State of Alaska
ALASKA RETIREMENT MANAGEMENT BOARD
DEFINED CONTRIBUTION PLAN COMMITTEE MEETING

Alaska State Museum – Lecture Hall
395 Whittier Street
Juneau, Alaska

March 28, 2018

ATTENDANCE

Committee Present: Bob Williams, *Chair*
Tom Brice
Rob Johnson
Commissioner Leslie Ridle
Norm West

Committee Absent: None

Department of Revenue Staff Present:
Pamela Leary (Director, Treasury Division)
Bob Mitchell (Chief Investment Officer)
Victor Djajalie (State Investment Officer)
Shane Carson (State Investment Officer)
Michelle Prebula (State Investment Officer)
Kekama Tuiofu (State Investment Officer)
Kayla Wisner (asset accounting)
Stephanie Alexander (Board Liaison)

Department of Administration Staff Present:
Ajay Desai (Director, Division of Retirement & Benefits)
Kevin Worley (Chief Financial Officer, Div. of Retirement & Benefits)
Kathy Lea (Chief Pension Officer, Div. of Retirement & Benefits)

Others Present: Liz Davidsen (Alaska Director, Empower Retirement)
Stuart Goering (Department of Law, ARMB legal counsel)
Sam Trivette
Paul Erlendson (Callan Associates, Inc.)
Chris Breckon (MSCI ESG Research)
Guillermo Cano (MSCI ESG Research)

I. CALL TO ORDER

CHAIR BOB WILLIAMS called the meeting to order at 3:30 p.m.

II. ROLL CALL
Three committee members answered the roll call to form a quorum. Commissioner Ridle arrived directly after roll call, and Mr. West joined the meeting in progress.

III. PUBLIC MEETING NOTICE
MS. ALEXANDER confirmed that public meeting notice requirements had been met.

IV. A. APPROVAL OF AGENDA
MR. JOHNSON moved to approve the agenda. MR. BRICE seconded.

MR. BRICE requested an amendment to add, following public/member participation, a couple of items that he and the Chair had discussed. One was a discussion on Monte Carlo analysis methodology and the background for the PERS (Public Employees' Retirement System) and TRS (Teachers' Retirement System) defined contribution plans. The other topic was a cost comparison for employers to provide Social Security and SBS (Supplemental Benefit System) for TRS participants.

As maker of the motion, MR. JOHNSON indicated he agreed with changing the agenda as Mr. Brice described.

There was no objection, and the agenda was approved as amended.

B. APPROVAL OF MINUTES – December 6, 2017
MR. BRICE moved to approve the minutes of the December 6, 2017 meeting. MR. JOHNSON seconded. The motion passed without objection.

V. PUBLIC/MEMBER PARTICIPATION, COMMUNICATIONS AND APPEARANCES
When the Chair opened the floor, no one present at the meeting or listening by telephone indicated they wished to speak to the Committee.

(Added agenda item) MONTE CARLO ANALYSIS METHODOLOGY AND BACKGROUND FOR PERS AND TRS DEFINED CONTRIBUTION PLANS
MR. BRICE voiced his understanding that there had been some conversation between the Committee and members of staff to have a discussion about this topic.

CHAIR WILLIAMS deferred to Chief Investment Officer BOB MITCHELL.

MR. MITCHELL explained that between meetings a question arose about the underlying assumptions in the Monte Carlo model of which he presented the results at the December meeting. The results included assumptions about inflation and payroll growth. Staff also used Callan's capital market assumptions over an 80-year window and applied those to the Target Date Funds. They applied the standard contributions for various cohorts of employees, including PERS with SBS, TRS, and Police and Fire. They subsequently added a fourth component that

included TRS plus an employer contribution that equaled what the employer contribution would have been to SBS, had they made that contribution voluntarily as part of a deferred compensation plan. Staff then evaluated outcomes at retirement and assumed that retirees spent an amount that equaled 70% of their final salary, adjusted for inflation, during retirement. They evaluated whether their retirement assets survived over 30-year periods, in five-year increments. The question was the probability of various cohorts of the retirement plan populations having sufficient assets at retirement to spend for 30 years.

MR. MITCHELL said the broad results were as follows:

- For PERS plus SBS, the model suggested that a retiree had about a 70% probability of having assets that survived 30 years, if they spent 70% of their final income in retirement and grew that spending with inflation over time.
- For TRS participants, the probability of having assets that survived 30 years was slightly above 29%.

MR. BRICE requested that the Committee have a more in-depth conversation at the next meeting, because the results are an underpinning aspect of the whole defined contribution plan and the importance of a secure retirement.

CHAIR WILLIAMS asked how expensive it was for staff to do the Monte Carlo analysis on the defined contribution plans, if there was value in running it more often, or if the assumptions changed enough to make it worthwhile.

MR. MITCHELL replied that the Treasury Division staff subscribes to software that is an add-in to Excel that enables them to do Monte Carlo simulations. Staff built the model, and there is an initial upfront cost to building the model. Once it is in place, they can run variations fairly quickly. He added that subsequent to the December meeting, Treasury staff participated in the meeting with the Division of Retirement & Benefits (DRB) staff in the Department of Administration talking through the Monte Carlo analysis. Part of the discussion was about whether to continue to rely on the Monte Carlo simulation model or rely on a deterministic model that had been developed by DRB. The issue is about potential confusion if there are two different groups with two different models analyzing the defined contribution plan retirement situation. After that discussion, Treasury staff stood down from the Monte Carlo model and have not looked at it actively since that time, pointing people to the Department of Administration for their deterministic model. Each type of analysis has its pluses and minuses, but the broader issue is to communicate one message.

COMMISSIONER RIDLE stated there are currently two bills in the Legislature, SB212, which affects the Police & Fire (public safety employees statewide), and HB83, which affects all State employees (including teachers). The Department of Administration and the Division of Retirement & Benefits have had discussions with the bill sponsors and supporters. She did not think they came to a total decision on which model to use, but they are asking for some more analysis of both bills from the actuarial groups.

CHAIR WILLIAMS asked if the results from the deterministic model were drastically different

than the Monte Carlo simulation model results.

MR. MITCHELL characterized the outcomes as generally similar. He added that the models are approaching retirement success slightly differently. The Monte Carlo simulation model looks at the probability of success, i.e., positive retirement balances. The DRB model looks at a participant retiring and taking out an annuity, and what the replacement income percentage is likely to be.

CHAIR WILLIAMS remarked that the outcomes from both models indicated there are challenges to plan participants achieving retirement success.

(Added agenda item) COST COMPARISON FOR EMPLOYERS FOR SOCIAL SECURITY AND SBS FOR TRS PARTICIPANTS

CHAIR WILLIAMS asked if teachers can participate in the State's SBS (Supplemental Benefit System).

COMMISSIONER RIDLE said no, therefore, DRB would not run a model on that. Based on the past presentations on Social Security, however, it could make sense to run a model on Social Security for TRS participants.

MR. BRICE said he understood it would require a change in statute to allow teachers to participate in SBS. He was interested in the cost under the assumption that the current SBS was applied to TRS participants.

COMMISSIONER RIDLE responded that she thought TRS could not enter SBS because of an Internal Revenue Service (IRS) issue.

KATHY LEA, Chief Pension Officer in the Division of Retirement & Benefits (DRB) in the Department of Administration, stated that a Social Security rule dictates that no one but a brand-new entity can enter SBS. Employers are either in voluntary Social Security, mandatory Social Security, or SBS. There are some employers that use PERS as their Social Security replacement plan. So absent becoming a brand-new entity, such as the Haines Borough and the City of Haines combining and being allowed to come into SBS, SBS is not open to other employers as a Social Security replacement. Regarding cost, she added that the employer contribution for Social Security is 6.2%, and for SBS it is 6.13%.

CHAIR WILLIAMS said the information about Social Security and SBS that the Committee has learned in the past year has been helpful. One thing is that the door is locked for TRS to participate in SBS.

Chief Financial Officer in the Division of Retirement & Benefits KEVIN WORLEY reminded the Committee that one option available for TRS is a vote for Social Security (as Melanie Helmick explained in a previous presentation).

Returning to the original question, COMMISSIONER RIDLE indicated that DRB could run a

model with a Social Security component in it for TRS.

MR. WORLEY said there is also a 6.2% employer cost for Social Security that could take away from staffing of school districts.

MR. BRICE said that is what school boards and municipalities are for. They are also having problems in terms of attracting people and the high cost of training. Having Social Security coverage might make employment there a lot more attractive and cut the staff turnover rates substantially.

VI. CHIEF PENSION OFFICER REPORT

A. Division of Retirement & Benefits Update

MS. LEA reported that DRB recently released an employer survey of nine questions. The purpose is to determine the level of employer engagement with their employees when it is time for either the DRB representative or the Empower Retirement representative to visit, and to materials the Division distributes to encourage savings and participation in the Deferred Compensation Plan (where applicable). The survey will be in effect until the end of May. The survey results will be used to design some of the offerings at the employer conference scheduled for October 3-5 in Juneau. The overall theme for the conference will be ways to help the employer focus on and engage in their employees' wellness and the reasons they want to do that.

Addressing statistics on outreach in the first quarter of 2018, MS. LEA stated that DRB counselors are traveling this quarter and so statistics are compared to the same quarter in 2017 when they did not travel. DRB counselors traveled to Mat-Su, Fairbanks, Northwest Alaska, and Southeast Alaska and contacted 885 members this year, compared to 410 member contacts for the same period last year. Counselors are able to do much better at counseling members when they do it face-to-face.

MS. LEA said the Division contacted an additional four employers, which resulted in 82 members contacted. They also had ten specific employer requests to come out and provide counseling, which they did. That resulted in 289 members contacted.

LIZ DAVIDSEN, director of the Empower Retirement office in Anchorage, cited the retirement readiness reviews they do as responsible for 4,000 people keeping their money in the system at retirement versus leaving the system. The number of rollovers is increasing every month. Walk-ins and calls to the Anchorage office are up. They are doing an average of 142 retirement readiness reviews per month. Empower partnered with the DRB counselors to get out to other locations, whether they did readiness reviews or simply offered to help.

MS. DAVIDSEN mentioned the public testimony on behalf of firefighters at the last committee meeting. Empower went to the municipality to talk to the new class of enrollees about their retirement plan options and offer help. Last year Empower was visiting roughly seven locations a month and now they are going to an average of fourteen locations a month. This month alone they did 30 visits around the state.

MS. LEA stated that DRB relies heavily on Empower to contact the defined contribution plan members. DRB receives feedback from DCR members and its field representatives that once members understand what the plan is comprised of they are a lot more satisfied with the plan. DRB is making a push to have more contact with the membership so people understand what they have. By extension, it is important for DRB to keep the Committee informed about what the Division and Empower are doing in that respect.

MS. LEA said the Division has developed a video production schedule to place all the DRB seminars into video form. A member will be able to access the seminars 24-7 from anywhere and get the education they need about their benefits. The first full seminar made available on the web site will be on the defined contribution plan, and that will take about a year to complete.

MS. LEA reported that DRB will hold an event with Empower on April 3-4 where they will change somewhat the direction in marketing the plan. Management's observations and feedback from counselors in the field over the past few years indicate a real difference in engagement across the generational lines. There are three generations in the workplace, and they are very different in how they want information delivered to them and how they can consume that information. DRB and Empower will look at the communications they provide about saving for the future, about financial wellness and about retirement readiness, specifically for those different age groups. For example, a retirement readiness review attracts the Baby Boomers and older Gen-Xers because the word "retirement" is in it. If DRB rebrands that service and calls it a financial wellness review, then it will get attention from the Millennials. DRB and Empower will create a two-year schedule of their marketing efforts and determine what the measurements will be and how to gauge success on those efforts.

B. Proposed Legislation Update

MS. LEA briefly reviewed the status of proposed legislation affecting the retirement plans.

COMMISSIONER RIDLE mentioned HB395, a bill to create a Retiree Health Plan Advisory Board, which the Department is following. She noted that the Governor appointed a Health Plan Advisory Board last fall, so it seemed like a new board would be redundant.

MR. BRICE remarked that the Governor established the current board under an administrative order. Having the board established in statute would give it more permanence. COMMISSIONER RIDLE said her concern was that the bill has a radically different board than the current board.

VII. DEFINED CONTRIBUTION PLAN INVESTMENT REPORT

A. Update on Research for Disbursement Options

MR. MITCHELL provided an update of Treasury Division and DRB efforts to identify viable retiree income solutions for defined contribution plan (DCR) participants. Following the December meeting, they had a week-long series of meetings that involved eight providers of various types of retiree income solutions coming to Juneau. These firms were generally

identified after a conversation with Callan Associates about best-in-class providers of immediate lifetime annuities, deferred annuities, and a guaranteed minimum withdrawal benefit. The last is fairly nuanced and complicated, but it boils down to having an option where a participant can elect to place their money with a firm that will manage it in a 60% equity/40% fixed income allocation with a withdrawal plan that they identify. If those assets are consumed, an annuity will kick in with a minimum benefit for participants for life.

MR. MITCHELL stated that staff did fairly extensive analysis of various iterations on target date default paths that would include a transition from the more traditional asset-gathering focus into the provision of various types of services. They also looked at structured spending programs where assets can be structured in a way that provides certainty in income for a period of time and then have a deferred annuity kick in. The team expressed a range of opinions, but a clear unifying apples-to-apples comparison was lacking. Since the final meeting they had, they have reached out to some of the providers of those services, as well as other firms they are familiar with, in an effort to have some basic modeling to compare the different retiree income solutions. They are in the process of having those discussions now. He hoped to be able to share a clear outcome of how to provide visible, certain, liquid income options for retirees with the Committee at its June meeting.

MR. MITCHELL said several policy issues will probably come into play that staff will evaluate as well. Should retiree income solutions be integrated with the Alaska Target Date Funds? Should the Target Date Funds glide path be modified to transition into a retiree income provider as part of the default option? Should participants be given an opt-in or opt-out option? Should the assets that are integrated be part of the plan or outside of the plan? There is an evolution from a legal perspective on fiduciary standards as they apply to default solutions, and staff is being mindful of that.

CHAIR WILLIAMS asked if staff had a sense of how high of a premium participants would be paying for something.

MR. MITCHELL replied that if a retiree income solution is part of a default option it gets closer to institutional pricing because the vendor has some visibility on volume. If a solution is an optional feature, one could look at the existing annuities, where there is 2% take-up in some of the term annuities that are being offered to retirees now. A default option means considering the fiduciary responsibility that goes with that.

MR. MITCHELL pointed out that annuity pricing is a function of interest rates, and it is a low-interest-rate environment right now, so annuities do not look particularly attractive. If rates go up, that dynamic changes, but it would change for all the retirement income options. One cannot be thinking of just current market circumstances but about how a solution will evolve over time.

B. Environmental, Social, and Governance (ESG) Fund

SHANE CARSON, Manager of External Equity & Defined Contribution Investments, gave a presentation called “Update on Directives Stemming from Callan Investment Structure Evaluation” dated March 2018 (*slides on file at the ARMB office*). He said that at the September

2016 ARMB meeting representatives from Callan Associates, Inc. presented the results of their defined contribution investment structure evaluation. Callan made several recommendations to the Board from that evaluation. At the March 2017 meeting and October 2017 meeting of this committee, staff posed responses to the Callan recommendations, which subsequently resulted in the Board delivering several directives to staff.

The first Board direction to staff was to terminate the SSgA Global Balanced Fund and map the participants from that fund into the Alaska Long-Term Balanced Trust. This action was completed on February 9, 2018.

The next action was regarding capital preservation. The Board directed staff to combine and add a stable value option in the Defined Contribution Retirement (DCR) Plans and maintain the US Treasury Money Market option across all plans. The ARMB also directed staff to remove the Alaska Money Market Trust as a stand-alone investment option from the DCR Plans and map participants into the US Treasury Money Market option. Staff has been working with Empower, DRB, and T. Rowe Price to develop an implementation plan. The target implementation date is June 1, 2018.

MR. MITCHELL added that there are currently two stable value funds; one for the Deferred Compensation Plan and one for the SBS. The process of extending the stable value funds for the DCR plans for PERS and TRS also includes combining them into one fund. Staff did analysis and believes that no existing participant will be disadvantaged. Having one large stable value fund will provide scale early on for the DCR side. It will also, prospectively, give T. Rowe Price more negotiating power when they go to get insurance wraps that are part of the stable value feature.

MR. CARSON moved on to the Board's direction for fixed income options in the participant-directed plans. Staff was directed to create a stand-alone, passive fixed income investment option benchmarked to the Bloomberg Barclays U.S. Aggregate Bond Index and map the existing stand-alone fixed income options to it. He said he would give a presentation on this later on.

On glide path implementation review, MR. CARSON stated that he had told T. Rowe Price that at some point later this year staff would be evaluating the current target date funds glide path. He anticipated giving the Committee or Board a presentation at that point.

Callan's recommendation in its investment structure evaluation was to combine the existing TIPS (treasury inflation protected securities) and REIT (real estate investment trust) options into a single multi-asset class real asset fund. The ARMB tasked staff with exploring product offerings and to bring for consideration at a later date a multi-asset-class real asset investment option or a recommendation of no change to the existing lineup. MR. CARSON said he was currently working on this and anticipated having a recommendation to the Committee in December. His task at this point is trying to determine the overall strategy intent of the particular investment option, i.e., how the investment option is tilted toward capital appreciation or as a diversifier will directly impact the underlying investments in this fund. He is trying to develop where on that spectrum would be an advantage to participants if they had this option.

MR. CARSON stated that Callan had originally recommended removing the existing Environmental, Social, and Governance (ESG) Fund and provided their reasons for that recommendation. Staff had responded that they would like to maintain this option in the participant-directed plans. There have been several meetings on this.

MR. JOHNSON asked if there had been any push back from moving participants from the SSgA Global Balanced Fund to the Alaska Long-Term Balanced Trust. Further, he asked which of the pending actions staff anticipated the most push-back coming from the plan participants.

MS. DAVIDSEN stated that nobody had been asking participants for their thoughts on this.

MR. CARSON said he expected the most push-back if the ARMB were to eliminate the ESG Fund option, which was not what staff intended to recommend. This topic has been in front of the Committee and the full Board a couple of times and has generated quite a bit of discussion. He provided a brief history of the environmental, social, and governance investment option that started in 2000 and which Allianz Global Investors assumed management of in 2008. The presentation that State Investment Officer Mike Barnhill gave in December 2017 resulted in a motion that basically asked staff to come back with a recommendation, among other things.

MR. CARSON read the December 2017 motion into the record: The ARMB modify the participant-directed socially responsible investment option by (a) changing the ESG criteria, (b) changing the manager, (c) adding new manager(s), (d) changing the benchmark, and/or (e) providing additional education to members; and direct staff to provide recommendations regarding the modification option or options the Board selects.

MR. CARSON reviewed what the existing ESG option looks like (*slide 3*). Allianz actively manages the ESG option in the participant-directed plans, but they do it with the MSCI-USA ESG Leaders Index as the investable universe. The index is domestic equity, large- and mid-cap companies, and it is designed to have a relatively low tracking record to the underlying equity market. A key component of this particular index is that it will not deviate far from the MSCI-USA Index or underlying market-cap-weighted equities.

MR. CARSON showed a graph of the ESG Fund account balance to demonstrate its usage by participants over time. He noted the significant decrease in participant usage up until 2015, after which it basically flat-lined.

Because the MSCI-USA ESG Leaders Index is a critical component to staff's recommendation, MR. CARSON said he had asked Mr. Chris Breckon and Mr. Guillermo Cano from MSCI ESG Research to discuss the methodology developed for this index, the research that is embedded within the methodology, and what they are seeing in the marketplace.

(*A copy of the MSCI ESG Research slide presentation, dated March 2018, is on file at the ARMB office.*)

MR. BRECKON explained who MSCI is and where they sit in the industry, the motivation for discussing ESG, and the ESG and socially responsible investing landscape. He also gave a quick review of the vocabulary and some conceptual framework for the terms, because ESG is a niche in the industry that is growing quickly and can be confusing.

He started with a quick overview of MSCI ESG Research, a division within MSCI. They lead the industry in providing ESG and socially responsible data primarily to institutional clients, with some presence in broker-dealer and retail segments. He said the reason people are seeing ESG investing more often is: (1) because the world is changing (rising complexity, changes in the regulatory landscape, and rising business standards), (2) investor attitudes are changing, and (3) the availability of data in the last five to ten years has vastly expanded as the sophistication of data collection and storage has evolved, and it is possible to measure things that were previously considered niche or non-traditional financial data. For example, it is possible to measure the water table data for any given county or jurisdiction globally, which is important if you are interested in investing in bottlers or a company that consumes water as a large part of their investment process.

MR. BRICE asked if MSCI ESG Research looks at labor standards.

MR. BRECKON said they did. They input publicly available data from about 1,200 sources globally. Labor standards and compliance with global labor norms are part of that process.

MSCI sees trends within the asset owner community to push for ESG integration, not only within defined contribution plans, which are increasingly a part of the conversation, but also enterprise-wide within a given organization. Governance is frequently becoming a topic where asset owners can group together and drive change through proxy voting and other measures. Second, there are long-term risks that are being recognized and priced in. Reinsurance companies, for example, already incorporate climate risk and the change in rising sea levels to how they insure physical assets globally. There are also ways to measure if a company treats its employees well, because generally the employees perform better.

Regarding the regulatory landscape from a fiduciary point of view, MR. BRECKON said it is projected that about 65% of total global assets under management will be influenced by some sort of ESG regulations, mandates, investor initiatives, or clarifications by regulators. MSCI is seeing these predominantly and somewhat expectedly being driven out of Europe first, where a lot of these concepts had their investment pieces begin. Important to Alaska would be the recent U.S. Department of Labor clarification letter that stated that incorporating ESG can be included as part of the definition of a fiduciary. Provided the other fiduciary standards are being met, ESG can be part of the analysis for inclusion in a portfolio and investment decision-making.

MSCI has seen in the U.K. the financial stability board actually going one step further and saying that not only can it be included, it *should* be included in the fiduciary standard. One practical application of this is in California. Public pensions there have for regulatory reasons decided to divest from investing in tobacco. It has hurt their short-term performance, and a consultant a

couple of years ago reminded them of how much money they have left on the table due to divesting. The pensions that decided to do this have taken the longer point of view and decided, as a universal owner large enough essentially to take the view of owning part of the economy through their size, that the long-term deleterious effects of tobacco on society will ultimately represent a poor investment thesis. That has yet to be played out.

MR. BRICE posed a hypothetical situation where the ARMB found one of its investment managers has taken a non-union position on an organizing drive, and the ARMB expresses the concern that maybe it should be in a neutral position.

MR. BRECKON said it was a great example and a segue into the vocabulary and conceptual framework part of the presentation. Mr. Brice's example would be more toward the side of the spectrum that takes an ethical, philosophical, or moral point of view.

MR. BRECKON stated that ESG, as it is being framed and discussed now, is solely a question about risk. One organization the Committee may hear about in some of the due diligence that is being performed is the idea of the PRI or Principles for Responsible Investment, included in the slides for reference. It is a good third-party organization and a framework to institute responsible investment. Those who have signed on to the PRI have committed to six principles for responsible investment. The assets under management that those organizations represent, which number about 1,500 now, represent over $60 trillion globally. It is clearly a trend upward, and both participation and the dollars represented by that participation are growing fast.

MR. JOHNSON referred to the statement earlier that Department of Labor (DOL) standards talked about ESG as being a permitted part of analysis and within fiduciary standards. He asked if that was just with respect to looking at ESG and selective decisions and not a determination that an ESG fund is or should be included.

MR. BRECKON replied that the DOL letter was speaking more broadly to the investment decision process across the organization.

MR. JOHNSON asked if MSCI had ever heard of someone being sued for failure to provide an ESG option in their list of investment choices for participants.

MR. BRECKON said not for that specific action.

He continued with a slide on the motivation for ESG integration within investment decision-making (*slide 11*). He said a good amount of academic research and practitioner research has taken place within the marketplace to show that poor ESG performance is indicative of a higher cost of capital. It is indicative of higher volatility in security prices, and it is also indicative of a higher likelihood of accounting irregularities and performance. Deutsche Bank did a paper, using MSCI's data and other data sources, to review over 2,200 academic papers spanning the last four decades that showed that about 66% of the time incorporating ESG had either no effect or a positive effect when done from a risk point of view.

MR. BRECKON stated that the performance question is almost always part of the first conversations they have with clients. It is commonly misconstrued that investing along ESG lines will automatically introduce some sort of volatility and most likely a performance detriment to the portfolio returns. The evidence shows the contrary, that if ESG is integrated from a risk framework, investors can have better risk-adjusted returns. Many of the ESG indices do show this result. The timeline starts around 2007 for some of the older indices of this regard, but so far many of the results are positive. Performance should not be the first and foremost consideration in one's mind when thinking about an ESG option for the plan. However, if all you do is screen out companies based on the moral, ethical or philosophical point of view, there is a good amount of data to show that performance detriments will likely happen.

MR. BRECKON showed a slide of the ways to approach ESG investing (*slide 14*). One was based on values and impact, or non-financial objectives. The second was based on integration, or financial objectives. The first approach based on values is socially responsible investing. This is the framework by which companies are excluded from the portfolio due to some ethical, moral or philosophical constraint. Very typical examples are no alcohol, no tobacco, no business activity XYZ. There are many providers, MSCI included, that can provide lists to do that screening. It usually happens at a compliance level after the work is done for company selection. It is more than likely, but not always the case, that sooner or later companies that are screened out will outperform, so by excluding them the portfolio may experience a lower investment result.

Impact investing is a relatively new concept to the niche. It generally involves positively screening companies for their involvement in the business activity. Two examples are green bonds, which finance environmental projects, and data sets that allow you to align to themes such as gender equality or improvement in access to water.

MR. BRECKON next addressed ESG integration, which is completely different than ESG investing based on values and impact. ESG integration is about access to data that is not fully incorporated in traditional financial analysis. Purely from a risk perspective, industry by industry, what are the key risks that a company faces. Once they answer that question, if the answer is in the affirmative, they can start asking how well a company manages that risk compared to their industry peers. While you cannot tell what the controversy is or what might happen to affect a security price, you can say if one company warrants extra caution compared to other companies. If poor performers are screened out, investors can get some superior risk-adjusted returns. That is the solution that Mr. Mitchell and Mr. Carson are suggesting is a transparent and repeatable methodology by which to sort out ESG performers, together with a little screening to satisfy the moral, ethical and philosophical constraints imposed by certain participants in the plan, and to bring those two together in a balanced way that has a solid performance record.

MR. JOHNSON asked if there are providers that, instead of offering an independent ESG fund option, are offering three or four funds out of a suite of fund options that are represented to the participants as having gone through three or four ESG screens. The participants would be getting an investment in ESG principles but without being dedicated solely to it.

MR. CANO replied that that was sort of what he would cover in the different types of ESG indices.

MR. JOHNSON said the ARMB has wrestled with having an ESG option that has great principles and so on, but it has bad returns relative to the other investment options.

CHAIR WILLIAMS excused himself at this point and turned the chair duties over to Mr. Brice until he returned.

MR. CANO stated that MSCI ESG Research has seen a transformational shift in the awareness of some of the environmental, social and governance issues. To that they have created a variety of indices. The growth has been such that they have about $58 billion of assets that track the underlying ESG indices. MSCI does not provide the ultimate fund itself: they provide the indices that are implemented by an investment company.

MSCI believes that ESG could impact stock price performance, because there are inherent, idiosyncratic risks that affect companies that, if not properly managed, could create market events. Examples in the news recently are Equifax, Volkswagen, AIG, and perhaps even the case recently of Facebook, where they had risks related to certain practices that fall under the rubric of environmental, social and governance. It is not that MSCI knew that Facebook was going to have this deterioration but that they knew it was a risk within that industry. Where the value lies with ESG is to take a dispassionate view of ESG and say it is one more thing investors can integrate into their portfolio construction and stock selection process.

MR. CANO said that expressing values in investing used to be no tobacco, no Sudan and no oil. Now, those values are morphing. Investors might want to avoid tobacco because of the societal impact and the economic impact of the tobacco healthcare costs. People are now seeing that oil and energy are actually important, and the fact that you can own those and become an active participant in discussions about energy can be more productive.

For integration, in the case of something like a socially responsible index, MSCI puts strict financial considerations aside and are really describing a use case where they are basically saying they will exclude companies that have greater than or equal to 5% of their revenues involved in things like alcohol, gambling, tobacco, firearms and GMO. That is strictly a values and beliefs expression being put into an index.

When they talk about ESG Universal, that is the other extent where they want something that looks almost exactly like their benchmark index. They are going to keep everything in there, but they are going to tilt ever so slightly to things that have better ESG scores. In this case, it is going to have a tracking error of about 1%, and they are going to remove very few of the constituents.

MSCI ESG Leaders Index is something in the middle, where they are basically saying that for the most part they are getting 50% of the sector representation within each sector. Yet they are still removing some of the controversial names at the bottom. They are doing a blending – removing some things that do have some values-based underpinning and might be controversial,

but only if they have greater than or equal to 50% of the revenues. But for the most part they are just doing a systematic screening of companies that have very good ESG characteristics.

MR. CANO stated that MSCI looks at their ESG scores numerically as going from one to ten, or alphabetically from CCC to AAA. Referring to the left side of the chart on slide 19, he said the emerging markets index itself has about a 4.1 ESG aggregate score, the SRI index at the other end has a score of 6.6, and the ESG index in the middle column has a score of about 5.2. The right side of the chart has the world indices. The scores there vary from 5.4 to 7.4, with 6.5 in the middle. MSCI is systematically, very transparently, selecting those names that have better scores.

MR. CANO gave examples of what MSCI looks at. For governance, they look at whether boards are independent, if the representation is one share-one vote, and if there is diversity in gender on the boards. Some research says that greater gender diversity has led to excess returns in companies. Then they also look at measures called red flag controversies, which are things that can lead to downside risk events. Have they had something like the Volkswagen event with the EPA, or have they had something like a Wells Fargo event related to credit reporting? These are specific issues that are important to investors. This is where MSCI is melding what used to be called "rainbows and bunnies" to something very concrete in terms of business risks. This is where ESG is gaining ground, because it is something very tangible and important to investors.

MR. CANO reviewed graphs of the performance of various MSCI indices from 2007 to 2016 (*slide 20*). He pointed out that the Leaders version of the index slightly outperformed its corresponding benchmark index. Interestingly, it is even more meaningful in the case of emerging markets. Companies in emerging markets that have better environmental, social and/or governance have been meaningfully rewarded by the marketplace. He said that as an analyst he would prefer to see a longer sample size, but at least there is some evidence that ESG generates a certain amount of excess return.

MR. BRECKON presented a way to do an apples-to-apples comparison along ESG dimensions for different fund solutions. He said that once the analysis of environmental, social and governance characteristics of each issuer has been put into numeric form, it can be rolled up to the portfolio level and allow for portfolio-level comparisons along the ESG dynamic. That data set exists now and can be used for a given fund selection exercise, if desired (*see slide 22*).

MR. CANO stated that, with regards to the ESG Leaders Index, it differs from an active process in that an active process, such as is currently in place, may embed not just ESG but other factor selection – perhaps a growth bias or other kinds of specific biases that an active manager may take. Those biases could cause excess positive return or negative return. What MSCI proposes within the ESG Leaders Index is something specifically targeting just positive or higher-than-average ESG but with broad sector representation and sector exposure, while at the same time having low tracking error relative to the underlying index. It is a very specific purpose and a very specific choice for the people that could elect it.

MR. JOHNSON remarked that the explanation of quantifying the ESG characteristics was excellent. He noted that the Defined Contribution Plan Committee was looking at options for the

plan participants within the context of ESG, and he was not clear exactly what MSCI's role would be in that. He asked if MSCI would look at funds and give them a numeric rating against their MSCI Leaders Index.

MR. CANO responded that they did not even do that. MSCI reflects different measures of the market opportunity set. In the broadest sense, they have the ACWI (All Country World Index) IMI, which is an index that contains all of the investable stocks in the global universe – large, mid and small-cap – about 7,500 stocks. MSCI can provide to different participants, at their choosing, different pieces of this market universe. In this case, they are providing an index that, using the ESG ratings they designed, creates a subset of that universe that is just the leaders or highest ESG performers, without considering any other fund investors.

Also in response to Mr. Johnson's question, MR. BRECKON stated that MSCI provides, effectively, a constituents list based on a set of criteria trying to get exposure to a subset of the market. When they provide that constituents list, then it is up to an investment manager to either duplicate the performance of that constituents list or invest in that constituents list directly.

MR. MITCHELL reminded everyone that Allianz is managing the existing ESG Fund option against the MSCI USA ESG Leaders Index now. This was an opportunity for the Committee to better understand how the index is constructed. Staff had a recommendation ahead. He asked Mr. Breckon if the index process had changed meaningfully with the name change to include the word "Leaders."

MR. BRECKON said it was a name change only to reflect sentiment in the market as far as how they position their ESG indices. He added that the ESG issue is different for every participant. In an ideal world, the technology would be good enough and cost effective enough to satisfy the investment constraints of every participant's point of view. In this case, MSCI has identified a solution that should be most acceptable to the average SRI- or ESG-inclined investor. While it might not be perceived as ideal for every single participant in the plan, for the organizations that MSCI worked with that have chosen this index as an option for their ESG in their defined contribution plan, it has proven to be an acceptable average that is appealing enough to that segment of the participant base.

ACTING CHAIR BRICE commented that ESG means different things to different people. Given his background in labor and trades, he would be concerned about union practices, etc. but would have little or no concern about environmental issues.

MR. CANO stated that the ESG as regards every company is different because it is focused on the key issues that could cause that company potential sources of risk. With regards to the social pillar, what would be considered there would be human capital, labor management practices, health and safety, supply chain labor standards, product liability standards, social opportunity, access to health care, and nutrition and health. Where those things could be risks to a company – perhaps someone who is sourcing in Third World countries – those would be evaluated.

ACTING CHAIR BRICE thanked the MSCI presenters for the education on a multi-faceted topic.

MR. CARSON stated that a question arose at the December Board meeting about how the current Allianz Socially Responsible Investment Fund was being communicated to the self-directed participants. Today, the question is how to communicate what the MSCI USA ESG Leaders Index and investment option would be offering for participants. He referenced a copy of the investment overview for the Allianz Fund that is available to participants on the State of Alaska web site (*see slide 28*). Staff would like to modify the investment overview by including links or direction for the participants so they can go to the MSCI web site and be able to directly access and read the methodology and screening that is involved in the MSCI USA ESG Leaders Index. He has spoken with Empower and they indicated they are capable of doing that, and MSCI said they did not mind if the State did that.

MR. CARSON stated that Allianz is currently managing the socially responsible investment option, but they manage it actively. Staff recommended moving this option to passive management. The most important reason is to significantly reduce the management cost to participants. Going passive would also remove some of the stylistic biases that are embedded in active management. Allianz has a growth bias. Staff recommended hiring Northern Trust Asset Management to passively manage the ESG option. Staff surveyed a list of managers and mostly ones that are index providers that the ARMB currently has relationships with, along with some mutual funds. They were able to come to the most favorable agreement with Northern Trust to manage this option. It will be managed in a separate account. They agreed to the lowest fee structure out of the options staff contacted, however, he is not done with negotiations yet.

MR. CARSON said staff gave Allianz Global Investors the option to continue to manage the socially responsible investment option passively, but they are an active manager and it was not something they wanted to do. He also clarified that he had not had time yet to do onsite due diligence with Northern Trust and meet the investment team in person, which is a critical component.

Action: ESG Fund

MR. CARSON read staff's recommendation into the record, as follows:
The Defined Contribution Plan Committee recommends the Alaska Retirement Management Board direct staff to maintain the benchmark MSCI USA ESG Leaders Index in the participant-directed ESG option. Additionally, direct staff to modify the option by removing Allianz Global Investors as investment manager and hire Northern Trust Asset Management to passively manage the portfolio subject to successful due diligence and contract negotiations.

MR. JOHNSON asked staff to explain the passive versus active management aspect in the context of this type of investment.

MR. CARSON stated that Allianz, using the particular index as an investment universe, selects stocks that they think will outperform this universe and overweights them. He was

recommending removing that particular element and hiring a manager that will solely replicate the index at a lower management cost.

Responding to ACTING CHAIR BRICE's question about whether Northern Trust would have to create a new product, MR. CARSON said that they do not have a commingled product in existence, but they will be investing this in a separate account by the ARMB's design. Northern Trust is very familiar with ESG concepts.

MR. CANO added that he was in touch with them at an institutional conference yesterday in Chicago. This mandate is part of Northern Trust's business where they passively replicate different indices that providers such as MSCI create.

MR. CARSON said Northern Trust is not quite as large but they are in the same spectrum as BlackRock and SSgA, and they do a lot of that work.

MR. WEST moved to adopt the motion as read by Mr. Carson. COMMISSIONER RIDLE seconded. The motion passed unanimously, 4-0, with West, Johnson, Brice and Ridle in attendance.

C. Passive U.S. Fixed Income Investment Fund

MR. CARSON stated that this came from Callan's investment structure evaluation of the participant-directed plans. Callan recommended consolidating the existing fixed income options into a custom multi-manager fixed income fund.

At the October 2017 ARMB meeting, the Board directed staff to create a stand-alone, passive fixed income investment option benchmarked to the Bloomberg Barclays U.S. Aggregate Bond Index and map the existing stand-alone fixed income options to it.

MR. CARSON showed a slide of the four fixed income investment options currently available to participants and the amount of assets residing in each account. SSgA and BlackRock each manage two of the fixed income strategies. Enacting the Board's direction to create one passive fixed income option would aggregate all the fixed income assets from the current four stand-alone options into one passive investment option. This would eliminate the other four fixed income investment options.

MR. CARSON said that staff, including the manager of fixed income, looked at seven different passive fixed income managers in searching for managers to manage this option. The list was sourced from managers that staff knew already and from Callan's list of recommended providers in the industry. Staff held numerous phone calls with each manager and looked at investment returns. The primary considerations on how staff selected BlackRock Institutional Trust Company were management fees, tracking error to the index, performance compared to the index, confidence in the investment capabilities, and the existing relationship that the ARMB has with the manager.

MR. CARSON stated that BlackRock has a global fixed income platform with approximately $1.0 trillion in assets under management, managed passively. They are a manager in good standing. Effectively what they do is employ a representative sampling index and strategy to manage the fund. Unlike equity indices, fixed income indices are a little more difficult to directly replicate the underlying holdings. They get similar exposures to create a return profile that is very similar to the index.

Action: Passive Fixed Income Hire

MR. CARSON read staff's recommendation into the record, as follows:
The Defined Contribution Plan Committee recommends the Alaska Retirement Management Board direct staff to hire BlackRock Institutional Trust Company to manage a passive U.S. fixed income fund benchmarked to the Bloomberg Barclays U.S. Aggregate Bond Index and map the existing assets from the Long U.S. Treasury Bond Index Fund, the World Government Bond ex-U.S. Index Fund, the Government/Credit Bond Index Fund, and the Intermediate Bond Fund to this new passive bond index fund.

MR. WEST moved the motion as read by Mr. Carson. COMMISSIONER RIDLE seconded. The motion passed unanimously, 4-0 (West, Johnson, Brice and Ridle in attendance).

D. International Equity Fund

MR. CARSON described what white label or branded funds are, sometimes called multi-manager funds. The general intent is to have one single investment option for participants that can have one or multiple managers and multiple strategies. The option is not named after a manager. The white label fund is typically more diversified and then named after the intended use or strategy. In this case, the recordkeeper (Empower) monitors and rebalances the weights per ARMB direction. That includes the allocation, the timing of rebalances, and any trigger points that are established.

MR. CARSON reviewed the history of the International Equity Fund that was implemented in March 2015. Since inception, the fund has been invested equally in investment strategies managed by Brandes Investment Partners and Allianz Global Investors. At the December 2017 board meeting, the ARMB terminated Allianz due to poor performance. To facilitate the termination and continue asset management, staff contracted with Russell Investment Implementation Services as an interim transition manager. As of December 31, 2017, total assets were approximately $180 million across all participant-directed plans.

MR. CARSON outlined the existing manager structure for the International Equity Fund, which currently has equal allocation between Brandes and Russell. Brandes is an active manager that uses bottom-up security selection. They build portfolios by creating a high weighted margin of safety (take an intrinsic price and find a stock that has a discount to that price, and they weight it based on that margin). On the other side is the interim manager Russell, who is managing the strategy to a 1.5% targeted tracking error. Staff wanted the transition to have less of a cost impact on participants. Going from an actively managed value manager (Allianz), staff wanted to reduce that value exposure and try to migrate in the direction of a growth manager. When asked how to do that, Russell gave an analysis that showed different iterations of how much trading

they would need to do to hit different levels of tracking error, so how much deviation from the underlying benchmark. Staff landed at 1.5%, and Russell has been managing at 1.5% tracking error since they went live. Another key component is that there is no intended alpha component, so Russell is not picking stocks they think can outperform; they are just managing quantitatively to that tracking error.

MR. CARSON said staff did a lot of work to find a new permanent manager to replace the temporary transition manager (Russell). They settled on Baillie Gifford Overseas Limited as the replacement manager. Staff will terminate the short-term relationship with Russell, and Russell will transition assets to how Baillie Gifford wants them to be. If approved by the Committee and the Board, management of the account will be handed over to Baillie Gifford moving forward. Baillie Gifford has been managing a global ex-US strategy for the defined benefit portfolio since 2014. They currently have about $485 million invested there. They did present to the ARMB in December and participated in a panel discussion.

MR. CARSON demonstrated on a graph the stylistic differences between the two managers, in relationship to the underlying performance benchmark (MSCI ACWI ex-US) for the International Equity Fund. Brandes is a value manager, while Baillie Gifford is a growth manager. The combination of the two active managers as of December 31 created some style biases, but together they make a good core-type international equity option.

Regarding performance, MR. CARSON said that a portfolio with two active managers can be expected to have periods of relative underperformance. But in the long term, this multi-manager investment option is designed to outperform its benchmark. He noted that while staff still has to finalize the fee structure with Baillie Gifford, the firm will aggregate the assets that are invested in the participant-directed plan with the investments that are in the defined benefit plans, so the participant-directed plan will get the benefits of that size and scale.

ACTING CHAIR BRICE asked why staff's recommendation did not include a condition about concluding successful fee negotiations with Baillie Gifford.

MR. CARSON stated that he would consider the current management fee structure with Baillie Gifford on the defined benefit plan side as acceptable, even if he did not get any further in negotiating a better fee for the volume of aggregated assets for both plans. He added that he never stops negotiating fees anyway.

CHAIR WILLIAMS rejoined the meeting and resumed his Chair duties.

Action: International Equity Fund Manager Modification

MR. CARSON read the staff recommendation into the record, as follows:

The Defined Contribution Plan Committee recommends the Alaska Retirement Management Board direct staff to hire Baillie Gifford as a component investment strategy in the International Equity Fund.

MR. WEST moved to adopt the motion as read by Mr. Carson. MR. BRICE seconded. The motion passed unanimously, 5-0, all members present.

E. Staff Monitoring – Participant-Directed Plans

MR. CARSON informed the Committee of staff's efforts to ensure that they are looking at each of the investment managers and doing due diligence on a daily, monthly and ongoing basis. Staff produces a spreadsheet daily that provides month-to-date performance of each of the investment options in the participant-directed plans.

As well as monitoring the performance of the investment options relative to the benchmarks, staff also reviews these returns for any signals that there may be a concern or event. This is easier in index funds, where they can expect a deviation of one or two basis points at most. Active funds are more difficult, but it is a daily starting point to where they can see if there are any anomalies in the manager.

MR. CARSON stated that staff also calculates and reviews Stable Value Fund and Interest Income Fund market-to-book ratios on a daily basis. Staff has trigger points at 97% and 103% where they would ask the manager, T. Rowe Price, what they are seeing and why the market-to-book numbers are deviating.

On a monthly basis, staff receives a standardized template from each of the investment managers that details the exposures relative to their benchmark. This gives staff a window into what the particular manager is thinking and doing and if they are taking any large bets in any one particular area. The sensitivity to those bets depends on whether the fund is a passive or active fund.

Staff investigates any notable deviations from expectations and reports any concerns to the chief investment officer. Staff also contacts the fund managers to investigate those concerns.

MR. BRICE asked if staff monitors news and world events that might impact financial markets and contacts managers to get a sense of what is going on and if there could be any issues with investment performance.

MR. CARSON said that was a good point. Staff does monitor news and address any issues. Usually they will get a heads-up phone call before something hits the press, depending on what that news is. A recent example is Brandes – staff has actually been called before news hit the press.

MR. BRICE asked if there was a schedule for contacting the investment managers.

MR. CARSON stated that when he first started overseeing the participant-directed plans he wanted to develop a standard. It is not a policy but something he tries to balance between the cost of monitoring and the effectiveness of monitoring. He decided it should be no longer than six months before he contacted an active manager by telephone to talk about the portfolio and performance, to review past and expected market environments, and to discuss any changes to

the firm or portfolio management team. Usually they have conversations more often than that, as needed, and to address any specific concerns.

For the index funds, it may be a little longer than six months because there is not a lot of deviation to talk about. If key investment staff in an index fund departed, then staff would definitely talk to them about that.

Regarding on-site visits, there is a travel cost component to doing outside due diligence. He felt that every three years or sooner was appropriate for staff to conduct on-site due diligence at the active investment managers. Normally, he gets to the business locations of index fund managers when it is convenient, for example, while in the vicinity seeing an active manager.

MR. BRICE asked when staff last monitored KKR. MR. MITCHELL said he was in their New York office on October 2017, and staff went to their San Francisco office last summer. The ARMB has a couple of mandates with KKR, so several staff members are evaluating the manager.

CHAIR WILLIAMS inquired, if staff saw something going wrong with a manager in the participant-directed plans, if they had the ability to make a change or swap out a manager if they needed to.

MR. CARSON replied that staff does not have the ability to terminate managers or reduce their allocations.

Wrapping up the presentation on staff monitoring, MR. CARSON related that staff monitors management fees. There is no set schedule for this, and he tries to continue the conversation throughout. If anything starts to look like the fees are above the median or not in the participants' best interest, he will try to negotiate with the manager right away. Staff recently negotiated lower fees in four investment options managed by SSgA, as well as for the S&P 500 Fund managed by BlackRock.

VIII. CALENDAR REVIEW

The schedule of 2018-2019 committee meetings was included in the packet.

MR. BRICE asked if the committee should schedule a time to talk more about the two additional agenda items from earlier today: the Monte Carlo analysis methodology versus DRB's deterministic model, and the cost comparison for Social Security and SBS for TRS participants.

CHAIR WILLIAMS proposed adding those two topics to the June 20 meeting agenda. Responding to the CIO about what the Committee expected on the Monte Carlo analysis, he said putting staff's summary from earlier today in writing would be helpful.

COMMISSIONER RIDLE asked if the Committee wanted a deeper look at the deterministic model. CHAIR WILLIAMS said yes. He added that every time these analyses are discussed he learns something new and gets a better understanding of what some of the challenges are.

CHAIR WILLIAMS confirmed for Ms. Lea that the Committee would like to hear more on the costs for TRS members to go into Social Security.

IX. OTHER MATTERS TO PROPERLY COME BEFORE THE COMMITTEE

No other matters were brought up.

X. PUBLIC/MEMBER COMMENTS

There were no comments.

XI. ADJOURNMENT

The meeting adjourned at 5:43 p.m., on a motion made by MR. BRICE and seconded by COMMISSIONER RIDLE.

Note: The summary minutes are prepared by an outside contractor, and the information is extracted from staff's recording of the meeting. The digital recording and the documents reviewed and discussed are on file at the ARMB office.

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