**State of Alaska**
**ALASKA RETIREMENT MANAGEMENT BOARD**
**MEETING**

**Videoconference**

**MINUTES OF**
**March 17-18, 2022**

**Thursday, March 17, 2022**

## CALL TO ORDER

CHAIR BOB WILLIAMS called the videoconference of the Alaska Retirement Management Board (ARMB) to order at 9:00 a.m.

## ROLL CALL

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

**Board Members Present**
Bob Williams, *Chair*
Lorne Bretz
Allen Hippler
Donald Krohn
Commissioner Lucinda Mahoney
Dennis Moen
Sandra Ryan
Michael Williams
Commissioner Paula Vrana

**Board Members Absent**
None

**Investment Advisory Council Members Present**
Dr. William Jennings
Dr. Jerrold Mitchell
Ruth Ryerson

**Department of Revenue Staff Present**
Zachary Hanna, Chief Investment Officer
Pamela Leary, Director, Treasury Division
Shane Carson, State Investment Officer

Victor Djajalie, State Investment Officer
Emily Howard, State Investment Officer
Joe Carrillo, Accountant IV
Casey Colton, State Investment Officer
Cyla Garcia, Accountant III
Benjamin Garrett, State Investment Officer
Scott Jones, Head of Investment Operations, Performance & Analytics
Ryan Kauzlarich, Accountant V
Alysia Jones, Board Liaison
Grant Ficek, Business Analyst
Sam Hobbs, Accountant V
Sean Howard, State Investment Officer
Tina Martin, Accountant IV
Mark Moon, State Investment Officer
Courtney Oliva, Accountant IV
Nick Orr, State Investment Officer
Stephanie Pham, State Investment Officer
Michelle Prebula, State Investment Officer
Hunter Romberg, Investment Data Analyst
Rose Sanchez, Compliance Officer

**Department of Administration Staff Present**
Ajay Desai, Director, Division of Retirement & Benefits
Kevin Worley, Chief Financial Officer
Roberto Aceveda, Benefits and Counseling Manager
Emily Ricci, Health Care Policy Administrator
Jim Puckett, Chief Pension Officer

**ARMB Legal Counsel Present**
Benjamin Hofmeister, Assistant Attorney General, Department of Law

**Consultants, Invited Participants**
Steve Center, Callan
Paul Erlendson, Callan
David Kershner, Buck
Scott Young, Buck
Paul Wood, Gabriel Roeder Smith
Bill Detweiler, Gabriel Roeder Smith
General David Petraeus, Chairman KKR Global Institute
Vance Serchuk, Executive Director KKR Global Institute
John Emerson, Vice-Chair, Capital Group International
Kelly McKale, Client Relationship Manager, Senior Vice-President, Capital Group
Michael Kelly, Managing Director, Head of Multi-Asset, PineBridge
Joy Booker, PineBridge
Jeffrey Moore, CFA, Fixed Income Portfolio Manager, Fidelity

Jordan Alexiev, Fidelity
Melissa Moesman, Fidelity

**Others Present**
Tabitha Neimann, Public
Ian Malowitz, Public
Mario Cacae, Public
Tony Laing (Recording), Public
Bob Schroeder, Public
Elaine Schroeder, Public
Jim Simard, Public
Tom Brice, Public

CHAIR WILLIAMS noted that two new board members were present, MS. SANDI RYAN and MR. MIKE WILLIAMS and asked them to introduce themselves. MS. RYAN explained that she was a 28-year educator in Fairbanks and MR. WILLIAMS said that he had worked for the Department of Revenue for 24 years.

**PUBLIC MEETING NOTICE**
Board Liaison ALYSIA JONES confirmed that public meeting notice requirements had been met.

**APPROVAL OF AGENDA**
MS. RYAN moved to approve the agenda. MR. KROHN seconded the motion.

With no objections, the agenda was approved.

**PUBLIC/MEMBER PARTICIPATION, COMMUNICATIONS AND APPEARANCES**
CHAIR WILLIAMS stated he had a list of seven people who had requested to testify. He then recognized MS. NEIMANN.

MS. NEIMANN introduced herself stating that she was with the United Food and Commercial Workers International Union. She informed the Board of the escalating labor dispute with Bob's Discount Furniture that is majority owned by Bain Capital Fund X which the Board invested $1.3 million, and the dispute could prove a risk to the investment. She noted that instead of working to a resolution regarding pending issues, Bob's had encouraged workers to decertify the union and had refused to settle contracts at two new unionized stores. She asked the trustees to determine if Bain was acting in their best interest and to urge Bain to resolve its labor issues, abandon its aggressive anti-union program and to work at solving delivery problems for its customers.

CHAIR WILLIAMS thanked MS. NEIMANN, and recognized MR. MALOWITZ.

MR. MALOWTIZ introduced himself stating that he worked for Bob's Discount Furniture in Poughkeepsie New York and was on the negotiation for USCW Local 888 and noted that he and his co-workers had voted to join the UFCW Local 888 and had been negotiating their first contract for almost six months. He explained how Bob's had been slowing the process and negotiating separate contracts for the stores which costs money. He then explained their payroll structure and how their pay is dependent upon the furniture being delivered which had been taking three to four months and if a customer cancels, it affected their pay. He thanked the Board for their time and asked them to urge Bain to resolve the labor issue and abandon its anti-union campaign.

CHAIR WILLIAMS thanked MR. MALOWITZ and recognized MR. CACAE.

MR. CACAE introduced himself stating that he was a sales associate at Bob's Discount Furniture in Yonkers, New York and was represented by the USCW Local 888. He discussed the commission rate for sales and how the rate had not increased but had been lowered to five percent in the outlet stores and took the commission away entirely from the web orders. He explained how the sales were getting canceled due to lack of merchandise and delays on the delivery dates. He noted how they are pressured to push consumer credit cards and reprimanded in front of the customers for not pushing the store card. He said the morale in the stores is low due to the discipline issues and the payroll issues. He thanked the Board for their time.

CHAIR WILLIAMS thanked MR. CACAE and recognized the recorded testimony of MR. LANG.

MR. LANG appeared via a recorded audio. He introduced himself stating he was a sales associate at Bob's Discount Furniture in Glendale New York and shop steward for USCW Local 888. He explained the negotiating tactics of Bob's as aggressive with the goal of decertifying the union. He explained that for two years stores in Poughkeepsie and Paramus had voted to join the local but Bob's management along with the anti-union lawyers hired by the corporation had been dragging their feet and insisting on separate contracts for the stores. He noted that the cost of health coverage had increased 43 percent after a store had a certification election, in prior years, Bob's had covered insurance in full. He further explained the companies' various tactics to lure members away from the union. He then thanked the Board for their time.

CHAIR WILLIAMS thanked MR. LANG and recognized MR. SCHROEDER.

MR. SCHROEDER introduced himself stating that he was a member of 350 Juneau and explained the groups affiliation with other watchdog groups. He explained why fossil fuel investments were bad bets in a world that must transition to a carbon-free economy. He noted the effects of greenhouse gas emissions on the ecology and urged the ARMB to consider divesting from Fossil Fuel holdings and other investments that propped up the declining fossil fuel extractive industry. He thanked the Board for their time.

CHAIR WILLIAMS thanked MR. SCHROEDER and recognized MS. SCHROEDER.

MS. SCHROEDER explained that she would be reading a statement from Mr. Doug Woodby who was unable to attend. She said that MSCI and Russell FTSE indexes used by the ARMB were delisting Russian companies. She said the Board should examine the ethical and moral reasons to divest from fossil fuel companies. She noted his concern about the investments in coal at $400 million at the end of the last fiscal year and that the pension fund included 20 coal producers, such as China Shenhua Energy, China Coal Energy, and others. She asked the Board to take climate risk seriously and decarbonize the investments to protect fossil fuels.

CHAIR WILLIAMS thanked MS. SCHROEDER and recognized MR. SIMARD.

MR. SIMARD introduced himself stating that he was a retired librarian and a board member of 350 Juneau. He reminded the Board of his previous testimony regarding ongoing court cases where U.S. cities were suing fossil fuel companies for damages caused by climate disruption. He explained the latest developments for Boulder County Colorado suing Sun Corp, Energy and ExxonMobil over flood and erosion damage from 2017 and the rejection of the Tenth U.S. Circuit Court of Appeals of the oil firms' attempt to move the case from state to federal court. He then noted a ruling for a case in Hawaii as the first climate disinformation case to move to the legal discovery phase where the companies would be forced to disclose internal company documents and correspondence. He encouraged the Board to assess the investment risks and to consider the impending legal actions against oil and gas companies.

CHAIR WILLIAMS thanked MR. SIMARD for his time.

**APPROVAL OF MINUTES – December 2 – 3, 2021**

MR. HIPPLER moved to approve the minutes of the December 2-3, 2021, meeting of the ARM Board. MR. KROHN seconded the motion.

With no objection, the motion was approved.

**ELECTION OF SECRETARY**

CHAIR WILLIAMS requested a motion for nomination of a new secretary. MR. HIPPLER nominated MR. WILLIAMS. MR. KROHN seconded the motion.

A roll call vote was taken, and the result was unanimous in favor of MR. WILLIAMS as the new secretary.

**STAFF REPORTS**

**A. Retirement & Benefits Division Report**

CHAIR WILLIAMS invited MR. WORLEY to speak.

MR. WORLEY noted the report, which was the summary of monthly billing for Buck, started on page 54 of the packet. He explained the quarterly reporting. He said the second report started on page 57 of the packet and was member statistics for the quarters ending September 30 and December 31, 2021, and said the specific data was shown on page 59. MR. WORLEY then invited MS. HUMBERT to speak.

MS. HUMBERT introduced herself and noted that several modules of the IT modernization project had been completed. She said they were currently working on the processing module and said the project was on time and on budget, and anticipated implementation in early December 2023.

MR. WORLEY invited MR. DESAI to speak about the legislative update.

MR. DESAI directed their attention to page 64 of the packet which displayed the legislative update reports. He explained there were several bills they were watching on the pension side and a few on the health side, but the key bills they were watching closely was HB 55 and HB 220.

**B. Treasury Division Report**

CHAIR WILLIAMS invited MS. LEARY to present the Treasury Division Report.

MS. LEARY said that in the interest of time she would yield her time to staff reports.

**C. Liaison Report**

CHAIR WILLIAMS invited MS. JONES to present the Liaison Report.

MS. JONES noted the report began on page 67 of the packet. She said the report included the fourth quarter financial disclosure memorandum and noted no disclosure transactions required additional review or discussion.

MS. JONES explained the communications memorandum included communications directed to the board since the December meeting and public record requests received from November 16, 2020, through February 28, 2022.

MS. JONES noted the remaining 2022 meeting calendar was included in the packet along with a draft of the 2023 calendar. She said they were proposing moving out the late April meeting dates to early May and would follow up offline.

MS. JONES said the last item was the timeline for contract and review deadlines for FY22 through FY27. She noted that they were working with DRB to add the recordkeeper and auditor and welcomed feedback from the Board.

**D. CIO Report**

MR. HANNA stated that his report was going to be longer than usual due to the ARM Board's exposure to Russian investments as well as what was going on in the world markets.

MR. HANNA explained that prior to the invasion the markets were grappling with inflation and the immediate impact on energy and the commodity crises. He noted the CPI was the highest in 40 years ending 7.9 percent in February. He said the interest rates started to increase with a 25-basis point move and six more rate increases were expected this year.

MR. HANNA commented on the agenda, noting Callan's presentation on performance in the economy, commenting that the fourth quarter would probably be the last time where there would be a strong positive performance and noted Q1 had been a difficult quarter for global markets, both on bonds and stocks. He noted MR. SIKES would be moderating a discussion on the Russian/Ukrainian crisis with General David Petraeus and Vance Serchuk from KKR to discuss history and the military implications of the invasion. Then Fidelity will discuss the impact on bond and equity investments.

MR. HANNA noted three new additions they were recommending to the watch list. The first was Fidelity Signals due to turnover and the second was BlackRock Real Estate, also due to turnover. He explained that, due to poor performance, Brandes International Equity, both in the DB and DC portfolios, was also being recommended to the watch list. He then recommended a single motion to place the three entities on the watch list.

MR. WILLIAMS moved to adopt MR. HANNA'S recommendations to place Fidelity Signals, BlackRock Real Estate, and the Brandes International Equity Mandate on the ARMB watch list. MR. MOEN seconded the motion.

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

MR. HANNA noted that item 3 on his report were areas where he exercised CIO delegation for contracting. He explained item A was an update to the T. Rowe stable value contract provided by Mass Mutual and that item B was a 25-million-dollar private equity commitment to Battery Ventures XIV, explaining that they were a venture capital group specializing in technology investments across the globe.

MR. HANNA said item 4 was a summary of the portfolio rebalancing that took place between September and October. He said that during a rebalance, they buy things that have performed less well and sell things that performed well. He said in Q4, they sold 671 million in domestic equities and bought 412 million in fixed income, 218 million in international equity.

MR. HANNA then updated the board on Russian investments explaining that there were close to 1300 sanctions that were likely to have an impact on the Russian government and economy. He presented several slides and noted that Russian equities had decreased in value by 53 percent in February due to the crisis. He noted that the invasion began on February 24th and trading halted on the Moscow exchange a day later and as a result, there was no way to either sell or buy Russian equities on an exchange.

MR. HANNA explained that most major stock indices such as MSCI had already removed Russian securities from their holdings and as a result passive index funds were now holding Russian securities at a very low value. He said across the 43 billion in ARM Board assets as of January 31st, there was a low level of Russian exposure - .25 percent or $107 million. He said that with the 34-billion-dollar client benefit systems, they have Russian exposure of .28 percent, or 93.5 million. He noted that all of the ARM Board's international managers, except for Baillie Gifford had Russian equities. He said they were monitoring the situation closely and had been in close contact with their investment managers and have halted any new purchases of Russian securities.

MR. HANNA said with respect to the existing holdings, unless directed otherwise by the legislature or by the ARM Board, they planned to work with the investment managers to evaluate the valuations, risks, and other market conditions that prevail at the time that markets open before considering additional action.

MR. HIPPLER noted that it appeared the exposure was mostly through large international funds, then asked if there was any exposure through private equity investments; MR. HANNA said there was no exposure.

CHAIR WILLIAMS noted that on January 31st investments were under 107 million and then asked if it was accurate that now it was not worth anywhere near 50 million; MR. HANNA said that was accurate.

MR. HANNA explained that they had directed Custodian Bank to mark the separate account holdings at zero. He noted that there were other managers who were using their independent pricing services to strike a value of the equities, but that it was all over the map and highly speculative.

MR. BRETZ asked if it was possible that it could repeat itself in any other conflict; MR. HANNA said that there had been discussions in the press about potential conflict with China; MR. BRETZ asked if they should take preventative action; MR. HANNA said that would be a good discussion to have.

**E. Legal Report**

MR. HOFMEISTER reported that House Bill 396 was currently in front of the House State Affairs committee and explained it was "An Act restricting certain investments of state funds in certain Russian entities and providing for an effective date".

MR. HOFMEISTER referred to Subsection H, which defined what Russian entities are. He also explained the Office of Foreign Assets Control (OFAC) list, which listed the different types of entities and individuals who the United States government does not transact with and recommends no transactions with other private entities.

MR. HOFMEISTER commented that the commingled fund investment part found in Subsection B of HB 396, was important. He explained that the subsection says that the fiduciary will submit letters to the managers of commingled investments requesting the managers to consider removing a Russian entity from any investment. He noted that there was also protection for the fiduciaries.

MR. HOFMEISTER announced that he had just received notice that the Governor introduced a bill (HB 401) and there was a corollary bill (SB 235). He said one of the key differences to HB 396 was that the governor's bill would not apply to ARMB or APFC.

MR. HIPPLER asked if any of the bills MR. HOFMEISTER referenced have a sunset clause or otherwise expire in the event of peace.

MS. LEARY responded, confirming HB 401 was out and the section expires on July 1, 2023. MR. HOFMEISTER said HB 396 expires January 1, 2024.

MR. HOFMEISTER then provided an update on the Metcalfe case. He said there was a four-month window to provide notice to former members that would be impacted by the Metcalfe decision and commented that MR. PUCKETT had been working with his office on the notification. He also mentioned that his office had been consulting with their tax counsel, Ice Miller, because returning people from the DCR plan to the DB plan is going to be complicated.

MR. HOFMEISTER moved on to the Hughes case, which is a U.S. Supreme Court case dealing with self-directed brokerage accounts that came out in January 2022. He said the fiduciary duty described in the decision was important for this Board to keep in mind and that if, going forward, there were options that the ARMB was going to provide to its members, they needed to be conscious of the fact that there needs to be a certain level of vetting the options.

MR. HOFMEISTER then discussed two RPEA cases related to the diminishment clause. He said the parties ended up putting both cases into a mediation. He commented that the mediation and settlement was in large part due to Emily Ricci and her team. He also stated that the formation of the Retirement Health Advisory Board had come a long way in terms of reaching out to retirees and explaining how these changes affect them.

**F. Fund Financial Presentation**

MR. KAUZLARICH noted that on page 75 of the packet was the financials as of January 31st. He explained that the total plan assets for PERS was 24.8 billion, TRS was 11.6 billion, JRS was 292.6 million, NGNMRS was 49.2 million, SBS was 5 billion, deferred comp was 1.2 billion, total non-participant-directed plans were 9 billion and total assets were 42.9 billion. He said as of January 31st year-to-date income was 1.2 billion, the plans had experienced a net withdrawal of 587.9 million and internally managed assets were 17.1 billion. He also shared the figures as of March 15th explaining that they were a decrease. He said PERS assets were 23.9 billion, TRS assets were 11.1 billion, JRS assets were 281.3 million, NGNMRS assets were 47.1 million. He said the total assets were 41.4 billion and fiscal year-to-date investment income was negative 133.4 million, year-to-date withdrawals were 696.9 million and invested assets under internal management were 16.7 billion.

MR. WORLEY said the Division of Retirement and Benefits' report was on page 104 and it showed the seven months ending January 31.

## TRUSTEE REPORTS

**A. Chair Report**

CHAIR WILLIAMS said that he had multiple meetings with MR. HANNA and individuals from Treasury and Administration discussing their agendas and lining up for the ARM Board meeting. He said he had met with Empower and discussed matters in front of the DC Committee meeting. He shared his appreciation for the two departing trustees, Mr. Rob Johnson and Ms. Gayle Harbo and noted a letter of appreciation that was being mailed out and then he read the letters into the record.

To Trustee Rob Johnson:

> *Dear Rob, thank you so much for your longstanding dedication and service to the Alaska Retirement Management Board as a trustee since 2016, and as counsel from 2005 through 2014. Your service includes counsel to our predecessor boards, the Alaska State Pension*

*Investment Board from 1992 to 2005, and the Teacher Retirement System and Public Employee Retirement System Boards from 1982 to 2005.*

*Your fellow trustees now and over the years have truly appreciated your devoted service, including years as Chair of the board and Chair of the Operations Committee. Your experience and institutional knowledge span 40 years of service. I hope you realize how you have been a great benefit to the beneficiaries of Alaska's public pension systems and the state and local governments bearing the obligations of the systems. The importance of your work simply cannot be overstated.*

*The trustees on the ARM Board, as well as the staff and affiliates of the board, wish you all the very best. You've been a wonderful colleague, mentor, guide, and friend. Thank you. Sincerely, Bob Williams Chair.*

To Trustee Gayle Harbo:

*Dear Gayle, thank you very much for your service as a trustee and as the Secretary for the Alaska Retirement Management Board since its inception in October 2005, and your service on the previous Alaska Teacher Retirement System Board since 1999.*

*In 1989, you were celebrated and recognized as the Alaska Teacher of the Year. Thank you for bringing the same skill and commitment to your board service. Your service has been critical to the board and the beneficiaries of the Alaska public pension systems.*

*Your fellow trustees have truly appreciated your dedicated service and rigorous professionalism. Each trustee you have served with has come away better educated and better informed from your thoughtful and insightful questions and comments at our board meetings. You've been a model trustee in terms of preparation, commitment, and thoughtfulness.*

*The trustees on the ARM Board as well as the staff and affiliates of the board wish you all the very best. You've been a wonderful colleague and friend. Thank you. Sincerely, Bob Williams, Chair.*

## B. Committee Reports

### 1. Audit Committee

CHAIR WILLIAMS explained that Trustee MIKE WILLIAMS had been appointed as Chair of the Audit Committee but was unable to attend and he had chaired the meeting on his behalf. He said the Audit Committee heard reports on employer audits from MR. WORLEY and MS. HELMICK and heard a report on delinquent and late-filing employers. He said two of them, including school districts were filing their reports on time for TRS but not for PERS for some of the delinquent accounts. He said MR. WORLEY reported on the material weakness on forward-looking actuarial assumptions and explained that there needed to be a review of assumptions to see if they applied to NGNMRS. He said MS. SANCHEZ presented the compliance report and noted one of the items was being in compliance with not having investments in Iran. He said MS. LEARY and MR. WORLEY gave a report on cost allocations.

**2. DC Plan Committee**

CHAIR WILLIAMS said they had a presentation by T. Rowe Price about the implementation of improvements to the target date funds. He thanked MR. HANNA and MS. PREBULA for the negotiations to make significant improvements to the target date funds. He said MR. WORLEY gave an update on member services and fees and there was also an update from Empower regarding the concerns about transparency of fees on the website when making adjustments to the options. He said MS. DAUBENSPECK also presented a demonstration of their website. He noted quality assurance issues had come up that revealed a glitch in the system and that it had been fixed. He said MR. HANNA and MS. PREBULA then gave an update of the self-directed brokerage accounts and a motion was passed stating the Committee recommends Alaska Retirement Management Board direct staff not to move forward with implementing a brokerage platform for members of the Alaska Supplemental Annuity Plan, the Defined Contribution Retirement Plans, and the Deferred Compensation Plan.

<u>CHAIR WILLIAMS moved the motion on behalf of the DC Plan Committee.</u>

MR. HIPPLER said that he thought the issue needed continued investigation and asked if the motion would prevent the item from coming up at a future Defined Contribution Committee meeting; CHAIR WILLIAMS said it could be discussed.

MR. BRETZ asked if there was a plan to inform the members of the result of the action; CHAIR WILLIAMS said there was a plan that it would be put on the website explaining that it would not be happening.

A roll call vote was taken, and <u>the motion passed unanimously.</u>

**3. Actuarial Committee**

MR. HIPPLER said they had reviewed the 2021 valuation results highlighting both assets and liability gains realized by the plans. He said they then discussed prescription-incurred claims and a spike of claims that occurred in March 2020 and again in March 2021 and how that might impact the plans going forward. He said they discussed valuation projections and sensitivity analysis with respect to healthcare plans. He said they also had an educational session on the 25-year-layered unfunded liability amortization methodology and how the plans, in order to mitigate the up-and-down nature and volatility of the funds, had a 25-year layering option so the funding would be more predictable to the State of Alaska and other payors into the system. He said they also discussed the hypothetical feature of approaching overfunding on the PERS system and the impact of layering at a future point. He said they heard a presentation from GRS who reviewed the actuarial findings and noted that Buck concurred with the findings and plans to conduct more research related to one of the findings. They also reviewed the assumptions for the experience study, including updated economic assumptions, inflation assumption and a real return assumption put together by Buck..

CHAIR WILLIAMS then announced that he appointed Trustee Bretz, Trustee Ryan and himself to the Proposal Evaluation Committee to review proposals received in response to RFP # 2022-0400-0015 ARMB Actuarial Review Services.

**4. Operations Committee**

MR. MOEN said there was an update on recruitment for the comptroller and that the deputy comptroller had been doing great. He said recruitment was still underway for two other vacancies. He said staff would be gathering quotes for transcribing and minutes preparation, with the intent to provide a summarized version as they have the full transcripts and board packet to refer back to. He said MR. JONES reported that they had successfully tested backup files and server restoration.

**5. Alaska Retiree Health Plan Advisory Board**

MR. BRETZ said that they spent most of the meeting going over past experience of the plan versus current experience, and that a lot of time things were pretty consistent. He went on to say that things were changing as far as numbers they were utilizing but it was something that was monitored. He said they want to make sure that the prescribed drugs were being used to make the members healthy which means some pre-authorization would need to occur. He noted improvements to the website to make it more intuitive for the members to find what they were looking for.

MR. BRETZ noted that the Aetna network had grown by 444 providers which puts them up over 4,000 network providers in Alaska. He said the GCIT network benefits covers gene-based cellular and innovative therapies, but the therapies were so new that Aetna and most network providers had not established an agreed-upon price for the services. He said Alaska Care Plan currently had an individual lifetime maximum benefit of $2 million and prescription drugs do not apply to the lifetime maximum, but GCIT services would move the retiree plan members closer to exhausting their lifetime maximum.

MR. BRETZ said the Division would draft an administrative regulation to formalize the process to review proposed changes to the retiree health plans and the public would have at least 60 days to comment on any resulting proposed regulations.

CHAIR WILLIAMS recessed the meeting from 11:01 a.m. until 11:08 a.m.

**PRESENTATIONS**

**A. Draft June 30, 2021, Actuarial Reports**

CHAIR WILLIAMS invited MR. KERSHNER and MR. SCOTT from Buck to present.

MR. KERSHNER explained that they had two presentations, the first being the draft June 30, 2021 valuation reports. He reminded the Board that the valuation was a snapshot measurement of the assets and liabilities as of June 30, 2021. He briefly reviewed the table on page 2 of the summary pointing out the increase in the pension funded ratio based on valuation assets up to 68 percent from 64 percent due to the approximate 30 percent market return the funds experienced in FY 21. He said the fair value of assets jumped from 62 percent to over 77 percent. He noted that the healthcare trusts were overfunded due to the market return as well as liability gains. He then moved on to the next page to show the funded ratio history saying that they were more than 80 percent funded for the PERS which meant they were making the right progress based on the funding policy that the ARM Board had adopted.

MR. KERSHNER then presented the comparative summary of contribution rates, reminding the Board the contribution rates would be adopted in September and would reflect the two-year period where they project results for contribution rates. Once they know what the FY 22 asset returns are, they would prepare the FY 24 contribution rates for the ARM Board to adopt in September. He said the preliminary results were shown on the chart, the pension contribution rate had decreased from 18.4 percent gain to 16 and a half percent and healthcare was down slightly, which was a minimal cost as healthcare plans were overfunded. He said the bottom line was that it was a favorable year on both the assets and the liability side which was why there was an increase in the funded ratios and decreased contribution rates.

MR. KERSHNER noted that at the bottom of the chart on the next page were the liability gains and losses. He said each time they collect new data, they compare what they expected the liabilities to be based on last year's valuation and then compare that to the new measurement based on the new data and any differences between those are the gains and losses.

MR. YOUNG explained that the largest component of the healthcare gain was the per capita claims cost, which had been the biggest piece of gain/loss for the last couple of years and would be the biggest for futures as well.

MR. YOUNG said the big factor that caused gains during the last two years was the implementation of EGWP and the new prescription drug contract with Optum which was smoothed in over time and was the main driver of the gains during the two previous valuations. He noted that medical costs, which are separate from the prescription, were within one percent of what was expected.

MR. YOUNG said that even a one percent change was a big dollar amount because the per capita cost affects every person for every year in the future. He noted that once the Optum change was fully phased in for the two prior years, the prescription drug average cost was within one percent.

MR. KERSHNER noted that the total pension gain of 161 million was approximately one percent of the PERS pension liability and most of that gain was due to the PRPA increases. He also noted that the story was similar for TRS as the assets were invested in similar allocations.

**B. Experience Study**

MR. KERSHNER explained that the experience study was required by statute at least every four years and it was intended to analyze the experience of the last few years and compare it with the assumptions for those four years. He said that they also look at expectations for the next 20, 30 years and adjust the assumptions to best match what they expect the experience to be.

MR. KERSHNER said the study involved demographic assumptions which deal with behavior of the participants in regard to retirement, termination, as well as lifespan. The economic assumptions deal with expectations of what happens to the money and invested assets, participants' salary increases, etc. He said they take the participants pay they currently earn and project them to when they were expected to retire.

MR. KERSHNER said PERS was on slide 60 and item 4 was the funded ratio, the comparison of the actuarial value of assets to the liabilities for 2020. He said the funded ratio for PERS was 79.3 percent and if the ARM Board adopts all proposed assumptions, the fund ratio would be projected to decrease to 78 percent.

MR. KERSHNER said for demographics, the most significant assumption was updating the mortality assumption which they were proposing to update to the recently published public sector-based mortality tables which have separate tables based on classification of employees. He noted TRS had the same information except that last year the funded ratio was 86.6 percent and had decreased to 84.3 percent.

**C. Actuarial Review of June 30, 2021, Valuations**

MR. WOOD explained that they validate Buck's results, review the assumptions and methods, review the development of per capita claims cost, review the report content to ensure proper disclosures are in the report, and then they also review the test life audit, to determine whether assumptions are being applied correctly and benefits are being valued properly.

MR. WOOD said Buck provided a PowerPoint presentation that showed the development of the per capita claims costs. He said based on the data in the presentation, there was favorable claims experience and the PCCC was found to be reasonable. He said they expected to see an increase in prescription drug at around five to seven percent, but there was a bit of a decrease resulting in an increase of 3.7 percent.

MR. WOOD said slide 5 showed five years of gains mostly due to the positive experience for medical claims. He noted that Buck included a four percent expense load in per capita claims cost to account for some COVID experience and they felt it was an appropriate load.

MR. WOOD said with three years of experience under the most recently adopted assumptions they could start to monitor any developing trends such as the new Medicare Part B assumption causing consistent gains and investment return expectations continuing a downward trend around the country.

MR. WOOD said for the test life review, they take a small sample of test lives that are valued as part of the valuation mode and look for data inputs, benefit amounts, and liability calculations. He said the sample lives tells them if the assumptions were correctly employed and if the plan provisions were valued correctly. He said that actuaries look to the Actuarial Standards of Practice noting that an item or a combination of related items would be material if its omission or misstatement could influence a decision of an intended user. He said if they found something in the valuation that would change the decision that the Board was making, then that would lead to being material.

MR. DETWEILER said they had five findings based on the test life reviews they had completed and walked through each of the findings. He noted that Buck agreed with four of the findings and updates would be made to the valuations. He said the fifth finding was still under review, but that none of them would impact the contribution rates that the Board would be adopting.

MR. WOOD discussed the summary of recommendations noting one that they wanted to point out – the new entrant, rehire assumption for the DCR plan. He said it had been incorporated on the DB side but was not implemented with the DCR plan. He said they felt comfortable with Buck's conclusion that they were not going to include it because it would increase the normal cost for the DCR plans which were already well funded and would divert more money to these plan that did not need it.

**D. Audit of State's Actuary**

MR. WOOD reminded the Board that they had presented their initial findings at the December 2021 meeting. He said their opinion was that Buck valuation conclusions accurately portrayed the actual real state of the systems and reflected the required contribution rates. He commented that since then they had dug a little deeper and identified additional test lives to check for issues that could be incorporated into future valuations. They found six issues and provided the findings to Buck. He said that both Buck and GRS agreed the findings were immaterial and recommended they be included in the next valuation.

MR. HIPPLER asked if GRS had other clients who are considering their inflation assumptions at this time and what they are seeing. MR. WOOD said in the last four years a lot of their inflation assumptions had come down significantly and that every one of their clients is either at or below the two-and-a-half percent.

MR. HIPPLER then asked MR. WOOD what real rate of return they were seeing in the large plans. MR. WOOD indicated that most were in the neighborhood of 4.5, 4.75, which was in line with where they were at.

CHAIR WILLIAMS recessed the meeting from 12:00 p.m. until 1:30 p.m.

**C. Performance Measurement – 4th Quarter**

CHAIR WILLIAMS invited MR. ERLENDSON and MR. CENTER to present.

MR. ERLENDSON welcomed the new members and explained what Callan does and touched on the concerns of raising inflation and interest rates. He then presented slide 2, which showed the V-shaped recovery in equity up 119 percent from market bottom. He moved to slide 3 which showed stock market returns since 1801 and briefly discussed some of the influences. He then moved to slide 9 which showed contributors to recent inflation and monthly changes. He also explained that they were seeing changes in affiliations and trade patterns as a result from strategic partnerships with Iran and Venezuela. He said some of the trade alliances and the impact on global trade patterns would continue to be a challenge for managers and economies into the future.

MR. ERLENDSON moved to slide 14 which had the Callan periodic table of investment returns from June of 2012 to June of 2021. He then showed slide 26 which showed a graph of historical public fund asset allocation and rolling 10-year returns. He said the average 10-year return pre-March 2009 was +10.8 percent and post-March 2009 it had dropped to +6.4 percent with an average 10-year return of +9.3 percent.

MR. ERLENDSON said going forward there were several challenges - rising interest rates, which they think long-term would be healthy for the economy, rising inflation which they think would be mitigated in the foreseeable future, greater uncertainty due to geopolitical challenges, and a greater focus on getting the strategic allocation and looking at in in terms of liquidity, risk mitigation and cost.

DR. MITCHELL asked if the volatilities of the different asset classes had changed much since 1985 to present; MR. ERLENDSON said they come and go. He noted that MR. CENTER's presentation had the total fund volatility numbers in the dashboard and said that he would forewarn MR. KLOEPFER of the question and to address it during his presentation.

MR. CENTER presented the PERS, TRS and JRS Performance Dashboard, the Health Care Plans Performance Dashboard, and the Military Dashboard. He reminded the Board that the dashboards were a one-stop shop for high-level information about the total plan performance. He noted that each one of the dashboards showed strong performance with returns above the benchmark and above the median over all time periods. He said that page 31 was a snapshot of the asset allocation of the calendar year end for PERS and said the other plans exhibit similar modest and understandable variations from strategic target allocations.

MR. CENTER moved to page 32 which showed asset class allocations were in line with targets after the asset allocation update and associated rebalancing and noted that weighting to real assets and alternatives were relatively high in comparison to other public funds.

MR. ERLENDSON explained the real assets column as a defensive play against inflation by having more allocated to real assets than the typical public pension fund.

MR. CENTER then presented page 33 which showed the performance was above the public funds' medians for the one-, three-, five-, and ten-year periods and despite the recent change to the asset allocation, longer-term performance reflected the Board's prior orientation toward capital growth as opposed to income generation. He then noted that page 34 showed the Sharpe Ratio Rankings and said the Board's risk-adjusted return was above the Public Funds median for the one-, three-, five-, and ten-year periods as well. He then moved to page 35 showing the maximum drawdown rankings. He said the drawdown experienced in the first quarter of 2020 was the largest of the last 10 years and the amount that was lost by the PERS plan was less than other peers during the same time period. He said the standard deviation rankings were on page 36 and showed the Board's portfolio diversification had resulted in volatility that was lower than median compared to peers and said it was primarily due to the higher allocation to the private plans.

MR. CENTER moved on to page 37 which showed the relative attribution effects for quarter ending December 31, 2021. He said the table helps explain what drove the performance for this time period. He explained that the columns labeled "Manager Effect" and "Asset Allocation" showed the measures of the key drivers of the performance for the plan. He said that over the last year the key driver of performance was the overall manager performance relative to their benchmarks.

MR. CENTER explained page 38 saying that each fund had two targets, the asset allocation policy return, and the actuarial return. He said the total fund returns continued to closely track the strategic allocation target.

MR. ERLENDSON commented that they had not only exceeded the actuarial rate but were also ahead of the passive benchmark.

MR. CENTER skipped ahead to page 42 to total domestic equity. He said it was ahead of its benchmark by about 70 basis points for the last 12 months and had outperformed its benchmark by about 1.6 percent. He said one of the key drivers for the factor-based strategies was value versus growth within the equity market.

MR. ERLENDSON said that through the previous evening, value in both margin small cap was 11 percentage points ahead of the growth equivalent which were all negative.

MR. CENTER explained that when the market goes down the value stocks tend to go down by less which could be a good sign for performance in the first quarter of 2022.

MR. CENTER then moved to page 44 noting that the overall domestic equity portfolio's market capitalization was smaller than 44 percent of public funds. He said the large cap portfolio was on page 45 and it was made up of a passive investment in S&P 900 index fund – 70 percent passive and 30 percent factor-based. He said the longer-term performance drag was on page 46. He said the large cap domestic equity returns outperformed the Russell 1000 index by 63bps in the fourth quarter of 2021.

MR. CENTER said pages 47 and 48 showed the small cap portfolio explaining that it was passively invested in the S&P 600 strategy which has shown a return premium over the Russell 2000 benchmark.

MR. CENTER explained page 49 as non-U.S. equity which included developing markets and emerging markets and said it lagged slightly last quarter by about 40 basis points but over all other time periods was ahead of its benchmark. He said the developed market on page 50 was ahead of the benchmark over all time periods, so a very strong performance, slightly below the median over the last ten years.

MR. CENTER jumped to page 50 to discuss emerging markets. He said that portfolio was invested in passively and emerging market strategies that were more factor-based, and those markets had done very well. He said the fixed income portfolio on page 54 had done very well and that it was focused more on Bloomberg Aggregate Index which made up 70 percent of the portfolio. He said some of the building blocks were listed on page 55 and noted that the internal aggregate portfolio had lagged the aggregate over the last year but was right in line with the benchmark. He commented that both the opportunistic fixed income and alternative fixed income were very additive over the last year.

MR. CENTER said the opportunistic income class on page 56, made up of alternative equity, tactical asset allocation strategies, and alternative beta investments was up 12.4 percent over last year. MR.

CENTER then touched on the participant directed plans from total asset allocation and size standpoints.

MR. CENTER explained the color coding on what he referred to as their "stop light" pages. He said when an option or its index ranks above median, the cell is coded green. Yellow means it is falling in the third quartile relative to the peer group, and red means it is falling in the bottom quartile versus the peer group. He commented that all the funds were structured very well – they are low cost and overall, the target date funds have done extremely well for the participant-directed plans.

CHAIR WILLIAMS asked if a footnote might be warranted when looking at the target date funds to note when they are looking at five-year returns, seven-year returns, etc. MR. CENTER commented that T. Rowe Price was not alone in altering glide paths or adding new options and that their peers were doing similar things. He added that it was a good fit for what they had profiled they wanted to achieve.

DR. MITCHELL asked about the slight value tilt for U.S. equities and whether that applies to international and emerging as well. MR. CENTER stated that the non-U.S. equity portfolio has a slight value tilt now because of how the emerging market equities is being implemented. MR. HANNA added that they have scientific beta in that portfolio, which does have kind of a value factor orientation. He said historically, large institutional portfolios like theirs would be better characterized as more value oriented. He said that now they were heavily overweight in traditional growth sector and commented that it was a big explanatory factor in terms of performance.

CHAIR WILLIAMS suggested rotating the order of materials so that participant directed plans would occasionally be discussed first. MR. CENTER and MR. ERLENDSON expressed their appreciation for the direction and indicated they could do that going forward.

**D. Risk Management**

CHAIR WILLIAMS then invited MR. CARSON to present.

MR. CARSON introduced himself to the new Trustees. He then moved to page 2 and explained key board decisions included determining investment objectives, asset allocation, implementation oversight and monitoring results. He said that his presentation focused on the fourth objective of monitoring results. MR. CARSON said the pension systems face a lot of layers of risk and noted that this presentation focused on investment risk. He explained that they use TruView, a portfolio and risk analytics platform that generates risk reporting stress tests and clarified that TruView does not look at actual experience, but rather a snapshot of the portfolio on December 30$^{th}$ and June 30$^{th}$ and infers risk metrics and benefit analytics for that snapshot.

MR. CARSON said that risk metrics were within expectations, that public equity allocation was the largest driver of the portfolio volatility, but that volatility remained below the expected 13.9 percent of the target allocation for the fiscal year. He said the overall portfolio volatility increased from the June report and was approaching Callan's long-term risk expectations. He said TruView modeled several historical and predictive scenarios and that the ARM Board's portfolio sensitivity to the stress tests had been changed over time indicating there were no sudden or unexpected exposures to assets that were sensitive to the scenarios provided.

CHAIR WILLIAMS recessed the meeting from 3:04 p.m. until 3:19 p.m.

### G. Fixed Income and Cash Management

MR. HANNA introduced MR. DJAJALIE and MS. HOWARD.

MR. DJAJALIE provided an overview of the fixed income team and each team member's position within the team. He then moved to page 5 which showed a pie chart of the ARMB target asset allocation for FY 2022. He said that $5.5 billion of the ARMB's $7.5 billion fixed income assets were managed internally. He said they also manage the portfolio to the Bloomberg aggregate index.

MR. DJAJALIE said the 10-year US Treasury rates remained low by historical standard despite recent selloffs spurred by the Fed tapering announcement and the expectation of Fed hikes. He said the rates had been volatile and were influenced by pandemic headlines, concern over Russian invasion of Ukraine, and inflation. He said the Feds had raised rates by 25 basis points and also increased their rate of tapering. He said the median rate hike was seven times this year, that they had one and there were six more left to go.

MR. DJAJALIE said page 9 showed the profitability and leverage, that company fundamentals remained robust, supported by strong profit margin and healthy balance sheets. He said defaults inched higher in the most recent quarter but remained at a seven year low with a total of four defaults in Q4. He said the default rate was expected to rise as strong growth and earnings normalized. He said the downgrade to upgrade ratio was low and had been for five consecutive quarters.

MR. DJAJALIE said that Corporate Bond Net Issuance on page 11 showed a busy year as companies tried to bolster their balance sheet by taking preemptive action to strengthen the balance sheet and issue a lot of debt in order to have cash reserve. He said Investment Grade Corporate Spreads were now at about 40 basis wider than the chart showed, as it was prepared prior to the Russian invasion of Ukraine.

MR. DJAJALIE moved to page 15 and explained that they had three primary objectives for investment, they are to generate excess return relative to the index over time, provide liquidity as required, and serve as a diversifier to reduce risk as part of asset allocation.

MR. DJAJALIE said page 16 explained the investment approach which is reviewed on a daily basis and periodically they optimize it before they cross multiple rate scenarios to identify a broad rate of potential movement in curve from one month to three months and then they position the portfolio across the curve in such a way as to outperform across those scenarios. He said there are risks that they have to deal with as shown on page 17.

MS. RYERSON asked if there was a team process when deciding to get rid of investments; MR. DJAJALIE said they do have a team discussion but ultimately, he makes the decision.

CHAIR WILLIAMS asked how such a small team would manage so many different things and the risk and all the decisions; MR. DJAJALIE said they had the benefit of working together for so long, that they have put in a lot of effort to create a lot of back up. He said they all know the analytics and how to trade and to make sure a trade settles.

MR. DJAJALIE moved to slide 18 which discussed the dependence on technology and generalizations. He said managing a fixed income portfolio was a complex task because the index is comprised of over 12,000 securities. He said they own over 850 securities and over 200 corporate bond issuers, for treasury agency, mortgages, CMBS, Asset Bank and many more. He said they use analytic tools such as Bloomberg and YieldBook to map general characteristics of the index portfolio. He said that page 21 showed the result of the investments.

MS. HOWARD said that she had prepared a presentation discussing the investment strategy and the profile of AY70. She said AY70 was a metaphor for the short-term investment pool. She said it invests funds for both State of Alaska and the ARM Board accounts and its current assets under management was 4 billion and the ARM Board assets represented about nine percent of AY70's stocks. She said the objectives were to earn the highest possible return while meeting significant liquidity requirements and taking low principal risks. She presented page 3 which contained a pie chart showing the sector exposures.

MS. HOWARD said the asset -backed securities shown on page 4 were a specific pool of collateral, such as auto loans, auto leases, and credit card receipts. She said ABS represented the lion's share of their spread product exposure. She noted that the ABS they own was very short with a weighted average life less than half of a year and that most ABS have an amortizing structure. She said they typically purchase and hold the ABS securities to maturity. She noted that even though ABS securities are not as liquid as T-bills, the cycle of pay-down and reinvestment contributes to the overall liquidity profile for AY70.

MS. HOWARD moved to page 6 to show the ABS structure and how the principal payments flow from the top down while the losses flow from the bottom up.

MS. HOWARD said the corporate exposure was smaller in size than ABS but was still significant as displayed in the chart on page 8.

CHAIR WILLIAMS asked if the allocation had been fairly consistent over time and if there were any concerns in the level of concentration in auto buying loans with respect to having a diversified portfolio. MS. HOWARD responded that within ABS tranches or deals, they are spread out across the country and that the exposure was not so much the auto industry, but rather the American consumer and that is one of the most diversified exposures one can have. She noted that the make-up of the fund had changed a little bit over time and that it was dependent on the size of the short-term investment. She added that AY70 had stayed relatively stable over the past 3 to 4 years and that it was representative of where the liquidity requirements would be.

MS. HOWARD moved to page 9, Supra-sovereigns which are bonds backed by one or more sovereign nations. She explained that these can earn a small spread to treasuries but generally very little versus the spread available in other sectors.

MS. HOWARD said page 10 discussed the developments of note, the LIBOR transition and said that there was a shift away from LIBOR into a replacement rate. She said SOFR was the heir apparent to LIBOR. She said the majority of AY70's corporate holding was in floating rate notes and those maturing after June 2023 were all benchmarked to SOFR.

CHAIR WILLIAMS requested that Agenda Item XI Investment Actions, from Friday's agenda be brought forward at this time, and asked MR. CENTER and MR. ERLENDSON to leave the meeting.

**INVESTMENT ACTIONS**

**A. General Consultant Contract**

MR. HANNA said the two actions in the board packet were both regarding contracts with Callan - one for the general consultant contract and the other for the real assets contract. He said both were structured as five-year total term agreements, with an initial three-year term, and then two optional one-year extensions.

MR. HANNA said that the staff holds Callan in high regard and believed that they had provided the ARM Board with good service and recommended that the ARM Board direct staff to exercise the first of these one-year contract extensions, extending Callan's general consulting contract until June 30, 2023

DR. JENNINGS said that he supported continuing with Callan and that if there was any dissatisfaction, he would advise that it is almost always better to find a different set of employees of the consultant than fully moving the consultant.

MS. RYERSON said she too would support it. She said they had always been responsive to the ARM Board's needs.

DR. MITCHELL said he too supported extending the contract. He said the firm had been very steady over the years in its response to the requests of the ARM Board.

CHAIR WILLIAMS said that he always thinks of capabilities, commitment, and chemistry and that he saw high marks in all three of those and the responsiveness of different requests and comments was duly noted.

MR. BRETZ motioned to extend Callan's general consulting contract until June 20th, 2023. MS. RYAN seconded the motion.

CHAIR WILLIAMS stated that the motion language should be recorded as follows, the Alaska Retirement Management Board directs staff to exercise the first of two one-year contract extensions to extend Callan's general consulting contract until June 30th of 2023.

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

**B. Real Assets Consultant Contract**

MR. HANNA said the same five-year contract term, which included an initial three-year term and two optional one-year extension, applied to the Real Assets contract with Callan, with the initial period expiring June of this year.

MR. HANNA noted that this was the first time they had used a Callan as a real assets consultant and that staff have been pleasantly surprised. He added that there was a lot of cost savings in making this transition and that Callan had been very responsive.

CHAIR WILLLIAMS said that they had discussed the combination of the two contracts which had totaled $700,000; MR. HANNA said it was very close to $700,000.

MR. M. WILLIAMS motioned that the Alaska Retirement Management Board direct staff to exercise the first of two one-year contract extensions to extend Callan's real assets consultation contract until June 30th, 2023. MR. BRETZ seconded the motion.

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

CHAIR WILLIAMS recessed the meeting at 4:15 p.m.

Friday, March 18, 2022

CALL BACK TO ORDER

CHAIR WILLIAMS reconvened the meeting at 9:00 a.m.

**H. Current Geopolitical and the ARMB Portfolio**

CHAIR WILLIAMS invited MR. SIKES to present.

MR. SIKES explained that he would be moderating a series of discussions focused on the implications of the war in the Ukraine. He said that there were four presenters to help think about the developments and the potential short- and long-term implications on the business of managing a large public pension plan. He said they would start with geopolitics and hear from members of the KKR Global Institute.

MR. SIKES welcomed GENERAL PETRAEUS and MR. SERCHUK and asked if they could give their current assessment of the war and their expectations going forward.

GENERAL PETRAEUS said their earlier estimates had been validated and that it may prove worse than Afghanistan for Russia. He said he did not see an orderly way out and that it appeared they were at a stalemate. He then described where the various forces of the Russian army were located in the Ukraine and what their losses had been thus far. He described the tack that the Ukrainians had been utilizing and the outcome. He then explained that Mariupol had been encircled and the Russians were achieving their goal of that city. He said the city had no power or water and the Russians were going to starve them out and if Mariupol were to surrender that would free up Russian forces that could be used elsewhere.

GENERAL PETRAEUS explained another major offensive in Mykolaiv which is on a river up from the Black Sea, he said the Russians need the two bridges in Mykolaiv to get across. He said the bridges were rigged with explosives and would be demolished, if necessary, but said the mayor and his military counterparts had been doing an admirable job holding off the Russians.

GENERAL PETRAEUS said that Odessa was another major port for Ukraine, he described it as the lifeblood directly on the Black Sea. He said it had been on the receiving end of sea-launched cruise missiles and other naval bombardment but had not been that engaged in the fighting. He noted that the Ukraine was receiving enormous quantities of additional weapons systems, ammunition, small arms, vehicles and would get air defense systems that can extend higher than a Stinger - about 10,000-foot altitude. He said they were getting a Switchblade drone, which was basically a kamikaze drone that was very deadly and effective. He said NATO had pledged an S-300 Russian air defense system.

GENERAL PETRAEUS said his expectations for the short-term was a continued stalemate and the potential fall of Mariupol.

MR. SIKES asked MR. SERCHUK if he would shed some light on the history of the war and Russia's thinking and objectives and what that says about the potential trajectory and scope of the Ukraine situation.

MR. SERCHUK said that Ukraine means frontier or border and when Russia would talk about the Ukraine, they would reference it more like one would a field, as if it was a place, rather than a country. He said Ukraine has been a sort of border between the European great powers in the area. He spoke of the history of Kyiv Rus and how Ukraine was described as the border between the Kyiv Rus and Poland. He said Ukraine had been traded among different empires, the Pols, Swedes, and the Slavs. He said within the aftermath of World War I, the Russian empire collapsed, there were several attempts to establish a Ukrainian state on the territory that is now Ukraine. He said the Soviet Union emerges in Russia with the Bolsheviks and conquer the territory that is now Ukraine. The Bolsheviks organized a new power along national lines, the Russian National Republic, the Ukrainian National Republic, and the Belarusian National Republic and that became the Soviet Union. He said the real power was concentrated in the party in Moscow. He said in the late 1980's with the decline of the Soviet Union and then in 1991 with the collapse of the Soviet Union, the party imploded, and the national republics became independent states.

MR. SERCHUK explained that Putin argues that the borders were arbitrarily drawn by the Soviets as part of their experiment and there was no reality behind them. He said Ukraine had noticed that the countries around them were on a very different course with their competitive elections, higher standards of life and this had caused a great deal of discontent and unrest with the political elite in Ukraine and that manifested into uprisings in 2004, 2005 and 2014. The Ukrainians wanted it to be more like the West with a better quality of like. He said Putin saw it differently, he saw it as a foreign plot cooked up by the CIA in order to grab Ukraine. He saw the uprisings as a cause for aggression against Ukraine. In 2014 after the overthrow of President Viktor Yanukovych, Putin moved to seize Crimea and the Donbas and Eastern Ukraine. He said Putin still thinks that Ukraine is not a country, and the resistance is not coming from Ukraine, since they do not exist, but from foreign interference. He said the most interesting factor was the strength of Ukrainian nationalism which was not particularly strong until Putin helped conjure it into existence.

MR. SIKES asked what they saw as a way to give Putin a way out.

GENERAL PETRAEUS said they did not want Putin backed into a corner with nothing left to lose. He said Putin has nuclear weapons he could use, and possibly chemical and biological weapons as well. He said he thought there were two ways out, one would be through a negotiated settlement. The other option would be if Putin was replaced. He said there could also be a Ukrainian victory but most likely there was the potential for a negotiated settlement.

MR. SIKES asked what the long-term ramifications of the Ukraine war is in terms of world order and structure.

MR. SERCHUK said that there were major events in the world that were considered turning points and that he thought there were a couple of trends worth emphasizing. He said the shift from an era of benign globalization to one of great power competition was the biggest trend. He said in the mid 1970's the global economy consisted of North America, Western Europe, and East Asia, which was not really a global economy as much as an economic bloc. He said over the years, large parts of the world integrated with it. He said the idea behind globalization was as countries plug into the system and become increasingly powerful and prosperous, they would use that power and prosperity to solve shared problems, but instead the countries started to leverage their power and prosperity to gain advantage and zero out competitors which is what Russia and China are doing. MR. SERCHUK noted that instead of globalization, the most powerful and prosperous countries were instead increasingly in adversarial blocs against each other.

MR. SERCHUK said that if there were a collapse in Russia, there would no longer be discussions about the threat of Russian strength, instead the discussion would be about managing the consequences of Russian weakness and Russian collapse which would pose a number of serious threats, including economic consequences for energy and other issues.

MR. SIKES invited questions from trustees and IAC members.

COMMISSIONER MAHONEY asked how long could Europe go with their sanctions before it debilitates their economy; GENERAL PETRAEUS said they were not imposing all the sanctions but are carving out exceptions to some of them. COMMISSIONER MAHONEY asked if he thought Alaska was at risk to the nuclear bomb threats from Russia; GENERAL PETRAEUS said he thought Alaska was safe because Russia does not need another front of war, they are not able to replace the soldiers being lost in Ukraine. MR. SERCHUK added that he expects that Russia could ratchet up the intimidation tactics against the West if the situation drags on. He said Russia's biggest loss to date was the evacuation of over 200,000 Russians who were computer scientists and academics. He described it as a huge geopolitical opportunity for the rest of the world to absorb many of Russia's best and brightest.

MR. HIPPLER asked how should Alaska phase or structure prohibitions on investments in Russia to not make things worse; GENERAL PATRAEUS said that it was a smart thing to not invest in Russia and he doubted that Russia paid attention to any additional sanctions.

CHAIR WILLIAMS asked what their thoughts were on China teaming up with Russia; GENERAL PATRAEUS said that President XI has a variety of issues he was dealing with, and he does not welcome the Russian invasion for many reasons but mostly because it could affect his election.

MR. SIKES then invited MR. MOORE from Fidelity to speak. He asked him before Ukraine, where were the fixed income markets headed and how did Ukraine impact that?

MR. MOORE noted that there was a year of too much fiscal spending and deficit spending and way too much monetary stimulus and with the Russian invasion of Ukraine there was so much fog for investors, it became difficult for asset prices.

MR. SIKES asked how to evaluate U.S. and global recessionists given CPI levels of 7.9 percent, the far-reaching impact of high energy prices, and the general commodities spike the Ukraine conflict had caused?

MR. MOORE said that it was going to be difficult to tighten up the economy fast enough without causing a recession.

MR. SIKES asked how they see a correlation between stocks and bonds evolving?

MR. MOORE said one thing they were watching was the MOVE index, seeing how much gets embedded. They were trying to see who the buyers were and what was the tail of the auctions.

MR. SIKES asked how did they see the European economy being impacted by Ukraine and how did they expect the fixed income markets to respond?

MR. MOORE said that they thought Europe would be more directly hit than the U.S., that they will slow and keep being slow so any rate rises that happen in ECB would be considerably less that the U.S. Federal Reserve.

CHAIR WILLIAMS commented on interest rates in the 70's being close to 20 percent that had been at zero now for long time and was slowly inching up. He asked if things were getting back to normal or were there going to be a lot of consequences?

MR. MOORE said he thought the goal was to get back to normal, that Chair Powell had said that he was going to take the six or seven rate hikes for the year because the market had already given it to him.

MR. SIKES then invited MR. EMERSON from Capital Group and asked him in terms of economic impact and growth implications, how were they thinking about the potential impact in global growth particularly on Europe and the Ukraine?

MR. EMERSON noted that refugee flows would have a significant challenging economic impact on

Europe. He said with regard to energy, the EU said that within a month or two they would be completely independent of Russian coal and would have reduced their dependency on Russian oil and gas by two-thirds by the end of the year. He said there would be an economic hit in the short to medium term, but they were rethinking things such as nuclear, the power line situation, and investing in renewables.

MR. SIKES asked about the potential impact on the U.S. elections.

MR. EMERSON said that the Democrats had a very steep hill to climb and noted that with the low approval rates of Biden and the challenges in the polls that all did not bode well for the Democrats to keep the House. He said that the Senate would be a flip of the coin as to who would be in control. He said Biden was getting bipartisan support for what he's been doing as far as his foreign policy. But he did not think the Ukrainian conflict would impact the voters as much as the economic issues.

CHAIR WILLIAMS recessed the meeting from 10:37 a.m. until 10:50 a.m.

### I. Fidelity Signals

MR. HANNA invited MR. ALEXIEV and MS. MOESMAN from Fidelity to present.

MS. MOESMAN introduced herself and explained she was the day-to-day contact for the staff for various strategies managed on behalf of the ARM Board. She explained that Ms. Cathy Pena, a previous presenter to the board had been promoted as Chief Investment Officer with Strategic Advisers with Fidelity and was no longer a member of the GIS Portfolio Management Team, however MR. ALEXIEV would be the future face of the team and that there would be no change in the terms of the team approach, structure, or process. She said they also had plans to add an additional portfolio manager to the GIS team. She then turned the presentation over to MR. ALEXIEV.

MR. ALEXIEV introduced himself explaining that he was from Bulgaria and that he was part of the portfolio management team. He then turned to the slide presentation and briefly touched on the members of the team.

MR. ALEXIEV moved to page 6 that showed the portfolio performance as of December 31, 2021, commenting that the past two years had been robust on the asset allocation side and security selection side.

CHAIR WILLIAMS asked when they could expect the portfolio to outperform the benchmark and what situations he thought they should expect it to underperform the benchmark: MR. ALEXIEV said that he had been working the past few months with Shane Carson to provide more information about the level of correlation of the outcomes to the benchmark and what they discovered was the outcomes were uncorrelated. He said the goal was to provide uncorrelated source of return. He said the table at the bottom of page 8 showed the correlation of their signals with each other over time.

MR. ALEXIEV then explained the Business Cycle - how the asset prices were influenced by the constant flow from economic expansion to contraction and back. He said assets tend to revert over time toward their Fair Value Levels. He said that assets that are outperforming tend to continue to outperform.

MR. ALEXIEV then moved to page 9 explaining that business cycle transitioned from early to mid-cycle in the beginning of 2021, while both early and mid-cycle promote an overweight to equities and an underweight to Core Bonds, they tend to hold more High Yield bonds earlier in the cycle and transition to international equities as the cycle progresses. He said the reduction in emerging market equities overweight throughout 2021 was due to momentum and discretion of GIS PM team regarding concerns about Chinese slowdown. He explained that inflation protections increased during 2021 due to momentum and discretion that the market was underestimating the longevity of higher inflation and a rising late cycle signal contributed to increased inflation protection in October 2021.

MR. HIPPLER noted that he thought the purpose of the beta of the portfolio was to provide a reduction in overall risk and volatility in beta, but the graph on page 10 showed that it was increasing beta of the overall portfolio.

MR. ALEXIEV explained that the beta would change over time, that they had been risk-on adding beta over one in an environment where equities had gone up 30 percent. He said they can recognize when it is a good time to take risk, get compensated and as the risk/reward ratio shifts, they try to position the portfolio more defensively.

MR. HIPPLER asked if the mandate was supposed to reduce or increase the beta of the overall portfolio; MR. ALEXIEV said that it was not supposed to act for their beta. He said that over time, when they have looked at the correlation of the returns with the portfolio, they have been uncorrelated, so the beta should not go up. He noted that they were trying to deliver alpha on top of the 70/30 benchmark in a controlled way.

MR. HANNA explained that these multi-asset portfolios had elements of tactical asset allocation and what was shown in the graphs was expected. He said they expect the manager to modestly tilt the portfolios over time towards risk-seeking assets in environments where they expect those assets to be rewarded. He said they were adding and subtracting risk in opportune times in the market cycle.

MR. ALEXIEV moved to pages 16 and 17 which explained the current landscape of risks and opportunities. He said the opportunities shown on the left side of page 16 were what was seen in the market, the right side showed the risks needed to balance the portfolio and explained each one. He then referred to page 17 which showed past peak growth within different economies. He said the global economy likely passed its peak rate of growth, but a sustained expansion appeared to be likely. He said that despite signs of late-cycle pressures in the labor markets, they expected the U.S. mid-cycle backdrop to prevail in 2022.

CHAIR WILLIAMS asked if the different regions on different phases of the business cycle travel through the business cycle in a similar manner and was placement based on certain rules or was it the discretion of the team; MR. ALEXIEV said the regions move at their own speed, oftentimes they get clustered together. He said they had a lot of qualitative models that calculate the probability of the cycles, and they perform the calculations across all countries.

### J. PineBridge

MR. HANNA invited MR. KELLY and MS. BOOKER to present.

MS. BOOKER introduced herself by stating that she headed up client relations for the retirement business and covered the Alaska account. She then presented pages 4 and 5 which included a brief overview of PineBridge Investments and the employees. She noted that in 2021, they named a corporate social responsibility officer who works with clients to make sure their goals and objectives are met.

MR. KELLY moved to page 8 which discussed multi-asset teams. He noted that they utilize the investment teams that reside in 15 different countries managing across almost all the asset classes and they see themselves as generalists in the multi-asset team.

MR. KELLY them moved to page 9 and commented on the global equity performance. He said the CPI plus five had been an equity-like return over a long period of time and that the GDAA had also performed an equity-like return for vertical. He then noted the graph on the left showing a 70/30 risk budget. He then moved to page 10 that showed the performance returns as of December 31, 2021.

MR. KELLY moved to page 12 which discussed their investment philosophy as an active, fundamentally driven manager, selecting asset classes using judgment as opposed to quantitative analytics.

CHAIR WILLIAMS asked with the rise of inflation if he thought the CPI plus 5 would still accomplish the objective going forward; MR. KELLY said he believed they could stay ahead of the inflation with the higher risk budget of 70/30, using a rolling five-year period. He then explained that they move into asset classes that they think will be favored of the kind of environment that is present. He noted that certain asset classes perform better under higher inflationary environments. He then moved to page 13 that showed the investment process they use. He said they start with a five-year valuation tool called the Capital Market Line that looks at the next five years and how the backdrop will influence cash flows away from long-term averages and how the pricing of those asset prices will be pushed away from long-term averages.

MR. KELLY then moved to page 15 that showed a snapshot of the types of classic environments. Page 16 showed the consumer disposable income and excess household savings and said it showed the consumer is in great shape and that the economy from the consumer side, can grow faster than what they were used to seeing.

MR. KELLY said that page 17, Global Growth, showed the business investment, which was another key driver, and that the US was seeing the second fastest assent in coming out of a recession. He then moved to page 18 which showed the overall GDP growth trend. He noted that it was a period with somewhat faster growth, which was a good thing but if it happened to quickly, it would be inflationary.

MR. KELLY then moved to page 22 which displayed global savings glut and QE (quantitative easing) have flowed into fixed income and private equity noting that the global savings rate had been edging up for a long time, that capital has been piling up faster than the economy has been growing - a key reason why valuations have become more and more lenient. He said the GDP has been going up and it should be flat. He explained that when its flat, central banks are neither adding to nor reducing liquidity. He noted that when the global savings rate and central bank liquidity growth comes up at the same time, get as much global stocks and bonds in the portfolio as you can afford, because it is the tide coming in. He said for the next five to possible twenty years the tide would be going out, and to keep up with CPI plus five, they have to get into the asset classes that will perform best in that type of environment.

MR. KELLY shared page 29 saying that China was in a policy-driven slowdown last year. He said they were changing all the rules regarding market power, data privacy and private education. He said their Vice-Premier, Leo Hua, said they had gone too far, and China was now reversing a lot of their policies and putting in stimulus. He said one of the things their policy hurt the most was property developers. He noted that the bonds were generally high-yielding bonds, but they had gone into a tailspin and now was a good time to be buying the higher quality China property bonds which were delivering double-digit returns.

MR. KELLY then moved to page 30 and noted that Latin America local currency bonds were very attractive now. He said in 2021, emerging markets faced an early spike in inflation and central banks responded swiftly as was the case in Latin American, which was more vulnerable to food and energy prices. He said they see good prospects for inflation to peak and decline as rapidly as supply issues fade and substantial rate hikes take effect. He noted that Latin America was another example of opportunistic diversification that teams nicely with the board's strategic allocation into big core asset classes.

MR. KELLY said due to the wage price spiral in the United States, another wave of COVID in China and Europe, they have been taking a more conservative approach to the amount of risk they take.

MR. KELLY noted that another allocation they moved into was TIPS, inflation-protected securities and did well on the low-risk allocation.

CHAIR WILLIAMS asked if he would discuss page 24 and the capital market line and local currency views and also asked if they test the forecasts for accuracy and if so, how often; MR. KELLY said that over time they have had 80 basis points. He said they had done at least one-an-a-half percent from the asset allocation judgments and the other half of the alpha comes from the buy and hold of more attractive asset classes above the line.

CHAIR WILLIAMS then asked if emerging markets were worth investing, from either a diversification or a return perspective; MR. KELLY said it depended where they wanted to go – that they were not great fans of China, they love the China property bonds but not the China stock market. He said it depended on how targeted they could be in accessing an emerging market equity, fixed income, or private type of capability.

MR. HIPPLER asked if they select managers on the basis of their race and sex, or on the basis of their competence; MR. KELLY said they were an extraordinarily diverse organization, they have 55 percent in Asia, they are in the Americas, in Europe and in Latin America. He said with the different perspectives, different political systems, and business systems, it gives them an edge to understanding cultures, political systems, and economics, which is a great investment edge. He noted that in Asia, there are more female portfolio managers than male, especially in China.

MS. BOOKER said that in their industry, the war for talent is on and the pool for candidates is very tight. She said that PineBridge has doubled down on widening the pipeline. She said they have partnered with community groups including the Opportunity Network, Futures and Options, GAIN (Girls Are INvestors) and other programs which are designed to make sure that the talent pool becomes larger.

CHAIR WILLIAMS asked if they had a succession plan and if so, could they summarize it; MR. KELLY said that in the investment team they have a very long-tenured team, including in the multi-asset team. He said his goal was to train CIOs because he needs CIO-quality people to interact with the sophisticated clients. He said he reviews with the CEO and the board candidates once a year for succession planning.

CHAIR WILLIAMS recessed the meeting from 12:22 p.m. until 1:30 p.m.

**K. Peer Assumptions, Risk, and Time Horizon**

CHAIR WILLIAMS invited MR. HANNA to speak.

MR. HANNA explained that the intent of his presentation was to bridge the gap between the economic assumptions that the board was looking to set for the actuarial experience study and the board's annual asset allocation process.

MR. HANNA moved to page 4 of the presentation, ARMB Actuarial Assumption History, which he described as a review of where the board had been from actuarial assumption perceptive. He noted that the current nominal return assumption was 7.3 percent but had been above 8 percent for most of the 40-year period the graph covered. He said that inflation was currently at two-and-a-half percent which leaves them with a real return assumption of 4.88 percent. He said the real returns, assumptions for the ARM Board were relatively steady due to the level of risk increasing over time.

MR. HANNA moved to page 5 to look at nominal returns and the comparisons with NASRA data which went through 2020 as 2021 data was not available. He said per NASRA's website, the median was currently below 7 percent. He commented that the gray area on the chart, which represented the 7 to 7.5 nominal return group, of which the ARMB was in, was growing in size. The chart on the right showed a histogram of where other plans were in 2020, noting that the actual range was between 4.24 and 7.75 percent.

MR. HANNA then move to page 6 which showed inflation using the same style of graphs that showed a broad range between 2 percent and 3.75 for the cohort group. He noted that they perform an experience study every four years. He said inflation had been coming down for a long time and that Buck had alluded to that and that it would probably continue to come down.

CHAIR WILLIAMS asked MR. HANNA how many plans were in the data set; MR. HANNA said it was 203 for the nominal return assumptions and 188 for the real return assumptions. He said that since the inflation expectation was at median and the nominal return expectation was above, the real return expectation was also above by the same amount, 4.88 was the assumption versus 4.5 for other plans in 2020

MR. HANNA moved to page 13 which summarized the past four or five slides. He explained that the solid lines were their assumptions over time and the dotted lines were NASRA assumptions over time. He noted several rational reasons why plans may have different assumptions, including differences in the time horizon, capital market assumptions, as well as differences in benefits and contributions that affect the risk tolerance..

MR. HANNA explained that staff used the risk and return data from 51 plans with greater than one billion in assets to provide a detailed comparison of the ARM Board's risk profile compared to peers. He said that there were five to seven dominant investment consultants, each with their own set of capital market assumptions which always differ but were within reasonable range. He said they normalized that by using Callan-only assumptions and a Callan-specific ten-year time horizon. He then moved to page 8 explaining that the median was the triangle and their FY20 asset allocation was the diamond, which showed they did have a higher than median risk appetite and a higher than median expected return that comes from the bond. MR. HANNA reiterated that time horizon was a big differentiator among plans and that it mattered greatly with respect to the ability to tolerate risk.

MR. HANNA said the goal for the defined benefit system was to pay all the benefits when due and the actuaries had done a great job providing forward estimates of the timing and magnitude of the payments. He said the top chart on page 10 depicted those payments with the 2.25 percent inflation adjusted in real time. He said he used Callan's current market assumption to discount the nominal benefits over time. He said the chart showed payments extending to the future by 96 years and appear to peak in 10 to 20 years and start to diminish rapidly at that point. He said the plans were closed and were expected to pay out 71 billion in the future and current forward contributions were expected to cover $8 billion of it. He said they had $33 billion in assets which left $30 billion payments that were needed to be covered.

MR. HANNA moved to page 11 that shows how important the time horizon was in respect to both return and inflation expectations. He said the return expectations were increasing with the time horizon, the longer the appropriate time horizon, the more that would be expected to earn over time. He said that inflation expectations were trending downward over time due to higher expected shorter-term inflation.

MR. HANNA moved to page 12 that discussed benefit payments over time. He said the full expected time horizon of the retirement system was 96 years, with payments decreasing to low levels long before that point. He said the percentage of total benefit payments remaining decrease to 50 percent in 20 years, to 25 percent in 30 years and 10 percent in 40 years.

MR. HANNA moved to page 15 showing the economic assumptions and asset allocations. He said the bottom chart showed the ARM Board's specific version of the graphs at the top of the page. He said the red line showed the standard deviation over time and the numbers were the actual capital market assumptions that were adopted at various points in time. He said in 2019 they moved to a 20-year time horizon for asset allocation, noting that it had been prompted more from an investment perspective than the results of the experience study. He said they tried to think about the right risk posture for the portfolio.

MR. HANNA said he thought the board had an opportunity to come full circle and consider aligning the economic assumptions with the capital market assumptions, since they share the same time horizon.

MS. RYAN asked MR. HANNA to go back to page 10 and said that there were two bills in the legislature and asked what his thoughts were if they did return or have the option to return to a defined benefit; MR. HANNA said that he did not think that it would impact the current situation because they were focused on the current set of assets and liabilities. He said if people had an option to convert, assets would need to go into the system at an amount equivalent to the benefit that would be expected over time. He said it would change the slope of it because there would be new entrants back into the system; MS. RYAN then asked if there was any information that would help them in making that decision; MR. HANNA said that he did not have an answer for that but would give it some thought.

CHAIR WILLIAMS asked MR. HANNA if he was envisioning much difference between the 2021 and the 2020 displayed on page 6; MR. HANNA said he thought it would continue to grow, but that the median may not change. He said that the 2.25 had become more popular and thought it may exceed the 2.50 number.

CHAIR WILLIAMS commented on inflation, its tie to benefits and potential impact. MR. HANNA responded, saying that Buck had done a good job exposing the board to how the inflation assumption impacts the work they do. He said that whatever number the board ultimately arrives at, is the base on which the actuary builds all of their other adders to the inflation. He noted that wages and healthcare were front and center in his mind and that they have very significant adders to that base level of inflation on the front end of the work they do. He explained those adders reach a terminal value with a fixed amount added to that.

### L. Capital Market Assumptions

MR. KLOEPFER explained that he would start his presentation by discussing inflation, the Fed's response, the activities in the Ukraine, and what impacts it has. He noted that they did not have Ukraine built into their ten-year projections and explained that they use a firm called IHS Markit, which is part of the S&P, for an unbiased view of world events. He said the consensus in the asset management world was that the U.S. economy was strong, inflation was a problem, the labor market still had some kinks to work out and the supply chain would get a bit worse due to the geopolitical landscape. He said that he felt that in a ten-year time frame, they were not sure that it was going to materially change things unless NATO gets drawn in. He said the Fed had raised the rates and were watching inflation and that they were concerned but did not think the framework was wrong.

MR. KLOEPFER moved on to page 4 to discuss capital markets projections. He said the projections for the next 10-years were the key elements to set reasonable return and risk expectation for the time horizon, keeping in mind that this was the midpoint of a range that can be wide for some of the asset classes. He said that it was important to use common sense and recent market developments, so the tail doesn't wag the dog.

MR. KLOEPFER then moved to page 5 and said their beliefs were that the long-term equilibrium relationship between the capital markets and lasting trends in global economic growth were key drivers to setting capital market expectations, that long-term compensated risk premiums represent beta exposure to each broad market with limited dependence on successful realization of alpha.

MR. KLOEPFER said that page 6 represented the projections. He said that inflation was at two-and-a-quarter, cash at 1.2 and core fixed income at 1.75, which represented a negative return relative to inflation. He explained that the changes made from last year were very modest. They changed some components within fixed income, primarily high yield, and TIPS, and lowered their expectation for private credit in line with their thoughts on high yield. He noted that they did not change core fixed income or the equity expectations. He noted that there was a summary of the current market on page 8.

MR. KLOEPFER then moved to page 10 which displayed the returns for the S&P 500 by calendar year, noting that it had been a phenomenal ten-year run. He said year-to-date was challenging with a tough start to the year; but S&P was up 16-and-a-half percent, just behind the index for Cambridge Private Equity.

MR. KLOEPFER than move to page 12, a chart they created showing the beginning of the pandemic and how unique the past two years had been with the GDP recovering after the biggest drop in 75 years. He then moved to page 13 to discuss the role of economic variables. He said GDP forecasts provide a rough estimate of future earnings growth while inflation forecasts provide an approximate path for short-term yields. He said they were expecting up to two-and-a-half for the U.S over the next ten years, weaker for the developed markets but stronger for the emerging markets and all below their long-term averages.

MR. KLOEPFER moved to page 15 regarding the Fed's inflation framework. He said the Fed's announced a couple of years ago that they were going to let inflation run hot so they could average 2 percent, but they never really got to 2 and were now saying they were going to let it run a little hotter. He said the chart on page 16 was outdated but that he wanted to show the CPI and PPI through 4th quarter of 2021. He noted that they had been an interesting cycle that's been followed through several components of CPI. He then went on to discuss shut down of production across the globe during the pandemic and said that he thought there was going to be elevated inflation into next year due to the troubles in the supply chain and labor market.

MR. KLOEPFER moved to page 19 which discussed when inflation becomes a problem. He noted that different percentiles of income have been hit hard by the pandemic, but total personal income did not go down during the 2020 recession because of all the support provided. He said the savings rate went up due to people not having a place to spend their money during the pandemic. He said looking at the Fed's balance sheet, there was not much long-term debt. He then moved to page 22 that showed the federal fund's effective rate, and the consumer price index back to the 1960s. He noted that there was a decent connection between the two historically, and then directed the Board's attention to 2010 to present. He said short term rates were held down by policy in response to the GFC and then the pandemic, and that in these more recent years there was clearly a disconnect.

MR. HIPPLER asked why emerging markets underperformed or why would they perform much more competitively relative to U.S. equities in the future; MR. KLOEPFER said they give it a premium because they think it's cheap relative to the U.S. and developed markets overseas. He said it had always been cheaper when looking at price to earnings because it is a bit riskier.

MR. LOZINSKI added that over the long run, they anchor the earnings growth expectation to GDP and still expect GDP growth to be stronger in emerging markets than developed ones. He noted that another potential reason for the underperformance might be related to currency.

DR. MITCHELL asked if they raised military spending worldwide, continued to try to raise consumer spending by free money, and continue sanctions and tariffs was that higher inflation; MR. KLOEPFER said he agreed and thought the Fed was committed to removing accommodation, that they may get nervous if the geopolitical situation continued to worsen or if there is NATO involvement. He said he thought they did need to raise the rates and the phraseology in the Feds was they need to get to neutral as quickly as practicable, but they could lose their nerve if the conflict spills out and gets worse.

MR. LOZINSKI said that he had averaged inflation going back to June of 2021 and figured out that if the average of 6.3 from June to February was maintained for an extended period through the end of 2023, the ten-year average inflation would be 2.8. He said if prices start to normalize, the two-and-a-quarter over a long-time horizon was reasonable.

MR. HIPPLER asked MR. LOZINSKI what would have to happen for him to think that inflation would not be 2.25 going forward for ten years; MR. LOZINSKI said that the Fed was committed to not letting inflation get to where it was in the 70s. He said that what would change his mind would be loss of confidence in the Fed's willingness to raise rates to tamp down inflation.

CHAIR WILLIAMS asked if they would consider it irrational if they held firm at two-an-a-half percent; MR. KLOEPFER said no he did not think it was irrational.

MR. LOZINSKI moved to page 24 to discuss fixed income.. He said they use the building blocks approach which included income or yield from holding bonds, capital gains/losses. He then touched briefly on the 10-year projections. He said there was not a lot of change, especially for the investment grade asset classes.

MR. LOZINSKI then discussed the yield curve which he described as the most critical component of a bond model or bond assumption. He said they looked at the long-term relationship between inflation and cash and then assumed that cash gets to that long-term premium inflation over a 30-year horizon. He said they also assumed treasuries would reach a long-term premium over cash over a 30-year horizon.

MR. LOZINSKI said the chart on page 26 displayed the rate movement of last year, noting that it did not rise as much as they thought. He said the chart showed that for high yield, spreads tightened so much that the overall yield on the benchmark declined over that time period. He said the slide on page 27 showed the return components that they have for the core fixed income assumption.

CHAIR WILLIAMS asked if there was any expectation that capital appreciation would show a positive at some point: MR. LOZINSKI said not in their forecast because they assume a smooth path from where rates started to the long-term equilibrium, that they would probably rise and then fall a bit and then they might rise again. So, in practice there may be some capital appreciation.

MR. LOZINSKI then moved to page 28 showing key assumption changes related to high yield for 2022. He said last year spreads were above median and this year the spreads were in the bottom decile. He said if spreads rise back to long-term medians in addition to rising risk-free rates, it will create a stronger headwind to performance.

MR. LOZINSKI moved to page 29 which showed high yield starting yield vs. forward 10-year return, noting that there had only been a few periods where the subsequent 10-year return beat the starting yield.

MR. LOZINSKI showed page 30 noting that since inflation assumption was flat, that implied their raising yield forecast. He said they moved from nominal duration to using real duration which gave TIPS a bigger capital loss hit as rates rise.

MR. LOZINSKI moved to page 32, U.S. Equity Assumptions and said that COVID-19 had caused a decline in yields around the world and had still not reached their pre-pandemic levels but were moving back up towards the long-term average.

MR. LOZINSKI said slide 34 showed the current earnings growth projections as of December 2021 and that they were likely to outpace return of 29 percent. He said because of the strong earnings growth, there was a huge run at the stock market from 2020 through 2021 and that the graph on page 36 showed it best.

MR. LOZINSKI said page 37 showed the mid and small cap relative valuations relative to large cap, which supported their continued expectation that there will be higher returns from small and mid-cap than from the large going forward which is the building blocks approach they take. He said page 38 was mostly a logic check they use to check the numbers they've come up with from the building blocks approach.

MR. LOZINSKI said that page 39 was the non-U. S. developed markets which tend to generate returns slightly differently than the U. S. He said they have lower earnings growth reflected at times in the lower multiples that investors were willing to pay, but higher dividend yields. Page 40 contained the same type of data, but for the emerging markets with a lot more dispersion. He said in general you get more earnings growth in emerging markets than in developed non-U.S. markets, but that you also get higher dividend yields in the emerging markets than you do in the U.S.

MR. WILLIAMS asked if the dividend yields in emerging markets factor in the currency adjustments or the difference between U.S. dollars and local currency; MR. LOZINSKI responded affirmatively, saying they were based on the U.S. dollar for indexes.

MR. LOZINSKI said page 41 was a summary of all the building blocks that he had gone through. He said they had dividend yields, buyback, and inflation, and because the returns were in nominal terms, earnings growth and in the case of large cap U.S. evaluation adjustment. He said they lowered the dividend yield in all the cases because of companies protecting capital and where prices are. He said they had also increased the inflation expectation to offset each other.

MR. LOZINSKI said for alternatives, they didn't change anything for public equities or private equities in terms of returns. He also said that their core fixed income and real estate assumptions didn't change either, but they did bump hedge funds because those building blocks included cash and their cash assumption rose; they bumped it up ten basis points.

MR. LOZINSKI noted that the biggest changes were to private credit on page 47. He said it represented middle market direct lending and briefly discussed each chart and how trends played into their lower expectation for this year.

MR. KLOEPFER moved to page 49, which showed a summary of Callan's long-term capital market assumptions (2022 – 2031). He said the biggest changes were cash up 20 basis points, inflation was bumped up from 2.00 to 2.25 percent and no change in return or risk assumptions for public equity, core fixed income, or short duration. He then moved to page 52 that showed a graphic depiction of risk and return for each asset classes over time.

MR. KLOEPFER moved to page 53 which contained a historical comparison of actual returns versus projections from 1989 to 2012. He said for the most part they were within one standard deviation range and somewhat below S&P 500. He said page 54 showed the return projections for major asset classes for 1989 - 2022, then jumped to page 56 showing expected returns over the past 30 years.

MR. KLOEPFER moved to page 58 to show the targets within the ARMB system. He said they had modeled the portfolio with some customization in regard to the ARMB cored fixed income expectations and the components of real assets listed with their weights. He said the overall capital market expectations did not change much during the past 10 years. He said the correlation assumptions on page 59 only had a modest adjustment.

MR. KLOEPFER turned to page 60, stating that as the time horizon grew beyond 10 years, the capital market expectations increasingly incorporate equilibrium returns. He said they were focusing on a goal of 4.88 real return, which was the nominal return assumption minus the actuaries' inflation assumption shown on page 62. He said page 63 showed the twenty-year mark with the return expectation for compound 6.88 as opposed to six-and-a-quarter. He said page 64 showed the comparison between last year's projection and the current year, noting that the nominal compound return was similar due to higher inflation expectation and the real return was a bit lower. He said the goal was 4.88 and with the assumptions and the portfolio in 20 years it would be 4.63, within 25 basis points.

MR. HANNA asked if the Board adopted a 2.5 percent inflation expectation, was there an expectation to further compress real return, or would it pass through to the nominal return; MR. KLOEPFER said he would pass it through on an assumption basis over the next couple of years; MR. HANNA asked him if he made his decision to compress the real return effectively when he increased inflation the last year; MR. KLOEPFER said yes; MR. HANNA asked him if he was inclined to move inflation to two-and-a-half and not further compress the real return: MR. KLOEPFER said yes.

MR. HIPPLER asked what he would recommend as an alternative to hedge against volatility; MR. KLOEPFER said they believed in the roles of fixed income but agree that the returns do not look very attractive.  He added that fixed income provides protection as shown by the events of the past three weeks.

MR. HIPPLER then asked MS. RYERSON, who used to run a pension, what she would have done in a situation where there was 25 percent of the portfolio getting a negative real return to reduce risk; MS. RYERSON said she would have done just as the consultants recommend, even though it seems to be counterintuitive.

COMMISSIONER MAHONEY asked if when rolling the forecasts out to other retirement plans, were they having discussions about changing asset allocations; MR. KLOEPFER said that as an advisor, his goal was to beat inflation, he needed more of the higher returning asset classes, so it tilts toward equity as a solution.

**UNFINISHED BUSINESS** - None.

**NEW BUSINESS** – None

**OTHER MATTERS TO PROPERLY COME BEFORE THE BOARD** - None.

**PUBLIC/MEMBER COMMENTS**
MS. JONES said that she had emailed written comments to the board prior to the afternoon session. She said there was one from Happy Allen on investment governance concerns relating to a company held within private equity funds as well as written versions of the testimony provided yesterday from members of the United Food and Commercial Workers International Union.

**INVESTMENT ADVISORY COUNCIL COMMENTS**
MS. RYERSON commented on page 655 of the Board packet and noted that every board would love to be in the top quartile on a regular basis, that to be above median for all those time periods was amazing. She also commented on the well-balanced asset allocation and noted that the fixed income team had summarized it by saying "we're not trying to hit the ball out of the park, we're trying to hit that benchmark on a very consistent basis".

DR. JENNINGS said that he found the geopolitical assessment informative, that the geopolitical divestment in emerging market conversations they've had recently encouraged thinking about simpler and less global portfolios. He said he found the PineBridge presentation useful, mind expanding an thought provoking - that the manager's comment regarding Chinese property bonds was a little eye-opening and highlights the idea of diversification. He encouraged them to embrace discomfort and to balance it with good fiduciary prudence.

DR. MITCHELL said he agreed with the comments about the excellence of the fund's performance for the long time periods. He said he also liked the presentation on the fixed income and cash management as it showed a very conservative approach. He likened it to insurance and said it was the anchor of the portfolio and advised keeping a responsible allocation in fixed income. He also commented on inflation, private equity returns, anti-regulatory environment, and commented that the returns in the past may not be an indication of returns in the near future.

**TRUSTEE COMMENTS**

MS. RYAN commented that the staff had lined out an incredible lineup of speakers.

CHAIR WILLIAMS once again welcomed new board members, MR. M. WILLIAMS, and MS. RYAN, and thanked the staff for everything that was put together.

**FUTURE AGENDA ITEMS** - None.

**ADJOURNMENT**

There being no objection and no further business to come before the board, the meeting was adjourned at 4:07 p.m. on March 18, 2022, on a motion made by MS. RYAN and seconded by MR. HIPPLER.

Robt L. Williams

Chair of the Board of Trustees
Alaska Retirement Management Board

**ATTEST:**

Michael Williams

Corporate Secretary

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