the future, rather than having to borrow the money or issue equity, which they could do in the past. What is different for value managers, because of the indiscriminate sell-off in the market, is finding yield with companies that have good balance sheets, good cash flows, and no reason to have to cut that yield. Barrow Hanley is underweight financials. The financials traditionally are dividend rich but at this point have had substantial dividend decreases and cuts. But Barrow Hanley is substantially overweight technology, the most the firm has been in its history, and it is because the indiscriminate sell-off over the last year of those stocks that should be prized in the market for good balance sheets and good cash flows has brought opportunities outside the traditional large dividend payers. Areas such as technology, industrials, and energy in some cases, can still pay substantial dividends. Barrow Hanley can populate the portfolio with those types of companies so the yield overall has not gone down but has gone up. The safety within the portfolio relative to the market is much higher. There is generally still plenty of yield out there, but they have to be more careful because the dividend per se is an area that companies are looking to for liquidity.

Question to Mr. Giambrone: *Did a secure dividend provide any comfort for a company during the decline of the market? It seemed like everything fell, regardless of the dividends. What is your perception?*

MR. GIAMBRONE: That is right, everything went down indiscriminately, which has provided some opportunity. Second, the highest yielding, lowest P/E stocks in the market have done the worst in this particular environment. It is because the market is a discounting mechanism that looks forward, and it recognized within the financial area per se, where the highest dividend yields and the lowest P/Es were, clearly there were some real problems. There are stated dividends and there are dividends that are going to get paid six months later. People recognized that those dividend yields were under substantial pressure and were probably going to be cut. In most cases, the market was right. Particularly when a yield was a double digit or so, the thought was that the market was pricing in a much lower dividend or a dividend cut: in this case, that was very accurate. So the highest yielding, lowest P/E stocks actually performed the worst in this market because they were the most likely to be under pressure and to cut the yield. People should not throw out the dividend discount model. There are some difficulties with the yield at this point, and recognizing whether a company will have the ability to either reinstate, to pay, or to grow that dividend is very important in individual company analysis. But just to say that because the yield is being cut in a certain area of the market, or has been cut because there are real pressures right now, does not mean that moving forward that would not be an important component. Barrow Hanley believes it will be.

MR. RAGSDALE: Whether there is a secular change in corporations' willingness to pay dividends, there have been instances where companies used the situation as an excuse to cut dividends. But most of the companies that did it had to do it, and it was probably the right thing for them and their shareholders. Care should be taken about carrying this environment too far, as if this is the way it is going to be for a long time. Dividend yields were unusually low back in the late 1990s, early 2000s. The two things to focus on going forward are that the investment community had a fair bit of success beating on managements in the past ten years to really think about the dividend and capital allocation and how they were using the spare capital. That will resume once times are more normal. Second, one might argue that GDP growth, and therefore corporate earnings growth, once things return to normal, may be somewhat less than it has been over the past 20 years. So the demand for capital to grow a business may be less, and the ability to pay dividends may be more.

Question: *A number of real estate investment trusts (REITs) have changed their policies in terms of dividends: where they used to offer large cash dividends, now they may keep the cash and offer stock dividends. As a purchaser of shares, are managers indifferent between cash or a stock dividend?*

MR. GIAMBRONE: No, we're not indifferent, we want cash. But there are situations where it is not a choice, they do not have the cash. In some cases, it is almost a back door equity issuance to improve liquidity to be able to use the yield and pay it in stocks. To their credit, the companies have taken advantage of a loophole basically that allows them to do that. From Barrow Hanley's perspective, it is a response to a weakness in their own balance sheets, so it is not something the firm considers appropriate or something they would be happy to have as shareholders.

Question from Mr. O'Leary to Mr. Gillam: *McKinley is the only one on the panel that is directly involved with both international equity and domestic equity investing. What are McKinley's thoughts on their relative appeal?*

MR. GILLAM: As of late, the U.S. has been a more attractive place, which is reflected in McKinley's global strategies. The places that led into the decline typically are the ones that lead out. So earnings as a general rule have been slightly better in the U.S., and McKinley has been overweight the U.S. That has helped in returns year to date.

MR. MIGLIORI: While RCM does not have a current mandate with the ARMB for global or international equities, the firm has global and international products and capabilities. The most likely outcome is that the U.S. comes out of this first, not necessarily because the U.S. went into it first, but because the magnitude of the monetary and fiscal response has been significant relative to some other areas. But longer term, the best growth rates are going to come from the emerging markets. Even though he is not an international portfolio manager, the fact is that a lot of the companies, especially in the technology area, have 40%, 50%, 60% of their revenue from earnings driven by overseas markets. So there are ways, even in a domestic portfolio, of capturing that opportunity. While the U.S. may be the first out, when talking about future returns, international exposure is going to bode well for outperformance.

Question from Chair Schubert: *What kind of recovery period are people looking at? And, assuming the Fed makes regulatory changes to what banks and other financial institutions can engage in, what kind of impact will that have on the whole market recovery process?*

MR. GIAMBRONE: The market is clearly a leading indicator and will recover before the economy recovers. We focus on jobless claims and unemployment rates, and those things will still be going up while the market is looking forward and going up. A first derivative means that unemployment keeps getting worst or housing prices keep going down. A second derivative is that they are going down less than they were before. And that is really what the market is focusing on, to think about when a recovery period may happen. There are signs of that. Barrow Hanley believes there will be some recovery, particularly on a stated growth rate basis, probably later this year or into next year. They are expecting — and that is how they have positioned the portfolios — that the market would recover prior to that. There is some risk that that does not come true, particularly because of government intervention. The government at this point, unfortunately for everyone, is much too involved, but it is because they have to be involved. Whether it be GDP spending or the need for liquidity or as a lender of last resort, clearly there are areas that the government has stepped into a real vacuum. Because of that, they are way too involved, but it is a necessary evil at this point. To Barrow Hanley, the biggest risk to any recovery is some change or detrimental policies that would have an impact on just a normal cyclical recovery.

MR. RAGSDALE: To throw something in that the chair is not asking about, on the economy, one thing that Capital Guardian's economist people are talking about is that there are a bunch of different parts to this cycle. This is not a typical economic down turn. One thing happening is a big inventory correction. As companies' orders went to zero or fell off a lot in the fourth quarter, they stopped producing stuff. The apparent level of activity in the economy was much less than probably the real level. There was more consumption going on than there was production going on. On the other side, there are lots of things going on with the consumer. The consumer is likely to be deleveraging for a period of years. Unemployment statistics are likely to get worse for a while after other things have gotten better. One of the phrases the economists are using is "we're going to see an accountant's recovery first." That is, all kinds of macro data and headlines will look a lot better, but real humans won't be able to feel them.

MR. GILLAM: To put those two together, you might see a general overall recovery, which perhaps will take some time, but differentiation within that. So companies that perhaps have already reduced their inventory to levels where there will be more inventory build and more consumer buying will maybe do better than some of the financials that have lots of regulation and still some pretty significant leverage unwinding. Obviously, it is going to be a different world order in terms of financials going forward. If you look back 20 years, financials were 10% of the benchmark, and they got up to 14%, 15%, 16% of growth benchmarks. Today, they are back to 10%. But some of the other areas that were higher still have yet to go higher, like consumer discretionary, which is still 40% below its weight of 20 years ago.

MR. MIGLIORI: On the economy, RCM is forecasting improvement starting in the fourth quarter of this year, and there are a lot of assumptions underlying that. Part of the question relates to what kind of ramp can we have in economic recovery with the amount of regulation, government involvement, and deleveraging that is taking place. We do believe it is going to be a slow recovery. It is not going to be a 4%-5% kind of growth rate coming out of this. And there are investment implications from that. From our standpoint, we are looking much more at companies that have product cycles, that have some degree of control over their own future, and that are not particularly economically sensitive. Because I don't think you are going to have a massive cyclical recovery, although things will get better on the margin over the next 12 to 18 months.

Question from Mr. Trivette: *Assuming this irrational and indiscriminate market continues and we do begin to get moderate or more inflation in the next year or so, what will be your investment strategy for the next couple of years after that?*

MR. GILLAM: McKinley follows the earnings, and earnings are starting to tick up. Some of the gold stocks and so on, which are obviously a place that people think about in regards to inflation. There are certainly places that do better than others when there is inflation. Being an equity only investor, obviously the only place we can hide is in equities. But from an earnings perspective, there are places that will do better in inflation, gold or other commodity related type plays being good examples. There will be earnings benefits associated with that, and McKinley has seen a teeny bit of that in the gold space in particular and in some of the other commodities.

MR. MIGLIORI: There is maybe consensus on this panel that the inflationary issue is two to three years out, given the amount of deflation that still has to be worked through. So I am not particularly worried about having to shift the portfolio into a hyperinflation mode. But having said that, there are ways of doing that if from our bottom-up as well as our top-down work it becomes appropriate. It is not just gold, it is other commodity areas, other hard assets, specifically in energy and materials, which tend to be fairly good hedges in inflationary periods. But I think it is a bit early to be thinking along those lines just yet.

MR. GIAMBRONE: A slightly different perspective, inflation in its own right is not necessarily a bad thing. Obviously, hyperinflation is a bad thing. But if you think about sales minus cost of goods sold gives you your margin, then clearly if you can raise prices and yet some of your cost of goods sold can either be the same or less than the inflation rate, that means margins expand, which means earnings expand, which means valuations should necessarily improve. I think a lot of policies being put in place today are so that we can stop deflation and the opposite of what I just described, which is currently happening. You have to be concerned about hyperinflation because of some of the policies put in place, but a slight improvement for inflation is not necessarily a bad thing for equities or for companies or for earnings.

Question from Mr. Pihl: *To what extent does day trading and computer trading slow a recovery? And wouldn't better tax policy to reward long-term holding of investments help a recovery?*

MR. RAGSDALE: Yes, on the second question. Part of the question on day trading is to what extent professional investors are doing it versus the guys from back in the tech bubble. There is a lot of short-termism out there.

MR. GILLAM: A lot of the day trading and short covering exacerbates volatility, and volatility exacerbates fear. For example, Key Bank is down something like 30% this week, and who knows what next week will bring. Fear can slow recovery to some degree.

CHAIR SCHUBERT thanked the panel for their participation and called a scheduled break at 10:00 a.m. The meeting came back to order at 10:14 a.m.

15. Barrow Hanley Portfolio Review

MARK GIAMBRONE and MATT EGENES of Barrow, Hanley, Mewhinney & Strauss, Inc. made a presentation to the Board on the diversified large cap value equity portfolio they have managed for ARMB since July 2007. *[A copy of the Barrow Hanley slides and handout materials is on file at the ARMB office.]*

MR. EGENES gave an overview of Barrow Hanley as a firm and the equity investment team. He said Barrow Hanley is a boutique, institutionally focused manager and has not had to deal with the bloated cost structures of many distribution-oriented companies. There have been no layoffs at Barrow Hanley, nor do they anticipate any, so the investment team is very stable. Their domestic portfolio managers average 30 years in the business, and more than half that time has been spent at Barrow Hanley. That is important because the portfolio managers have lived through the energy crisis in the 1970s, the savings and loan crisis and the market crash of the 1980s, the bursting of the technology bubble in the late 1990s and early 2000s, and now the mortgage, housing and commodity crisis. The team has been built out to include four generations of investment professionals, and they continue to look for a handful of fourth generation analysts to hire over the next several years.

MR. EGENES stated that as a value manager they focus on stocks that have low P/Es and high dividend yields. This is the part of the market that has been really decimated this year. Many of these have been financial stocks that were distressed, and high dividend yields were illusory and ripe for a cut. This represented a philosophical head wind of sorts for Barrow Hanley because this is the pond in which they fish.

MR. GIAMBRONE next reviewed the investment process and performance, saying they look for good companies that are down for reasons they can identify and believe are temporary, while still adhering to the same definition of value they have had for the 30-year history of the firm. The diversified large cap value portfolio will always have the following three characteristics: (1) a price/earnings below the market; (2) a price/book lower than the market; and (3) a dividend yield premium to the market. Good companies are those that on a prospective basis can grow earnings faster than the market, that can earn higher levels of return than the market, and that can generate reasonable levels of free cash flow so that they not only pay a dividend but are able to reinvest in that business to generate those returns going forward. This is the foundation that makes the Barrow Hanley process work. It starts with a group of companies that have a valuation discount to the market, but on the other hand, there is the same group of companies that have a fundamental premium to the market. The two things together should lead to outperformance over time.

MR. GIAMBRONE stated that although he made macro comments earlier on the panel, they pick stocks one at a time. They have a very low turnover approach, meaning they hold the stocks for three or four years. In an environment like this, that is an outstanding place to be because it provides the ability to really look for value beyond what most people do at this point and collectively end up with a group of companies that have substantial value moving forward.

MR. GIAMBRONE said that while nobody is happy to see negative return numbers, and Barrow Hanley has made its share of mistakes, they feel that one of the testaments to their value-oriented process is that they should hold up a little better in down markets. That may mean they lag a little in strong up markets, but protecting assets on the down side is just as important in terms of not having to get out of a big hole to outperform in the future.

Turning to portfolio attribution analysis, MR. GIAMBRONE said having an active portfolio means they will have very large differences from the benchmark in some cases, and they are fine with that. The weights in the sectors are outputs from the individual stock selection and not related to what is actually happening in the benchmark. Areas where they found some real value that were quite different from the benchmark, such as industrials, consumer discretionary, and information technology have helped performance. Underweights in materials and telecommunication services hurt the performance, but not nearly as much.

MR. GIAMBRONE displayed a list of current portfolio holdings and said that this market environment has made it possible for Barrow Hanley to buy companies that in the past would be considered growth companies, without changing anything about their valuation criteria. These companies have better balance sheets than average and better cash flows than average. Barrow Hanley feels they are populating the portfolio now with very high quality companies. The late 1990s and early 2000s was the last time that value underperformed dramatically, and technology got up to about a third of the market at the time. Barrow Hanley had a zero percent weight in technology and underperformed badly in that period, and some unhappy clients left. But sticking to their style was the most important thing, and that added to performance as the tech bubble collapsed. The difference back then was that Barrow Hanley had a bunch of okay companies that were clearly ignored in the marketplace and got too cheap. The difference this time is they are able to put much higher quality companies with depressed valuations in the portfolio, but most of them will be able to benefit from an up turn in the economic environment, and the portfolio will see a real benefit in earnings and P/E expansion moving forward. Barrow Hanley believes that will lead them to outperformance. The portfolio has a big overweight in consumer discretionary and they continue to find names to add there. Energy is underweight, but they are buying more and more names there, particularly in U.S. natural gas. Industrials and information technology are areas where they are overweight but continuing to add companies.

MR. RICHARDS asked if Barrow Hanley eliminated Washington Mutual from the portfolio before it fell. He also questioned MasterCard being listed as an elimination in the last 12 months but also being shown under new holdings. MR. GIAMBRONE stated that the unfortunate part of this environment had to do with the financials, and Barrow Hanley made its share of mistakes, Washington Mutual being one of the losers in the portfolio. WaMu was down dramatically when they sold it, but they did not hold it until JPMorgan Chase Bank basically took it over for nothing. MasterCard and Visa are great processing businesses and are able to grow because transactions grow, without taking any credit risk. MasterCard is not something that a value manager often has the opportunity to purchase. At the end of last year, it turned out that MasterCard was owned very broadly amongst the hedge fund community. Because the hedge funds were being liquidated, MasterCard came under substantial pressure, and Barrow Hanley was able to buy it very inexpensively. It went up about $45 in a two-month period and was not that attractive to Barrow Hanley anymore so they sold it at about $165. It is unusual to have a company show up as both a new holding and an elimination within a 12-month period because they usually hold stocks three or four years. He would like to have held MasterCard for three or four years but the valuation did not make sense based on their discipline.

MR. GIAMBRONE said there are unique opportunities right now for a value manager. Almost two-thirds of the S&P 500 stocks have a P/E below 15x, big recognizable company names. The dividend yield, currently at 3.7%, is greater than the yield on the 10-year Treasury. The portfolio yield is certainly more sustainable than the overall market's yield, and yet they still have a premium to it.

16. Capital Guardian Portfolio Review

PAULA PRETLOW and TERRY RAGSDALE of Capital Guardian Trust Company spoke to the Board about the U.S. large cap equity portfolio the firm has managed for the Alaska retirement system since June 1995. *[A copy of Capital Guardian's presentation material is on file at the ARMB office.]* MS. PRETLOW noted that she has been the relationship manager on this account for her entire 10-year career at Capital Guardian. She briefly reviewed the firm's investment philosophy and process, stressing that they pick stocks one at a time for a bottom-up approach to building a portfolio.

MR. RAGSDALE, vice president, investment specialist and research coordinator with Capital, showed a graph of the S&P 500 Index return over a 14-month period ending February 2009, noting that the index was down about 50%. Financials were down about 75%, while the more defensive sectors — like staples, utilities, and health care — did better.

MR. RAGSDALE stated that ARMB investment results for calendar 2008 were not good, the account being down approximately 40% versus the market giving up 37%, meaning 3% behind a terrible market. The absolute results for calendar year to date are still quite miserable, down another 8.4% through the end of March 2009 against the market's -11%. The market was very defensive last year, and while he could describe Capital's results by sectors and individual stocks, the fact is they got one thing really wrong last year and that was the macro environment. Capital did not see the initial credit crunch becoming a credit crisis, spreading to a problem throughout the U.S. economy and throughout the global economy. Had they seen that, they would have been positioned more defensively in the ARMB portfolio.

MR. RAGSDALE explained that the thing to do in financials last year was either own none or own a very small handful of the very best names — strongest balance sheet, best capital situation, smartest risk managers. Capital had its largest financial positions in names consistent with that: Goldman Sachs, JPMorgan Chase, and Hudson City Bancorp. The problem was they had a number of smaller holdings that, when aggregated, was a decent sized position in the portfolio, and some of those names simply went away. The portfolio had exposure to Fannie Mae, Freddie Mac and Washington Mutual. They did not have Lehman at the very end, but they had a position in Lehman a good part of the way down. What was Capital Guardian thinking in owning these things? They had people on the portfolios who had experienced credit crunches and crises before, and the most recent one that seemed relevant was in 1990-1991. These same kinds of companies, including Fannie Mae and Freddie Mac, had faced similar kinds of issues then. They were going to have credit write-offs on the business they had written previously in the good times, but by virtue of the competitive situation getting easier and everybody tightening their credit standards and charging more for lending money, they were making so much money on their new business that it provided sufficient earnings to offset the old business. Some of Capital's most experienced folks thought that situation would be repeated, but it was not. The business that was booked in the past got so bad so quickly that the profitability on the new business was not going to be enough. It was a radically different cycle from what Capital's people expected.

Citing another example, MR. RAGSDALE said that what investors should have owned in consumer discretionary were companies that were more like staples, something like McDonalds. Capital owned casinos and gaming companies, and demand in that business went completely away and the balance sheets were in fairly tough shape. Another area that was not a huge problem for Capital but was indicative of a theme was energy. The only thing to own in the energy sector last year was Exxon. So while there are a bunch of individual names he could drill down on, Capital basically got the macro environment wrong last year.

MR. BADER mentioned that companies with strong balance sheets, like large mortgage bankers, perhaps had a lot of paper that was backed by AIG. He asked if those companies would have been impacted if AIG had not been bailed out. MR. RAGSDALE replied that it is a timing question: if AIG had gone down six months before the government bailout, he thought Goldman Sachs would have taken billions of dollars more in losses, but the impact probably would not have threatened their continued existence. Both in the mortgage situation in general, and in AIG in particular, Goldman Sachs was sufficiently paranoid that they put hedges in place quite early. The government bailout has given Goldman a little extra tailwind on the AIG situation, but a ton of it was hedged already.

MR. RAGSDALE stated that Capital Guardian has managed U.S. equity portfolios since 1968 and has had periods when they underperformed by several percentage points and for more than one year. So in some ways, what happened in 2006 and 2007 when they underperformed was not incredibly unusual. However, they almost always have preserved capital in down markets, even though they may not always have kept up with up markets. They did not do that in 2008, and it was a real shock to their system. They understand from a macro view how that happened, but it also caused them to ask a whole lot of broad organizational questions — and probably the kinds of questions the Board and staff are asking about Capital. They came to many conclusions, but he wanted to focus on three of them:

- They needed to raise the bar on the investment professionals. A few analysts are no longer at the firm, but more importantly, a couple of senior portfolio managers — Karen Miller and Mike Erickson — left in October 2008. These people had a very good long-term track record, however, in an environment of great uncertainty last year they had enormous conviction in their stock selection and got it really wrong. It was not just last year but in very different market environments over the last three years where they got it wrong too often and by too large an order of magnitude. Despite the Capital Guardian multiple manager system being designed to allow individuals to go where their convictions take them and to be balanced by the other portfolio managers, these two portfolio managers were so concentrated in their positions that it was difficult to offset them.
- They needed to narrow the focus of the investment professionals. Of the remaining five portfolio managers after Miller and Erickson left, three of them were both portfolio managers and analysts. Firm-wide, Capital asked people with different mandates to choose what they wanted to focus on over the next ten years, and the firm made judgments about what the people were best at. Two of the U.S. portfolio managers gave up their analyst responsibilities, and one elected to give up his portfolio manager responsibilities and become a pure analyst again.

- They needed some fresh eyes in research. Capital asked several individuals in the 27-person research area to pick up additional industries. For example, the bank analyst is keeping his bank coverage and adding oil services coverage. This will give him two different places to shop for ideas, and the next time there is a bank crisis he will be more likely to say he wants zero exposure in banks as opposed to keeping exposure with the two or three best banks. Those changes in coverage will be completed in May and June. Secondly, Capital has dropped its U.S. small cap equity mandate entirely. About half the analysts had both large cap and small cap responsibilities, and there are many small cap companies. Capital decided that the place they could add the most value is in large cap and they should remove the obligation to cover small cap.

MR. RAGSDALE said these are radical organizational changes for Capital Guardian in a short time period and not a lot of fun to discuss and explain. The fact that they were willing to make such big changes is indicative of how serious they are about turning around the results.

DR. MITCHELL thanked Mr. Ragsdale for the candor with which he discussed the changes at Capital Guardian. He said the need for changes was evident to some as early as five years ago. He was very pleased to see the changes made and looked forward to better results in the future.

CHAIR SCHUBERT said she also appreciated the candid report. When a manager is not doing well, investment firms can expect that ARMB trustees and staff will recognize that. The Board has a long history with Capital Guardian, and she appreciated that Mr. Ragsdale just laid it out there. MR. RAGSDALE thanked the Board for being so patient with Capital.

MR. WILLIAMS mentioned that the State of Alaska offered a global balanced fund managed by Capital Guardian in the Deferred Compensation Plan for some time and recently decided to move away from that. He asked if the restructuring that Mr. Ragsdale described might turn the global balanced strategy around at some point.

MS. PRETLOW responded that the global balanced portfolio has pieces of the U.S. equity and non-U.S. equity products. Capital Guardian made changes to the underlying portfolios, so they do expect that things would improve there as well, as they begin to see the people changes and focus changes take effect across the board. MR. RAGSDALE added that changes were made throughout the firm beyond the scope of U.S. equity, but the themes are consistent elsewhere, especially changing the focus. Capital believes that investors can be better served by virtue of having different views of the world so there is some value in breadth, but they think they took it too far.

MR. BADER requested an explanation of Capital's compensation structure, citing his worry that it might encourage risk taking by portfolio managers so they "stand on the head of a pin," as Mr. Ragsdale put it earlier. MR. RAGSDALE stated that both portfolio managers and analysts are compensated in four ways, first on a one-year basis, a four-year basis, and an eight-year basis against the benchmark, which is the S&P 500 Index for this U.S. large cap equity portfolio (for analysts, it is simply their portion of the S&P 500). The whole design of the four-year and eight-year components is to make sure that people have no incentive to throw a Hail Mary around Thanksgiving to bail out that calendar year's results. The reason to have a one-year component for compensation is because clients do care about the one-year, so if there is an opportunity to preserve capital in a nasty situation, etc., and it seems like it is a trade, Capital wants its people to think hard about whether that trade might be worth making. The fourth basis of compensation is a qualitative evaluation, so all portfolio managers and analysts are evaluated by the other portfolio managers and analysts they work with. But the big part is whether they achieved the client's objective over one year, four years and eight years. If they achieved a horrible return in calendar year 2008, they get to live with it for eight years, but if they did a great job, they get to live with that for eight years. The compensation structure has been in place for a long time and is not new.

Looking at results so far in 2009, MR. RAGSDALE stated that the return is -8.5% versus the market being down 11%, still unpleasant, and Capital believes they should be doing a better job of preserving capital than they did in 2008. There are three factors in this year's performance relative to the market that are interesting. Capital's stock selection in financials has been very good in the first quarter — owning Goldman Sachs and not owning Bank of America and Citigroup. The second factor was in health care, something they did right in 2008 and are continuing to do this year. Third, Capital did not have any big negatives in the first quarter. He said he was not saying that better relative results in the first quarter of 2009 are indicative that the organizational changes are taking hold because it is way too early to suggest that. But it is nice to talk about some positive relative results.

MR. RAGSDALE spent a few minutes talking about the twenty largest holdings in the portfolio, as well as the top holdings by sector. Health care is over 20% of the portfolio versus 15.5% in the benchmark. There is a bit of a biotech theme in the portfolio, and they have an overweight in consumer discretionary. They are not trying to make a big macro statement, but there are great companies in the consumer discretionary sector that are ridiculously undervalued. On the underweight side, the portfolio remains underweight in energy. They got paid for that when oil fell from $140 a barrel down to less than $40. That weighting will likely go back up over time because the investment group's view is that the world's energy capacity problem has not gone away, despite alternative energy and conservation efforts, which are long-term initiatives. However, they are very comfortable with the energy underweight at this point.

MR. RAGSDALE said that with the exit of the portfolio managers in October 2008 the portfolio did reposition fairly significantly, simply by virtue of their exit and what the remaining team looked like. Technology exposure and financials exposure came down significantly. The financial exposure is very concentrated: two-thirds of the exposure is in three companies. Exposure rose in industrials to about market weight, and consumer staples went from an underweight to around market weight. The character of the change in the fourth quarter was probably a tad toward defensive. He would be very surprised if the portfolio gets any more defensive from here. The portfolio managers are much more paranoid about missing the turn at this stage than about incremental down side.

17. McKinley Capital Portfolio Review

ROB GILLAM and ALEX SLIVKA of McKinley Capital Management, LLC made a presentation on the U.S. large cap equity portfolio they have managed for the ARMB for almost 12 years. Information about the non-U.S. growth equity portfolio that began four years ago was also included in the materials. *[A copy of McKinley's slides and other information provided is on file at the ARMB office.]* MR. SLIVKA spoke about the independently owned firm's start in 1990, its capabilities and products, and its investment team approach. He noted that this year the Alaska Legislature considered bills restricting investments in Sudan. McKinley manages socially and morally restrictive investments and already manages Sudan-restricted accounts, so it could implement that in the ARMB portfolios if the Legislature passes a bill next session. McKinley last year instituted a long plan for a first step in ownership transition. The founder Bob Gillam had owned all the stock in the firm, and today 19% of the stock is owned by employees other than Bob. That ownership transition process should continue over the next several years. Bob Gillam remains fully engaged with the firm as its chief executive officer and a member of the portfolio management team.

MR. O'LEARY asked if McKinley's equity incentive plan was integrated with the ownership transition process or if that plan had changed. MR. SLIVKA replied that the equity incentive plan remains, and the ownership transition is an additional component of that plan. Twenty-seven employees out of a total of 90 are participants in the equity incentive plan, and they have the opportunity to purchase 23% of the total equity of the firm. If they were to all exercise those options, roughly 40% of the firm would be owned by people other than Bob Gillam. MR. O'LEARY inquired how many people were involved in actual ownership in the transition process. MR. SLIVKA said the 19% ownership consists of four people.

MR. SLIVKA reported that 21 team members are engaged in the investment process - quantitative analysts, portfolio managers, qualitative analysts, and traders. Last year was a difficult one for equity managers, but McKinley has managed to retain its entire investment team. The firm has $9 billion of assets under management, down from close to $16 billion a year ago. The firm has always focused on stability of the people, the process and also of the firm. The structure allows for doubling the amount of assets under management with the existing staff and also that they could sustain a 50% reduction in assets without losing the firm's profitable status. During the entire down turn through today they have maintained profitability of the firm. They want staff focused explicitly on serving the clients and not worrying about their jobs. McKinley runs concentrated portfolios with a focus on providing relative outperformance, so they are always cognizant of the amount of assets that they can manage. They will never grow to be an $80-$100 billion firm.

Addressing a performance summary of all McKinley's products, MR. SLIVKA said that these have been trying times in the market, with historic levels of volatility. McKinley's record of relative outperformance remains, and they are very confident that their investment process will continue to provide outperformance going forward.

MR. GILLAM, McKinley's chief investment officer, gave a refresher on McKinley's investment process, which has three parts: diversification and risk control, the qualitative component, and the quantitative. They still have the same consistent risk exposures: the exposure to momentum, the exposure to earnings growth, and the exposure to stock selection. McKinley is a growth equity manager so their process has a significant bias toward growth-oriented factors in the quantitative process. They look for stocks that are doing better than the benchmark (adjusted for volatility), and they care about relative earnings — meaning they buy securities that have more earnings growth than the benchmark — and liquidity. The quantitative team passes the nomination list of quantitatively attractive securities to the portfolio managers, who try to eliminate as many systematic risks as possible in the portfolio construction.

MR. GILLAM said that the qualitative review is where McKinley differs from the fundamental type firms. They do not believe they can efficiently analyze every individual company better than other analysts who analyze those companies. They do believe, though, that earnings expectations that they read about in the *Wall Street Journal* or hear about on television describe consensus. They think that averages mask those analysts who are good at predicting earnings. McKinley has three people in New York who help the portfolio managers identify who the most accurate analyst is on a given company. That is one of the reasons for excess returns in the concentrated large cap equity portfolio in 2008. McKinley had stocks with very good earnings announcements, despite the market, and those companies were disproportionately rewarded. Unfortunately, in this case it meant they lost less than the market. Finally, they sell disappointing securities and move on to other stocks, so there is rotation as new securities start to show up on the nomination list.

MR. GILLAM presented ARMB portfolio performance updated through March 31, 2009. In 2008, the portfolio lost less than both the Russell 1000 Index and the Russell 1000 Growth Index. Earnings surprise was one of the main contributing factors, and avoiding securities that did poorly was certainly a large part of that. The first quarter of 2009 has seen underperformance versus the growth benchmark but outperformance versus the broad benchmark. That is largely related to the extreme rally from March 9 forward. The rally came in the automobile companies and financials that did not get nationalized or go out of business. McKinley's process tends to do poorly when there is a junk type rally — a rally that is non-earnings led — and certainly that was the case from March 9 forward and the reason for the underperformance in the first quarter.

MR. GILLAM reviewed some attribution-related data for the first quarter of 2009. With McKinley's earnings focus, they tend to drift toward those companies that have the strongest relative earnings in this market environment, companies like Ross Stores and TJMax, where people are still spending money instead of at the very high end retailers. Last year one of the best performing U.S. large cap stocks was McDonalds. Another was DeVries, an online type university where people are retooling their skills for a new career direction in a difficult economy. MR. GILLAM also talked about portfolio characteristics, noting that it currently has a bigger market capitalization than the benchmark when it normally is very similar. That means that in economically distressed environments the companies that are able to hold up their earnings the best are larger companies: they have better access to credit, better control over suppliers, and better control over customers. Also of note is that while 2.2% earnings growth in the portfolio is nothing to write home about, it is a lot better than the -12% earnings growth for the benchmark.

MR. GILLAM said that what McKinley expects going forward is that there would be smaller large cap companies that are able to leverage their earnings growth coming out of a crisis type environment — that they are more cyclical, meaning more materials oriented and more technology oriented. McKinley is seeing some rotation towards that in the second quarter, which is a positive sign in their view.

MR. O'LEARY asked Mr. Gillam to refresh everybody's memory about McKinley's decision rules with regard to diversification and individual security weighting. MR. GILLAM explained that part of risk control is picking the best stocks, and they do that by controlling the amount of bets they take in any sector or industry. A decision rule is to be roughly plus or minus 5% to the sector weights in the benchmark. On an individual position they want to build the portfolio so they are equally actively weighted in every security. Securities go up and down, and those active weights change - quickly in this market. For clarification, MR. O'LEARY explained that if a stock accounts for 1.5% of the index, 3% of the portfolio could be in that stock.

MR. GILLAM reviewed the sector over- and underweights in the portfolio at March 31. The big areas of underweight were energy, financials and some industrials, and the portfolio was overweight in technology and growth-oriented sectors. That has changed since March, as McKinley has moved quickly toward the more traditional growth-oriented sectors, such as technology, materials and financials — the companies that are generating more earnings leverage. They are getting a bit more optimistic as the crisis progresses because it is playing out similar to history. An environment where earnings are really lacking in the market as a whole is perversely a good environment for McKinley because they have consistently identified stocks that have had good earnings surprise. Those few growth-oriented companies with good earnings tend to be disproportionately rewarded in an environment where there is not much growth overall.

MR. O'LEARY asked for the typical turnover rate of the portfolio. MR. GILLAM replied that the average long-term range is 80%-100% a year because they tend to hold companies for about five quarters. It has been much less than that in the last 18 months. While there has been a lot of price volatility, McKinley has seen less earnings volatility in the portfolio names. The first quarter of 2009 saw less than 10% turnover. Their turnover tends to be very lumpy and coincides with earnings announcement time frames. That means turnover has picked up dramatically this month relative to last quarter.

MR. O'LEARY mentioned that in recent quarters many companies have stopped giving earnings guidance. He wondered how that has affected the analysts' accuracy in projecting earnings. MR. GILLAM said that on average it has been quite bad for the analyst community. The measure for that is the larger dispersion between the lowest and highest earnings estimates for a company. On the other hand, that is good for McKinley because they believe that if they can find an accurate predictor of earnings who is above consensus, and there is a broad dispersion among estimates, it means there could be a bigger positive surprise. That is why the earnings surprise ratio in the portfolio has stayed quite high.

MR. BADER took a moment to point out that, while not a reason to have McKinley Capital as an investment manager, some of the things they do in the field of education across the state of Alaska are worthy of recognition, both at the post-secondary level and in the K-12 level, funding computer labs and things of that nature. He said that as a former school superintendent who has been involved in award ceremonies, he knows that except for military academy scholarships, a McKinley Capital scholarship is the best a high school student in many communities can get. He said he appreciated McKinley's efforts in that regard.

CHAIR SCHUBERT said she agreed with those comments, and thanked McKinley for their report.

[Commissioner Kreitzer joined the meeting at 11:33 a.m., and all nine trustees were present at this point.]

18. Litigation Update: Executive Session

Assistant Attorney General MIKE BARNHILL indicated he was on line and asked that everyone, except the trustees, ARMB staff, and the Board's outside legal counsel Rob Johnson, be excused so the Board could meet in executive session.

COMMISSIONER GALVIN <u>moved that the Alaska Retirement Management Board meet in executive session for the purpose of receiving information from attorneys regarding litigation</u>. COMMISSIONER KREITZER <u>seconded</u>. The motion carried unanimously, 9-0.

Those who had been asked to leave the room departed, and the teleconference connection was terminated for everyone except legal counsel participating by telephone.

The executive session started at 11:35 a.m. The meeting returned to regular session at 12:22 p.m.

MR. BARNHILL provided language for a motion of the Board.

MS. HARBO moved that the Alaska Retirement Management Board recommend to the Department of Law that the Department of Law approve the course of action as recommended by outside legal counsel. MR. TRIVETTE seconded.

MS. HARBO thanked Mr. Barnhill for his persistence in this matter. MR. BARNHILL said the Department of Law appreciated the Board's support and the excellent work done by outside counsel in this case.

The motion passed unanimously on an outcry vote, 9-0.

LUNCH RECESS

CHAIR SCHUBERT called a break for lunch at 12:24 p.m. and reconvened the meeting again at 1:30 p.m. Both commissioners were absent on other business immediately following lunch but joined the meeting in progress later in the afternoon.

REPORTS (Continued)

19. Investment Actions

19 (a). State Street Global Advisors International Equity Fund

MR. BADER reported that State Street Global Advisors (SSgA) currently manages an international equity fund for the ARMB. The Board placed SSgA on its manager watch list in February 2008 due to turnover of key personnel. Dr. Jennings raised some concerns about this fund at the February board meeting. The Investment Advisory Council, Mr. O'Leary and Mr. Bader met by teleconference to discuss the fund, and they recommend that the SSgA international equity fund be terminated and that the Board authorize staff to conduct a search for a replacement manager.

MS. HARBO moved that the Alaska Retirement Management Board direct staff to terminate State Street Global Advisors as an international equity fund manager and authorize staff to conduct a manager search and present potential suitable replacements to the Board. MR. TRIVETTE seconded.

The motion passed unanimously, 7-0. [Commissioners Galvin and Kreitzer were absent]

19 (b). Timberland Investment Resources Allocation

MR. BADER reviewed the written staff report in the packet. The Board previously allocated $200 million to timberland investments, $100 million with Hancock Timber Resource Group and $100 million with Timberland Investment Resources, LLC (TIR). TIR made one investment of $41.9 million in late 2008, which used up about half their allocation. They have now found a second property that complements the existing portfolio very well. Staff was asking the Board for authorization to increase the allocation to Timberland Investment Resources by $40 million up to a total of $140 million.

MS. HARBO moved that the Alaska Retirement Management Board increase the allocation to Timberland Investment Resources, LLC by $40 million for a total allocation of $140 million. MR. WILLIAMS seconded.

The motion passed unanimously, 8-0. [Commissioner Kreitzer was absent]

19 (c). Investment Advisory Council Contract Renewal - George Wilson

MR. BADER reported that George Wilson's contract as an Investment Advisory Council member will expire June 30, 2009. He asked the Board to consider reappointing Mr. Wilson for a three-year term.

MR. PIHL moved that the Alaska Retirement Management Board appoint George Wilson to the Investment Advisory Council for a three-year term beginning July 1, 2009. MR. RICHARDS seconded.

The motion carried unanimously, 8-0. [Commissioner Kreitzer was absent]

MR. BADER introduced ERIC WOHLFORTH, a partner in the firm that serves as the Board's outside legal counsel, who was sitting in for Rob Johnson in the afternoon session. Mr. Wohlforth is also the former commissioner of revenue and former chair of the Alaska Permanent Fund Corporation board of directors.

20. Quantitative Management Associates LLC Portfolio Review

STEVE BLOOM and DEBORAH WOODS appeared before the Board to give an investment presentation on the U.S. value equity portfolio the firm has managed for ARMB since mid-2007. MR. BLOOM indicated that the presentation booklet included details about their investment process, which they did not plan to get into unless there were questions. *[A copy of the Quantitative Management slides and material is on file at the ARMB office.]*

MR. BLOOM said they are quantitatively driven and manage very diversified portfolios. For the last year and a half there has been nowhere for equity managers to hide. If fully invested, equity managers lost money in absolute performance terms. Quantitative Management Associates (QMA) takes some solace from beating the Russell 1000 Value Index benchmark over this period, and they typically do well relative to the benchmark when they are needed the most. They do not chase what is hot, which tends to be the thing that suffers the most in market falls. Over the last year or so they were actually exposed to some of the real problem areas. But their risk controls limited the exposures, and they were able to digest some exposure to financials and cyclicals and more than make up for it in other areas.

MR. BLOOM mentioned that value managers use a cliché that if they like something and it gets cheaper, they like it more and buy more. That morphed into the cliché of catching falling knives over the last year and a half, so it has not been a period where it paid to be heroic. It was also a tough year for quantitative managers, who typically are fooled by rapid shifts in the market. They are also typically focused on low valuation stocks, which are exactly what did the worst in 2008. It was a horrendous year for some of the largest value managers and those against which QMA competes. While they have done fairly well relative to the overall competitor group since they started managing money for the ARMB, they have done particularly well relative to the best-performing managers at the point where the Board hired QMA.

MR. BLOOM said it was a little surprising last year that things were so indiscriminant. Usually when the market falls that much, or is even volatile in the up direction, something stands out, but it was pretty much across the board poor performance. The value style, growth style, and core style had returns in close proximity.

Turning specifically to the ARMB portfolio performance, MR. BLOOM noted that while one cannot draw too many conclusions from less than two years of returns, QMA is happy to be ahead of the benchmark since inception. At -33.15% for the one-year period ended 12/31/08, they were top quartile in the Callan universe of value managers. Since inception they beat the benchmark by roughly 2.5%, and year to date they are marginally ahead of the benchmark. This year has been somewhat encouraging because it is not the type of market where they typically do their best. The period has favored growth equity investing, and yet they have kept slightly ahead of the Russell 1000 Value Index benchmark.

MS. WOODS, one of the portfolio managers on the ARMB account, spent time explaining portfolio attribution by economic sector, by price to earnings, by price to book, by market capitalization, and by style class, for the year ending 12/31/2008. She said the attribution analysis tells them what decisions they made that were good and what decisions hurt the ARMB portfolio. The analysis does not account for trading costs or cash and does not include intraday pricing, but it is a very good approximation of the portfolio performance over the course of a year. Starting with economic sector, MS. WOODS said that for the most part QMA had good selection in most of the sectors. The best decision was an underweight in financials, which was the worst performing sector in 2008. They also had good stock selection in health care and information technology. The biggest detractor from performance was stock selection among industrial stocks. She noted that QMA does not use price to book as a valuation measure, but they think it has some helpful information. Looking at style class, she explained that some companies in the Russell 1000 Value Index are both growth and value and are termed the "blend" companies. QMA's stock selection within large value and large blend was positive last year.

MS. WOODS presented a list of purchase and sale transactions in the portfolio for the second half of 2008. The purchases were rather an eclectic group, including some industrial, materials and health care companies. Excluding the health care, the list of purchases tended to be more cyclical. That is where value is currently, especially after last year, as investors flocked to the more defensive companies, thereby increasing their valuation. On the sales side, the companies there exhibited persistent high valuation and had outperformed, becoming sales candidates based on QMA's model. Some names have already been sold from the portfolio and others are in the process of being sold. Those companies tended to be more stable and defensive and had become highly valued. Some names on the sales list fall into the risk control category, meaning the companies are still attractive to the model, but they outperformed quite a bit during the year and their active weights have been scaled back. Finally, there are the special case sales, which are stocks that were sold because the companies were no longer in existence or they left the benchmark.

MS. WOODS reviewed the portfolio characteristics, saying that on a price to earnings basis QMA tends to be deeper value than the benchmark.

MR. BLOOM presented a graph of tracking error that captures the amount that QMA deviated from the benchmark at different points in time. They do not have a specific targeted tracking error, but they tend to be more aggressive when more opportunities are presenting themselves, particularly when presenting themselves in terms of factors — like when a lot of smaller or mid-size stocks within large cap are attractive. Coming out of the late 1990s there were significant opportunities as the market plays had stacked its bets in the largest and growthiest companies, and a lot of those technology and telecom stocks turned out to be poor bets. It turned out well for QMA because they were very different from the benchmark when the market started doing poorly in 2000-2002. From that point forward QMA did pretty well, and no new major themes emerged, so their portfolios were looking more like the benchmark. They still look much like the benchmark currently.

MR. BLOOM showed QMA's historic returns going back more than 20 years categorized by market periods that were value-favored, neutral, or growth-favored. When the value style has done well, QMA has outperformed the benchmark about three-quarters of the time and by a an average margin of about 5.4% per year. When the market was in neutral territory, they outperformed a bit more than half the time and by about 0.7% per year. In growth-favored markets, QMA tended to give up a little bit, doing better than the market only 39% of the time and underperforming by an average of about 2% a year.

MR. BLOOM stated that they have managed the ARMB account for a relatively short time, and they have been outperforming in relative terms. However, they understand that absolute returns do matter. The portfolio is conservatively positioned currently, although, unlike a lot of their peers, they are leaning against safety. They are not making aggressive bets in the direction of value and certainly not in terms of distressed securities, but they are staying where they are supposed to be and providing the diversification to the ARMB portfolio. Many managers are shying away from risk and moving in the direction of safety, which may be an intuitive thing to do, but it is not something that has worked over time.

MR. O'LEARY asked how business has been. MR. BLOOM responded that business in 2008 was pretty good, but for the first five months of 2009 he has never seen things slower. MR. O'LEARY noted that assets in the equity areas across the board are down substantially, and he inquired about any staff reductions at QMA. MR. BLOOM stated that a lot of investment management firms are owned by larger entities at this point, in QMA's case by Prudential Insurance. When presenting themselves from a sales perspective as candidates to manage money, firms probably talked about themselves as being independent and autonomous. This has been a good stress test to see how hands-off the parent companies will actually be when profitability is down. Prudential has been hands-off through this period. QMA has not reduced staff. They anticipate things getting back on pace, and until that point, in agreement with Prudential, they have decided to operate at a lower level of profitability and to pay themselves less money.

MR. TRIVETTE asked where QMA saw itself a year to 18 months from now. MR. BLOOM said that from a business perspective he expected things to pick up in about six months or so as things start to settle and people start to do some manager replacement searches. QMA has seen from existing clients and prospects they speak to regularly that people have not added to equity positions. If they have broached the lower end of their acceptable range, they have moved back up to that, but nobody has moved aggressively in the direction of equities or even up to the middle of their range. People will continue to shy away from equities for some period of time. For QMA specifically, he hoped they were telling their story well because if so it should play well, which is that they are leaning in the direction of value and giving people the value exposure that they should want. In periods like this in the past, typically growth has led a little bit in the recovery and then value has come on because growth tends to encompass more of the safe stocks.

MR. RICHARDS said that as a quantitative manager he assumed that QMA uses some kind of metric to decide whether to sell a stock. He asked if QMA's metrics started ringing bells in late 2008 to make them question their process, or what happened internally. MR. BLOOM stated that QMA invests quantitatively so that they will be disciplined and invest very broadly to have proper exposures. They do not believe in overriding the model and saying that certain stocks are definitely going to stink. However, earlier in 2008 they said they were not outguessing the model in terms of whether financial companies would do well or not, but they were going to make an adjustment on the basis that it appeared the information they were using was very questionable. So they stayed exposed to the financial companies but reduced the bets to about half what they normally would be. Referring to a list of sales that Ms. Woods talked about earlier, he said that in most years there are no companies in the special cases category. But there were a number of special sales in the second half of 2008, based on criteria they have for distressed sales.

21. RCM Large Cap Portfolio Review

MELODY McDONALD, RAY EDELMAN and SCOTT MIGLIORI presented a report on the large cap equity portfolio that RCM has managed for the retirement system for 14 years. *[A copy of RCM's slides and other background information is on file at the ARMB office.]* MS. McDONALD described how Mr. Migliori is now the co-chief investment officer in San Francisco as part of the 18-month succession plan leading up to Peter Anderson's retirement. As of January 1, 2010, Mr. Migliori will be the official CIO. Mr. Anderson will be around the firm but not in an investment capacity.

MR. MIGLIORI briefly reviewed the RCM firm and its bottom-up philosophy, its truly global capabilities, and that they use their own proprietary research platform. The research analysts are senior professionals who get paid based on how well their stock picks do. RCM also has Grassroots, a global enterprise where they have field force investigators doing field surveys looking to anticipate trends ahead of the market. RCM is focused on delivering results, and in the last five years over 90% of their assets under management have outperformed their respective benchmarks. They are seeing a lot of long-standing clients start to rebalance back towards equities and back towards growth in particular. They expect to see significant asset flows continue over the next few months.

MR. EDELMAN, senior portfolio manager, presented the ARMB large cap equity account performance. He said the absolute returns are negative now going back ten years and not particularly pretty. The silver lining is that the portfolio has outperformed the S&P 500 Index benchmark through each time period, and by an even greater degree over the last five years that he and Mr. Migliori have been part of RCM. The ARMB portfolio has also outperformed the large cap growth index. For the first quarter of 2009 until March 9, the market was down over 20%. There has been a significant recovery in the broader market since March 9 and in the large cap portfolio as well. Through today, the portfolio is in absolute positive territory and has maintained significant outperformance to the benchmark.

MR. EDELMAN showed a graph of RCM's performance compared to the Callan universe of large cap growth equity managers through 12/31/08. In the near term RCM is top quartile, and longer term in the top third.

MR. EDELMAN delved into the performance details, saying RCM's position in Amazon helped in the first quarter of 2009 and continues to work for them in April. Apple and Genentech (recently purchased by Roche) were pluses in the portfolio as well. Some of the names that their research led them to stay away from also helped performance, such as Wells Fargo and General Electric. These are big names in the benchmark, but RCM's research indicated substantial risk to their earnings, and they have avoided these stocks for some time. U.S. Bancorp was the only bank they had a position in of any size and which they believed would be able to maintain a better quality profile than the rest of the banking system. U.S. Bancorp just reported a decent quarter, but valuation of write downs was higher than many other banks. Also given the uncertainty about what was going on in the first quarter, RCM sold the bank position until they can get a better handle on it later down the road.

Turning to portfolio attribution for the first quarter of 2009, MR. EDELMAN explained that while financials have been tough to own, the bank stocks that RCM owned actually had a very good relative performance. They were able to use their research to identify those companies that are the quality players that can maintain growth, such as Goldman Sachs and Northern Trust, etc. RCM has had an overweight in health care, yet has a significant underweight to the subsector large cap pharmaceuticals that have their own pressures vis-à-vis patent expirations and whatever will be done in the U.S. Congress. RCM has focused more on specialty pharma, generics and in biotechnology. While their positions in Amazon and Google did very well, it was not just technology, it was also materials and energy and the like. Having a diversified portfolio was very helpful to that outperformance. Being underweight banks, not owning any insurance, and being underweight real estate all were positive contributors to return on a relative basis.

MR. EDELMAN provided data about the portfolio: 55-65 stocks; large capitalization stocks; companies that have been able to show very good earnings growth (but 2009 earnings are under pressure); and price/earnings at a discount to the market. He said that nine times out of ten if he can find an opportunity to buy a stock at less than one times its growth rate he wants to do that. The portfolio management team spends time with the analysts trying to understand what the drivers are for the growth rates and ensuring that the investment people are accurate in that assessment. RCM has historically been overweight in the technology sector, seeking companies that are going to have better than market growth. The technology weighting is higher now because they want to identify companies that will participate in the early cycle of an economic recovery. That would also mean in the industrial and consumer discretionary sectors as well.

MR. EDELMAN said a lot has gone on in the market since March 9 that has discounted any kind of recovery, especially on the consumer discretionary side. There is some concern about whether or not a secular change has actually occurred in people's spending habits. The portfolio's largest holding is Apple Computer: RCM continuously does Grassroots efforts to monitor not just the iPods and Macs but the iPhones, which are a significant contributor to earnings, and the feedback continues to be very positive. So even in the backlash of a consumer spending slow-down, people have continued to spend for premium product from Apple, which has yet to discount their products. RCM has brought down the health care and consumer staples weights, as some of the defensive characteristics are no longer going to be valued. Indeed, other pressures, such as the dollar and currency effects, have created cross winds for many companies in the consumer staples area.

At MR. BADER's request, MR. EDELMAN, using Wal-Mart Stores as an example, spent a couple of minutes describing RCM's Grassroots investigative research that they use to complement their fundamental research. They use Grassroots to get a sense of change coming and to get into a stock before the price has reflected the good expectations.

MR. O'LEARY remarked that the RCM story is a changing story over time: ownership changes; getting out of bond management; and different attempts to globalize equity management. He asked Mr. Migliori how he saw things going for here. MR. MIGLIORI said RCM put some process enhancements into place several years ago — enhancing Grassroots capabilities, focusing the analysts on the key drivers of stocks, and subdividing the teams into smaller teams — and a lot of that has borne fruit. All the pieces are in place for now. RCM has a global infrastructure with analysts in a variety of regions. He is supportive of a global effort as long as he can see what the benefit is to the U.S. client base, which he is responsible for. A global presence is a competitive advantage, even when not running an international product, because most of the companies in the portfolio have a large part of their business overseas. Having a well-funded and supportive parent company like Allianz in this type of environment when assets are down and revenue is down has been a real positive for RCM.

MS. McDONALD updated the Board on the socially responsible equity mandate that RCM was awarded late last year for the state's Supplemental Benefit System participants. The fund is ahead of the benchmark in its first six months, and about half a million dollars flowed into the fund last month.

MR. O'LEARY asked Mr. Edelman for his comments on the macro picture and what it means to him as the U.S. large cap portfolio manager. MR. EDELMAN referred to a written summary of RCM's market outlook on slide 24 and commented on the following points:

- Corporate profits have been in decline for a number of quarters, and RCM sees that continuing. The market seems to be reacting not so much to the actual number but to whether it is getting less negative. It is not that things are going to look particularly good in the second quarter, but RCM does not see them as necessarily getting worse. It will likely be through the rest of 2009 before corporate earnings will be in positive territory.
- Inflation is probably an issue but more for 2012 and beyond. As someone on the panel mentioned earlier, a little bit of inflation is not necessarily a bad thing. It does enable companies to take pricing and gives the margin some cushion. RCM's view is that inflation is under control, deflation issues are more the focus, and the pricing remains net-net a positive.
- Obviously interest rates cannot get much better. In the very near future they see interest rates as being extremely attractive. There will come a time in the next year or the year after when the Fed will begin to take back much of the stimulus from interest

rates.

- Economic activity has been poor and continues to be poor. But corporate profits are beginning to see some signs of stabilization, although at very low levels.
- The United States was earlier into the economic slow down, and now Europe and the emerging markets are seeing the effects of their own slow downs. So international is not particularly positive from an economic point of view either.
- The dollar seems to be in a kind of ping-pong situation. Longer term RCM sees the dollar as being less strong, which should help U.S. multi-national companies, all else being equal.
- RCM's outlook for valuation and technical indicators is decidedly positive, although valuations are at the lowest they have been for the past 20-30 years.

CHAIR SCHUBERT thanked RCM for their presentation.

22. Adopt Asset Allocation
Resolution 2009-08: PERS/TRS/JRS Retirement Systems
Resolution 2009-09: Military Retirement System (NGNMRS)
Resolution 2009-10: PERS/TRS/JRS Retiree Health Trusts
Resolution 2009-11: Retiree Major Medical HRAP/ODD
Resolution 2009-12: Defined Contribution PERS/TRS Holding Account

MR. BADER asked the Board to take into account an addition and a change to the resolutions provided in the meeting packet:

- Add five-year geometric mean returns to the resolutions, which is consistent with what has been presented to the Board in the past year. The resolutions contain arithmetic means that were also part of the discussion process but are not meant to be part of the resolutions. For resolutions 2009-08, 2009-10, and 2009-11 the five-year geometric mean return would be 9.04%. On resolution 2009-09, the five-year geometric mean return would be 7.42%. If the Board approves the resolutions, Ms. Hall would reflect these returns in what is ultimately published as the Board's asset allocation for the coming fiscal year.
- Change resolution 2009-10 for the cash allocation to read zero and a range of +6%/-0%.

MR. BADER said the Board started the process of asset allocation planning for the coming fiscal year with a presentation by Mr. O'Leary in February of the capital market assumptions. Callan Associates' assumptions are generally five-year projections of returns for various asset classes, although they are careful to say that returns will probably not happen exactly that way. That presentation was followed up by a meeting in March between staff, Mr. O'Leary and the Investment Advisory Council to discuss the asset classes and the appropriate place on the efficient frontier, which is a combination of asset allocations that provide the highest return with the lowest variance in returns (standard deviation). They talked about the assets that should be included in the efficient frontier and had spirited discussions about whether or not absolute return should continue to be one of the asset classes that ARMB uses. They ultimately concluded that it should continue as it is currently in the asset mix. They had follow-up teleconferences, the results of which are the resolutions in the meeting packet that he amended a few minutes ago. The resolutions represent the group's best thinking about the asset allocations that should be adopted for fiscal year 2010. There are an infinite number of asset combinations that could be selected, but in the group's judgment the resolutions are the most consistent with what the Board is already doing, and all the asset allocations are on the efficient frontier.

MR. O'LEARY confirmed Mr. Bader's last statement and added that the changes from prior years are very minor — a percent or two difference in asset allocation. For example, last year the expected standard deviation of the asset mix for the PERS, TRS and Judicial retirement systems was 12.85%, and it remains the same this fiscal year. The expected return on a five-year basis is significantly higher, which simply reflects the lower starting point in the market. In terms of shifts in asset allocation, domestic equity goes down from a target of 34% to 30%, and global equity goes up by 2%. That is part of the continuing evolution toward less discrimination between domestic and international. Fixed income actually went up by 2% and real assets by 1%. Absolute return decreased by 1%. So any one of the changes is very small, and at the aggregate level the changes do not have a significant effect on the expected volatility of the portfolio. That is true throughout all the plans.

MS. HARBO moved that the Alaska Retirement Management Board adopt Resolution 2009-08 relating to PERS, TRS, JRS Retirement Systems; Resolution 2009-09 relating to Military Retirement System (NGNMRS); Resolution 2009-10 relating to PERS, TRS, JRS Retiree Health Trust Funds; Resolution 2009-11 relating to Retiree Major Medical Health Insurance Funds, Health Reimbursement Arrangement Funds, and PERS Peace Officers/Firefighters Occupational Death & Disability Fund, and PERS, TRS, All Other Death & Disability Funds; and Resolution 2009-12 relating to Defined Contribution PERS/TRS Holding Account — with the changes as staff described in the opening comments. MR. TRIVETTE seconded.

COMMISSIONER GALVIN asked for clarification of the terminology global equity ex-U.S. and international equity. MR. O'LEARY said global equity ex-U.S. is the term used to describe non-U.S. investments including emerging markets. International equity refers to developed international markets.

Referring to Resolution 2009-10, COMMISSIONER GALVIN pointed out that absolute return shows an allocation of 5% with a range of +4% to -7%. MR. BADER agreed that was an error and that the negative side of the range should be -5%, not -7%. COMMISSIONER GALVIN said absolute return had a similar discrepancy in Resolution 2009-11, where the absolute return allocation is 5% with a range of +4% to -6%. MR. BADER agreed again that the negative side of the range there should be -5%, not -6%.

The motion passed unanimously, with the corrections noted. All nine trustees were present.

23. General Consultant Selection

Chair of the General Consultant RFP Evaluation Committee, MR. PIHL, reported that the four-member committee met April 22. The members were Trivette, Harbo, Bader and Pihl. He thanked staff for a clear and comprehensive request for proposal and said that responders followed the RFP quite closely. The committee regarded this as one of the most important contract selections for the ARM Board. The committee had ample time to independently review and score the three responsive proposals. They all came up with similar relative rankings, and the combined average scores indicated a clear preference for Callan Associates, Inc. Out of a possible 100 points, Callan scored 88, Wilshire was 64, and Rogers-Casey was 45.

MR. PIHL <u>moved that the Board accept the RFP Committee's recommendation and authorize staff to publish a Notice of Intent to Award the contract for investment consulting services to Callan Associates, Inc., and at the conclusion of the protest period, subject to no appeals being filed, that staff enter into contract negotiations with Callan, based on the scope of services and cost proposals set out in its proposal</u>.

COMMISSIONER KREITZER inquired if the Notice of Intent to Award was appealable to the commissioner of the Department of Administration. MR. BADER replied that the component of the contract that is for the Department of Revenue is appealable to the commissioner of Administration. COMMISSIONER KREITZER indicated that she was recusing herself and left the room while the Board discussed this item.

COMMISSIONER GALVIN asked the committee chair to go into more detail about the distinguishing characteristics of the proposals and to describe the primary drivers of the scoring differential.

MR. PIHL stated that two proposals closely followed the RFP. The scoring criteria were 20 points for understanding the scope of services and methodology; 10 points for overall organization, experience and qualifications; and 20 points for professional qualifications and personal experience. Cost accounted for 40 points, and staff evaluated that portion. A provision for Alaska preference was worth 10 points. In that regard, Callan's score of 87.7 was out of a total of 90 points they could have received, because the firm did not qualify for Alaska preference.

Noting that the cost is formula based, COMMISSIONER GALVIN asked for the difference in the cost scores for the three proposals. MR. PIHL said Callan received 40 points for cost, Wilshire received 23 points, and Rogers-Casey received 13 points. He added that there was a 7.2 point difference on the quality score between Callan and the next closest proposal, but cost was a very important driver.

Responding to MS. ERCHINGER, MR. BADER stated that none of the proposals were awarded the Alaska preference points, where one of the requirements is that the firm responding to an RFP be domiciled in Alaska or have a significant business operation in Alaska.

The motion passed unanimously, 8-0. [Commissioner Kreitzer had recused herself earlier due to a possible conflict of interest]

Commissioner Kreitzer and Mr. O'Leary rejoined the meeting when informed that this item was concluded. CHAIR SCHUBERT congratulated Mr. O'Leary on his firm's reselection as general consultant.

MR. O'LEARY voiced his appreciation for being selected and apologized for the bumpy ride caused by Callan's possible acquisition by Mercer that did not materialize. He said one of his long-term partners, Janet Becker-Wold, whom several on the Board have met over the years, works with him in Denver and is the designated backup for the ARMB. Ms. Becker-Wold was initially a research specialist, achieved great notice as an expert in international investing, and now has a fairly full book of consulting assignments. He plans for Ms. Becker-Wold to meet the Board so trustees can get to know her better. Should anything keep him from being able to fulfill the contract, Ms. Becker-Wold would work to maintain the relationship.

MR. PIHL noted that the committee discussed that matter, and he thanked Mr. O'Leary for the information.

UNFINISHED BUSINESS

1. Disclosure Reports
MS. HALL indicated the financial disclosures since the last meeting were included in the packet.

2. Meeting Schedule
The revised meeting schedule was also included in the packet and reflected the addition of an Audit Committee meeting on June 17 in Anchorage.

3. Legal Report
MR. WOHLFORTH reported that Mr. Johnson left a note that he was engaged primarily in assisting staff on issues arising from economic problems on existing engagements with investment managers, and there were no new matters to report.

Speaking by telephone, MR. BARNHILL stated that at its last meeting the Board approved and finalized a series of trust agreements. Subsequent to that, State Street asked for a couple of minor changes to the trust agreement that was executed for the State of Alaska retirement and benefit plans. He suggested that he describe the changes for the Board and then have Commissioner Kreitzer and Chair Schubert execute the amended trust agreement after the meeting. State Street wants to change two definitions in the trust agreement, one being the definition of trust to add the following language "the name of the trust is State of Alaska Retirement and Benefits Plans." That is not substantive in nature, but because of some foreign investments and the need to make things very clear for foreign investment managers, State Street would like to see that the name is explicitly spelled out in the definitions. The second change is to the definition of trustee, which currently reads "trustee means the Alaska Retirement Management Board," to "trustee means the Alaska Retirement Management Board or a member of the Alaska Retirement Management Board." That is the case in statute, so he had no problem adding that.

When queried, no one objected to the changes or to having Chair Schubert and Commissioner Kreitzer sign the amended trust agreement sometime after this meeting.

NEW BUSINESS - None.

OTHER MATTERS TO PROPERLY COME BEFORE THE BOARD - None.

PUBLIC/MEMBER COMMENTS - None.

INVESTMENT ADVISORY COUNCIL COMMENTS

DR. MITCHELL said that yesterday, during Mr. O'Leary's presentation of snapshots of past market traumas, Chair Schubert asked whether there was anything different about the recent precipitous decline in the markets. Mr. O'Leary had responded with the recognition of systemic risk and the fragility of the world's financial structure, in fact, its near collapse. Another equally important question that the Board might well want to ask is, what have we learned from the experience we have just lived through and the experience we are still living through? Put another way, what have we as institutional investors been taught by this very severe bear run that could help us to do better in the future?

DR. MITCHELL cited five lessons that he has learned, in the hope that they might be helpful to the Board as well.

- Lesson number one is that economic indicators do not work as forecasting tools for the stock market. If there is one profession that has been discredited by recent events it is that of the economist as predictor. As both McKinley and RCM noted earlier, by the time we have accurate economic data, by the time we analyze that data, and by the time the sages have made their pronouncements, markets have already moved. Economists may have their roles in society but predicting the stock market is not one of them.
- Lesson number two is that quantitative models that look only at past data, that are

based on limited experience, and that do not take into consideration the now-famous fat tails should be very suspect. Close behind economic forecasters on the wall of shame should be those quants whose models failed because of over-reliance on historic data and a disregard for human behavior. You cannot drive a car with much success by looking through the rear-view mirror and ignoring the other cars around you.

- The third lesson is that diversification does not depend on the number of issues you hold in the portfolio, nor on the number of asset classes you have, but instead on the correlations between those issues and between those asset classes. As we have seen, in a severe bear market all correlations approach 1, with perhaps this time the exception of cash and U.S. Treasuries. So more attention needs to be paid to the behavior of correlation coefficients under stressed conditions, and we must adjust our ideas about diversification, indeed about asset allocation, to accommodate this reality.
- Lesson number four is that institutional investors ignore cash flow at their peril. A number of respected university endowments and some state pension funds have found to their evident surprise that at times of limited liquidity they could not fund their obligations. When we enter a new asset class or increase our funding commitments to an existing asset class, we must remember to consider cash flow requirements.
- The fifth lesson is that bull markets, as a respected market strategist recently pointed out, are made of risk aversion and undervalued assets. They are not made of optimistic headlines, cheering, and the consensus that now is the time to buy. So it seems that risk aversion today is at a high and that many assets are indeed undervalued. So he believes that we are on the cusp of what will prove to be a pretty decent bull market.

DR. JENNINGS said he had stated during his presentation earlier that there are some synergies from the different investment committees he is involved with. He listed some of the best practices that he takes from Alaska to some of the other places:

- The first is a good staff and appropriate compensation, or at least efforts in that direction.
- The second is that the ARMB holds a tremendous annual education conference. There is some risk in that it may defer all the new ideas until the fall conference, but on the whole, spending two solid days — when there is not necessarily an investment decision to be made at the end — is a wonderful thing.
- The size of the retirement plan affords cost-efficient diversification.
- The retirement system has gone from good to great on the defined contribution plan front.
- The ARMB conducts very efficient meetings.

TRUSTEE COMMENTS

MS. HARBO thanked senior state investment officer Bob Mitchell, the board's liaison Judy Hall, and the other Department of Revenue staff involved for their work in preparing the RFP materials for the General Consultant RFP Evaluation Committee because it was a lot of work. She also thanked legal counsel Mike Barnhill, who had faith in those who questioned the work of Mercer.

MR. RICHARDS mentioned that at the education conference in Seattle last year there was a short presentation about leading investment managers, that over a ten-year period they had three years in which their returns were below par. This appears to be true for the ARMB managers, however, he never expected that they would all do it at once. Perhaps this is part of their three years and, as Dr. Mitchell just said, it will be followed by a good bull market run.

FUTURE AGENDA ITEMS

MR. BADER gave a brief update on activities planned for the education conference in New York in October.

ADJOURNMENT

THERE BEING NO OBJECTION AND NO FURTHER BUSINESS TO COME BEFORE THE BOARD, THE MEETING WAS ADJOURNED AT 3:15 P.M. ON APRIL 24, 2009, ON A MOTION MADE BY MS. HARBO AND SECONDED BY MR. RICHARDS.

Chair of the Board of Trustees
Alaska Retirement Management Board

ATTEST:

Gayle W. Harbo
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