State of Alaska
ALASKA RETIREMENT MANAGEMENT BOARD
ACTUARIAL COMMITTEE MEETING

Captain Cook Hotel – Club Room II
939 W. 5th Avenue
Anchorage, Alaska

December 6, 2017

ATTENDANCE

Committee Present:
Kristin Erchinger, *chair*
Tom Brice
Commissioner Sheldon Fisher
Gayle Harbo
Rob Johnson
Commissioner Leslie Ridle
Norm West
Bob Williams

Committee Absent: ---

Department of Revenue Staff Present:
Pamela Leary (director, Treasury Division)
Bob Mitchell (chief investment officer)
Zach Hanna (deputy chief investment officer)
Shane Carson (state investment officer)
Mike Barnhill (state investment officer)
Stephanie Alexander (board liaison)

Department of Administration Staff Present:
Ajay Desai (director, Division of Retirement & Benefits)
Kevin Worley (chief financial officer, Division of Retirement & Benefits)
Kathy Lea (chief pension officer, Division of Retirement & Benefits)

Others Present:
Scott Young (Conduent Human Resource Services, actuary)
David Kershner (Conduent Human Resource Services, actuary)
David Driscoll (Conduent Human Resource Services, actuary)
Bill Detweiler (Conduent Human Resource Services, actuary)
Stuart Schulman (Conduent Human Resource Services, actuary)
Leslie Thompson (Gabriel Roeder Smith & Company, review actuary)

I. CALL TO ORDER

CHAIR ERCHINGER called the meeting to order at 10:12 a.m.

II. ROLL CALL

Seven committee members were present at roll call to form a quorum. Bob Williams arrived at 10:16 a.m. to bring the committee to full attendance.

III. PUBLIC MEETING NOTICE

Board liaison STEPHANIE ALEXANDER confirmed that public meeting notice had been met.

IV. A. APPROVAL OF AGENDA

MR. BRICE moved to approve the agenda. MS. HARBO seconded. The motion passed without objection.

B. APPROVAL OF MINUTES – October 4, 2017

MR. BRICE moved to approve the minutes of the October 4, 2017 meeting. MS. HARBO seconded. The minutes were approved as presented.

V. PUBLIC/MEMBER PARTICIPATION, COMMUNICATIONS AND APPEARANCES

No one present at the meeting or listening by telephone indicated they wished to speak to the committee. MS. ALEXANDER stated that she had received no communications for the committee.

VI. 2017 EXPERIENCE STUDY: ECONOMIC ASSUMPTIONS ANALYSIS

DAVID KERSHNER of Conduent Human Resource Services, the State's actuary, introduced the rest of the team with him: DAVID DRISCOLL, head of the public sector actuarial consulting group; STUART SCHULMAN, an investment consultant expert; BILL DETWEILER, day-to-day manager of the team's work activities; and SCOTT YOUNG, who was recently added to the team as the healthcare actuary to replace Melissa Bissett.

[Conduent had provided the committee in advance with a copy of their slide presentation entitled "State of Alaska Retirement Systems – 2017 Experience Study: Economic Assumptions Analysis – Presentation to the Actuarial Committee, December 6, 2017," on file at the ARMB office.]

MR. KERSHNER explained that there are two pieces to the experience study – the economic assumptions, on today's agenda, and the demographic assumptions, scheduled for the March meeting. The three main economic assumptions being presented are inflation rate, investment return and salary increases, followed by a collection of healthcare assumptions. He stated that Conduent was not going to recommend assumptions, which are up to the Board to adopt, but any of the assumptions in their presentation are certainly supportable by the data. Conduent has determined the estimated cost impact to the larger retirement plans under three different economic assumption scenarios.

MR. KERSHNER briefly reminded everyone of the experience study process, which he has covered in prior presentations *(slide 3)*. The purpose of the study is to tweak and adjust the assumptions on a going-forward basis, based on where things are today versus where things were four years ago and

where they think things will be in the future. The objective for each assumption is that it be Conduent's best estimate of future long-term experience.

MR. KERSHNER said the healthcare assumptions that Conduent reviews every year include the per capita claims cost (part of the valuation process and not discussed today), the healthcare trend rates that are used to project the per capita costs into the future, the increases in the retiree-paid premiums, and the drug subsidies.

MS. ERCHINGER asked Conduent to highlight when they came to areas in the presentation that dealt with best estimates versus building in some conservatism for the unknowns.

MR. KERSHNER stated that it enters in particularly when looking at the investment return assumption. All of the assumptions are best estimates based on Conduent's models and capital market assumptions. But once the best estimate is determined, the Board may ultimately decide to add a little bit of conservatism for adverse deviation. For example, if the best estimate investment return assumption is 8.0%, the Board may choose – to help protect against adverse experience going forward – to lower the investment return, which builds in some margin, because the lower investment return assumption makes it easier to meet that expected return and, therefore, have less unfavorable surprises going forward.

MS. ERCHINGER added that she was also interested in hearing if there is an element that the actuary might think of differently with respect to a closed plan versus a non-closed plan.

MR. DETWEILER began reviewing the historical experience over the last four years, stressing upfront that the past does not always predict the future, but it is the best data that Conduent has to look at. He said nobody will be surprised to see that inflation rates have decreased significantly over the last 30-plus years. For the most part, the Anchorage CPI has moved in the same direction as the national average inflation and been in the same ballpark. In 2016, the Anchorage CPI was only 13 basis points increase.

MR. DETWEILER presented the historical market returns for PERS (Public Employees' Retirement System) and the National Guard since 1991. He followed that with a chart of the historical payroll growth for PERS since 2013 (both defined benefit and defined contribution), and the same information for TRS (Teachers' Retirement System) on a separate chart.

LESLIE THOMPSON of Gabriel Roeder Smith, the review actuary, reminded the committee, when looking at the payroll growth assumption, that the numbers on the far right of the chart are the growth in an average payroll per member and not actually the growth in total payroll. When looking at the bigger issue, it is a declining population of employees.

MR. SCHULMAN presented the framework that the actuary uses to determine what an appropriate expected return on assets would be, and which is used for setting a valuation interest rate through discounting the liabilities. Conduent uses an economic scenario generator called GEMS®. The model uses three fundamental variables: inflation and how it will move over time, gross domestic product (GDP) and how that will move over time, and employment levels. Those three variables inform

another tier of variables, including what the yield curves will look like going forward. The end result is forecasts of what the investment returns will be, asset class by asset class. Conduent understands that the crystal ball always has been cloudy and always will be. They calibrate the model to come up with a range of plausible possible investment returns, understanding that there is no single best guess at which path is going to be the right-est. They will know after the fact if they have calibrated the GEMS® model correctly and the range of possible outcomes is reasonable.

MR. WILLIAMS asked if the GEMS® model that Conduent leases from Conning is a popular model.

MR. SCHULMAN stated that the model has won awards for economic scenario generator of the year for several years.

MS. THOMPSON asked if Conduent had other clients that use GEMS®, or if they knew of other non-Conduent clients that use GEMS® in pension plans.

MR. SCHULMAN said that probably the majority of Conning's clientele are other insurance companies that use these scenario generators to do risk testing for their insurance portfolios. Conduent knows of at least one other actuarial firm that uses GEMS®, but mostly in the property and casualty area. To the best of his knowledge, Conduent is the only firm that is using this model to do asset liability modeling studies and to develop expected return calculations in this way. They believe this is good because it gives them a distinctive approach, but obviously they have to explain what is going on every time they use it, because people are not accustomed to this approach. Conduent talked to their client contact at Conning, who is one of the folks who wrote the Society of Actuaries paper last year, and he knows exactly how Conduent uses the model. They asked him point-blank if they are using the model in a manner that is appropriate to use it, and he said absolutely.

MS. HARBO asked if Conduent was the only big actuarial firm that deals with public pension plans that uses the GEMS® model.

MR. SCHULMAN said he was almost positive that that was the case. He added that there are not that many firms anymore that do public pension plans.

MR. DRISCOLL added that GEMS® is a rather expensive system to acquire. Many of the firms that do provide services to public sector retirement systems are small. Conduent is unique among the four or five firms that likely respond to an RFP in having this system. Many of the other firms do not have anything *like* this model either, and will rely on survey data of capital market assumptions to formulate their positions on expected returns.

MR. JOHNSON inquired if Conduent uses the GEMS® model in all the work that they perform for all their public pension clients.

MR. SCHULMAN replied that anywhere they are developing an expected return on assets, in both the public and private sectors, for different accounting concepts, they want to be consistent in how they approach these issues because the expected return should not be different. They should have at least one set of views, if not one view. They use the model for city and state systems, as well as for

corporations. They use this approach for doing all risk modeling, any pension investment outsourcing, and their asset liability modeling.

CHAIR ERCHINGER stated that because the GEMS® model is new, the committee has to do due diligence and make sure they understand it. The Alaska Retirement Management Board (ARMB) does not want to be on the cutting edge of anything in pension plans, other than maybe getting the highest returns. Sometimes, doing the same thing that everyone else is doing at least gives a sense of comfort that if one goes down, everyone goes down. The ARMB does not want to stand out for using something that it cannot defend. These have been good questions to understand the product. Another question is, if Conduent was not using GEMS®, how the results with GEMS® would compare to what they would be recommending if they had used a traditional estimating technique. She asked if Conduent had kicked the tires, and what caused the firm to say this was a better predictor than doing what they did in the past.

MR. SCHULMAN replied that if they have a view about where asset returns and interest rates are going, the model can be calibrated to capture their point of view. One of the calibrations that Conduent ran for the ARMB does reflect a set of assumptions that the world is not, on average, going to be like it has been for the last 30 years. If the model is calibrated to capture those sorts of points of view, whether one cuts to the chase and uses a single point estimate, or it is run through the model and captures all the correlations, the results should end up in roughly the same place.

MR. SCHULMAN stated that GEMS® captures the risk of real-life economic events, such as a black-swan event that could be either very good or very bad for the economy. When back-tested, the makers saw that the 2008 market crash happened. The question was if any of the scenarios saw a 2008 coming. The market crash was in the sphere of possible outcomes that were generated, although it did not mean that anyone could have predicted it with any certainty. That would not necessarily be the case with a normal distribution type of generator.

MR. SCHULMAN said the GEMS® model includes an inflation forecast. Some expert forecasts say that inflation is going to stay at 2.0% for the foreseeable future, and maybe it will. Conduent knows, just from looking at TIPS (Treasury inflation protected securities) spreads, that there is a bit of hazard to that because of a risk premium on one side and a liquidity premium on the other side that may skew what the underlying implicit inflation is in the TIPS spreads. The GEMS® model starts from where things are today and is informed by what inflation has done in the past. But it also is not vain enough to assume that it knows exactly what things are going to look like in 2047. So, there tends to be a little bit of regression toward historical means. Conduent used the model to ratchet that down a little bit to develop two different views of where inflation might be going.

MR. SCHULMAN explained that Actuarial Standards of Practice No. 27 requires actuaries to use an assumption not greater than the expected long-term investment rate of return. It also says that a margin for adverse deviation toward conservatism is allowed to a reasonable extent. There is a 50% chance of underperforming the best estimate. If a plan chooses something less and puts in a margin for conservatism, there is a greater-than-50%-chance that it will attain its investment return goal.

MR. SCHULMAN stated that Conduent used GEMS® to come up with two separate inflation forecasts. The first is based on more regression to historical means, which gets to around 3.0% inflation very long term. The second forecast reflects the possibility that the new normal starts with economic conditions that exist today and continues to persist for longer than one business cycle (low inflation, lower GDP growth, an aging workforce, and more people approaching retirement who will be demanding fixed income investments – which will lower bond yields). This would push the long-term expected inflation down to around 2.8%. The truth may be one or the other, or lie somewhere between the two approaches.

COMMISSIONER FISHER asked if Conduent planned to offer any view as to which approach to setting the inflation and investment return assumption is informed by current data.

MR. SCHULMAN stated that the second approach is informed by current data, which will lead to lower expectations of return and, therefore, would imply the need for a lower value in interest rate. The ARMB would use the first approach if it believed that the future is truly unpredictable.

COMMISSIONER FISHER said he wanted to understand what has to happen in these other factors (like the workforce, etc.) for the ARMB to believe that approach #1 is the right approach.

MR. SCHULMAN said there was nothing that is known that would tell him with extreme confidence that approach #1 is definitely where things are heading. For example, at the end of World War II, a Baby Boom could not have been predicted. The Baby Boom has driven a bunch of macro-economic effects that are still being seen today. There is political uncertainty. There is global political uncertainty. There could be changes in the workforce. There could be changes in people's spending habits and saving habits that cannot be seen today.

MR. SCHULMAN presented a chart of asset allocation mixes that Conduent modeled using GEMS®. He noted that some of the mixes reflected *possible* asset mixes, and two of them reflected *actual* mixes that the ARMB adopted for one or more of the Alaska retirement systems effective June 30, 2017.

MR. KERSHNER explained that all Conduent's modeling, in terms of cost estimates, etc., did not anticipate a change in the 7.0% investment return assumption for National Guard. If the committee wanted Conduent to lower the return assumption for National Guard, they could do that.

MR. SCHULMAN reviewed asset mix #4 in more detail under 10-, 20-, and 30-year horizons, as it worked out under approach #1 (inflation regressing to historical means). He noted that Conduent obtained an estimate of average investment expenses from Mr. Worley, which was about 45 basis points. He said that asset mix #4 would result in nominal returns between 6.0% and 12.0%, two-thirds of the time, over a 30-year period.

MR. SCHULMAN stated that in looking at the 10-, 20-, and 30-year horizons, Conduent also looked at the current average time to payment for the liabilities. Based on the people who are in the retirement system today, there is an expected benefit stream going out until the last person is dead and buried. The weighted average time for paying out that money is 22 to 23 years, depending on the retirement

plan. For that reason, Conduent believes that the 10-year investment return number is interesting and informative, but it pays to look more at the 20-year horizon because the investment horizon is long. The defined benefit plans are closed to new participants, therefore, looking at the 30-year investment horizon may not be appropriate because the plans will not be holding the money long enough, on average, to get that 30-year compound return.

MR. SCHULMAN said that the 20-year number for the GEMS® geometric return, using the straight calibration based on the default, produces a portfolio return for asset mix #4 of 8.5%. If one believes the new normal in its entirety, the analogous number based on that model is 6.65%. If one believes that the truth lies somewhere in between, then the expected return would lie somewhere between 6.65% and 8.5%. These numbers are net of the 45 basis points of investment expenses.

MR. SCHULMAN also presented the nominal return numbers for asset mix #3b (used for the National Guard). The equivalent numbers would be 6.76% nominal investment return under approach #1, and 5.58% nominal return under approach #2. He suggested that the results may be saying the current 7.0% return assumption is a stretch.

COMMISSIONER RIDLE asked if the weighted average time for paying benefits in the National Guard system was the same as the other retirement plans. MR. SCHULMAN replied that it was close, and definitely between 22 and 25 years. MR. KERSHNER added that he did not think Conduent knew what the length of time was for National Guard, but it was probably less than for PERS and TRS.

Chief Investment Officer BOB MITCHELL added that the beneficiaries of the National Guard plan have the option to accept a monthly benefit for a specified period of time or a lump-sum payment at the time of retirement, which creates some uncertainty when estimating the weighted average time for paying benefits.

MR. SCHULMAN showed data that illustrated there is some reversion to the mean for the average expected returns for both approach #1 and approach #2 over the longer periods, because the future is unclear (*slide 29*). Likewise, the expected inflation numbers are 2.49% and 2.22% for the two approaches in the first ten years and rise over time.

MR. SCHULMAN directed attention to slide 30 – a summary of the key differences between GEMS® and the traditional building block method for developing inflation and expected investment return numbers.

CHAIR ERCHINGER mentioned the prior conversations about whether the investment return assumptions should be net of fees or gross of fees. She asked what Conduent's expectation was about that in estimating the return assumptions.

MR. KERSHNER replied that currently the 8.0% investment return for PERS and TRS is assumed to be net of all fees. The National Guard has an administrative expense load. Conduent's general agreement is that the return assumption should be net of investment expenses only, and then add an explicit assumption for administrative expenses. He clarified for the Chair that the average expected

nominal geometric returns shown on slide 29 would have to be reduced by the estimated 45 basis points of investment expenses.

MR. WEST stated that, because the defined benefit plan is a closed plan and the distribution pattern will be abnormal compared to an open plan, he expected that administrative expenses would become a much larger piece of the pie. He also asked about the inefficiencies as the defined benefit plan shrinks and there are fewer assets in some asset classes, like absolute return and private equity, that help generate the current returns.

MR. KERSHNER responded that on both points those conditions will be re-evaluated every four years when all the assumptions are looked at. So, whether 45 basis points in investment expenses is the right figure four years from now will be determined at that time. As far as administrative expenses go, Conduent will likely look at the average that has been paid over the last three or four years and set that as the assumption for the next year. The ARMB can decide if it wants the actuary to evaluate that annually.

MR. SCHULMAN addressed the second part of Mr. West's question, saying that the retirement plans have about $26 billion in assets. If 20 or 30 years' worth of benefit payments are paid out, contributions will still be coming in, and the assets will still be generating earnings. At some point the plan value will get to zero, but whether it will get to the point that the Board cannot efficiently invest the absolute return and private equity pieces, he did not think it was enough to move the needle.

MR. KERSHNER noted that the projected benefit payments 30 years from today are about 80%-85% of the projected payments in year 20. There is still a significant amount of benefits being paid in year 30 versus year 20.

CHAIR ERCHINGER inquired about how much time the committee had before it needed to actually know the numbers that are being settled on for any of these assumptions, because the Investment Advisory Council and staff had to be involved in the conversation.

MR. KERSHNER said there was no urgency to making a decision. Whatever assumptions the ARMB selects will be used starting with the 2018 valuations, which are done around this time next year. Conduent will be presenting the demographic assumptions at the March meeting, as well as the administrative expense load and some of the funding decisions, including the amortization period. Following that discussion, the committee will be able to ponder everything and then decide.

CHAIR ERCHINGER mentioned that once the committee has made its decisions, there has to be time on the calendar for the committee's recommendations to go to the full Board.

MR. KERSHNER advanced to the section of the presentation on salary increase assumptions. He started with a graph of the average salary increases for everyone in the one- to 20-year service bracket over the last four years (TRS, PERS Others, & PERS Police/Fire). The TRS and PERS Others track very similar to each other, while PERS P/F looks very different. The trend is generally downward as the years of service go up, which is reflected in the salary increase assumption.

MR. KERSHNER displayed slides 34, 35 and 36, the detailed data behind the slide of average salary increases for people in the plans with one to 20 years of service. He also answered several questions from committee members about the data sources and what experience the data represented. With few exceptions, the four-year actual experience of salary increases is lower than the current salary increase assumption. That should not be a surprise to anyone. Everyone has been saying over the last couple of years that the pay assumption is probably too high because employers are not giving pay increases at those rates. The question is how to modify the current salary increase assumption to reflect the recent experience and what is expected going forward. Conduent's two alternative assumption scenarios shown for the three retirement plan groups vary based on what the underlying inflation assumption is (2.75% or 2.5%).

MR. KERSHNER stated that Conduent was suggesting, consistent with the graph on slide 32, where TRS and PERS Others are very closely aligned in terms of their actual experience, that the same salary increase assumption be used for TRS and PERS Others under either alternative. Conduent was also suggesting doing away with the five-year service phase and then an age-based assumption after five years for PERS Others. They looked at the experience age-based and service-based, because the current assumption is a service-based for the first five years and then age-based thereafter. The age-based experience was all over the place and had no consistency. It would be hard to set an assumption. There was more uniformity when they looked at the service-based data. This applied to the TRS and PERS Police/Fire groups as well. Conduent's suggestion for PERS Others was to go to a 20-year service-based assumption, the same as the other two groups.

MS. THOMPSON raised the issue that Trustee Harbo brought up at earlier meetings that teacher salaries top out after so many years, and the negotiated agreement may allow for a bonus rather than a percentage increase. She did not know if a bonus was part of pensionable compensation, and the extent to which it would have to be accounted for in the system.

MR. KERSHNER pointed to the salary increase graph (*slide 32*) that showed PERS Other and TRS very close together until 18 years of service when TRS falls off. That would validate what Trustee Harbo was saying. The TRS and PERS Other data is close enough that Conduent suggests using the same assumption, but they could tweak the upper ends for TRS to reflect a lower salary increase if that is what is expected going forward. In all cases, Conduent suggests that the ultimate rate be the inflation rate plus 25 basis points for productivity, under either alternative. It is currently higher than that.

COMMISSIONER FISHER remarked that Conduent had not really described how they went from the current experience to how they built the two alternative assumptions.

MR. KERSHNER stated that the alternatives are a combination of art and science. Conduent found that the experience, generally, was lower than the assumption, which tells them that they should lower the assumption to match experience and general expectations that pay increases are going to be lower going forward. The "art" is where Conduent does not drop the current pay assumption directly to the most recent experience but does it in a more gradual way between each year of service. Conduent developed alternative #1 first, and then alternative #2 just varies by the inflation assumption.

MR. BRICE said that many employee contracts saw a substantial drop in pay increases between fiscal years 2014 and 2015.

MR. KERSHNER responded that the percentages in the experience column of slides 33-35 reflected the change from fiscal year 2014 to fiscal year 2015, in the sense that the numbers take into account four years – fiscal years 2014, 2015, 2016 and 2017. The math is a straight average of the four years. The challenge with setting any of the assumptions is whether to believe what happened in the new contract in 2015 will be what the actuary can assume 20 or 30 years from now. Conduent is trying to set a long-term assumption guided by the recent past to help move from the current assumption to a new assumption. How much weight to give to the recent past is a question.

MR. BRICE said there has been a major paradigm shift, in terms of increases.

MR. KERSHNER stated that Conduent could lower the assumptions however the ARMB wanted them to lower them, based on the actual experience, recognizing that the experience includes a mixture of contracts or years.

CHAIR ERCHINGER commented that Conduent's recommendation that the ultimate rate be the inflation rate plus 25 basis points for productivity is a significant drop from 75 basis points of productivity. It constitutes a big component of the change from the current assumption. She asked for the justification for that drop.

MR. KERSHNER replied that, again, there is no exact science behind it. He had heard from discussions at prior meetings that maybe the long-term salary increases were too high and, in a general sense, that Conduent's inflationary component of the current assumption is too high and, therefore, probably the productivity combined is too high. He lowered it somewhat arbitrarily to 25 basis points.

MR. SCHULMAN explained that a linkage exists between GDP growth and the productivity component in a salary scale. To the extent that GDP growth estimates are tempered going forward, it may make sense to have a lower productivity number.

MR. DRISCOLL (with Conduent) added that other state retirement systems, to the extent they have revised salary increase assumptions in recent years, particularly for later ages of employees, now have a much smaller margin of the assumed salary increase over the long-term rate of inflation than there has been in the past.

MS. HARBO thought that was true in bargained agreements now. She said many employees are requesting higher healthcare benefits and getting those in place of salary increases. That is a shift and does not show up in the salary numbers.

CHAIR ERCHINGER wondered if fewer teachers with more students in the classroom was linked to productivity.

MR. KERSHNER said that if all workers, not just teachers, are stretched to do more than they could before, then general productivity has to decline.

Healthcare Assumptions

SCOTT YOUNG of Conduent next presented the healthcare assumptions, noting that the actuary looks at healthcare every year but also does a higher review every four years when they do the experience study. The first is the healthcare claims cost – what they expect the current cost to be for each person in the fiscal year for which they are doing the valuation. They look at past experience to try to predict what the claims cost will be in the current year.

For Alaska's valuations there are multiple costs to come up with because there are different benefits provided. There is a separate cost for those employees who are not eligible for Medicare yet. That is the highest cost because Medicare is not there to offset the medical care that people get. For those who are on Medicare, the cost for those who have both Parts A and B is the lowest cost because Parts A and B cover so much of the medical costs before the retirement plans have to pay. Then there is a small subset of people who only have Medicare Part B because when they were hired before April 1986 they did not pay enough into the system to be eligible for Part A. The retirement plan is incurring a higher cost for those people, since Part A is not offset for them.

MR. YOUNG said there is not a Medicare component to be a big offset for prescription drugs. Whether a person is Medicare-eligible or not, prescription drug costs are similar and just vary by age. With the prescription drug coverage that the Alaska plans offer, the plan sponsors are eligible for a subsidy from Medicare Part D because the government wants plan sponsors to continue offering these programs.

Another cost to the plans is the fees paid to the third-party administrators to administer the health claims.

MR. YOUNG said that when Conduent is setting fiscal year 2018 costs, the current methodology looks at the prior four fiscal years of experience. A different approach is used by another actuary, Segal, to calculate the budget rates and the retiree contribution rate. Segal only looks at the most recent fiscal year. For a group of this size, that method is very statistically and actuarially fine because there are 60,000+ life years in one fiscal year, more than enough to set a reasonable assumption. He brought this up because he is new and noticed that there is a big difference in using one year of experience for one purpose but four years of experience for another purpose. He assumed the four years was done for the valuation to minimize past volatility that has been experienced.

MR. YOUNG presented information for the committee to consider reducing the number of experience periods from four years to three. Alaska's large plan population size makes it credible, even with only one year of experience. Reducing the experience periods to three moves it to be more consistent with the way the budget rates and retiree contributions are set. Lastly, with the move to Aetna as the third-party administrator on January 1, 2014, if Conduent could eliminate that fourth, oldest year, it would take those claims from the previous administrator out of the analysis and make it cleaner.

MR. YOUNG explained that Conduent's analysis for setting the cost for fiscal year 2018 gives a 35% weighting to FY2017 experience, a 35% weighting to FY2016, a 20% weighting to FY2015, and 10% weighting to FY2014 experience. Someone at the last meeting asked why Conduent did not give more

weighting to more recent experience, and he agreed that made a lot of sense because it is more predictive of what the committee might expect in the future. As a step toward doing that, Conduent could change the weighting average of experience to 40%, 40% and 20%, and then basically zero for the fourth prior year. Other very reasonable percentages would be 50%, 30%, and 20% for the three prior fiscal years. Or it could be 50%, 35% and 15% to have a 15% drop-off each year. These approaches should get to a very similar answer, given how large the Alaska plan population is. It should not have a lot of volatility from year to year.

CHAIR ERCHINGER asked to what degree Conduent took into account changes in third-party administrators (TPA). She cited the windfall in savings on health claim costs that normally occurs at the beginning of a new TPA contract, after which costs seem to creep back up. She asked if that was why they were recommending a higher weight to the more recent years' experience.

MR. YOUNG stated that when the State moved to Aetna as the TPA in 2014 he thought the issue of the timing lag of when claims were paid versus when they were incurred was different. Something like a 6% adjustment was made to the actual paid claims to try and get them on the same basis as what Aetna was processing. If the State were to change TPA again, Conduent would have to look at that and potentially make an adjustment as well. The point of dropping the oldest year of claims experience from the calculation is being able to entirely get those claims out of there with their adjustments. It is nothing different than what was in the prior valuation, but they could get that experience out of the average. The oldest year is only 10% of the weight and really not adding much value to the overall calculation.

MR. JOHNSON inquired, if CVS acquired Aetna, if it would be a potentially material cause for change to the claims cost analysis.

MR. YOUNG replied that he did not think so in the short term. If the purchase were to happen, CVS would not change anything right away. It could take a couple of years at least before their systems changed, to the extent there are any differences in the way the two TPAs process claims.

COMMISSIONER RIDLE asked if Conduent was making any assumptions on the Department of Administration issuing a contract for TPA this year or next year.

MR. YOUNG said nothing explicitly in their analysis, because they do not know which TPA it would be, or what cost savings or changes would happen, or even in what year a change might take place.

He advanced to slide 39, a high-level summary of the different healthcare benefits that the defined benefit plan and the defined contribution plan provide. He commented that the retirees of both plans are very lucky to have these great, generous health plans.

COMMISSIONER FISHER responded to CHAIR ERCHINGER's question about the 80%/20% plan coverage, saying he did not believe the defined benefit healthcare plan had the usual-and-customary component to it, where the person had to pay 100% of the charge deemed to be above the usual-and-customary charge. In the defined contribution plan, however, he thought the person was responsible for paying everything above the usual-and-customary charge, but he would have to confirm that.

After a bit of back-and-forth among committee members, KATHY LEA of the Division of Retirement & Benefits clarified that the defined benefit retiree health plan did have a usual-and-customary component as well.

COMMISSIONER FISHER stated that the State has tried hard to make sure there is a network with a set of doctors who accept the usual-and-customary fee schedule.

MR. YOUNG continued with the approach that Conduent uses for the valuation of healthcare costs. They use the experience of the defined benefit plan because there is not enough experience to use real data for the defined contribution plan (no one could retire from the plan until 2016). Conduent develops future claims costs for the defined benefit plan design and then, adjusting for the different plan provisions, they can project the expected future cost for the defined contribution retirees. The DCR plan is less generous than the DB plan, so the costs in the future will be lower than the DB plan, all else being equal.

Basically, they estimate that the DCR plan is 2.1% less generous, on average, than the DB plan for pre-Medicare medical. For Medicare it is a bigger difference, because the plans have different coordination methods with Medicare. The defined benefit plan has a standard coordination of benefits method, which is the most generous way to coordinate. The defined contribution plan has a different method that ultimately pays less benefits, making the Medicare medical benefits 31.4% less generous. For prescription drug benefits, the DCR plan is a little more than 10% less generous, based on the co-pays. Conduent looks at this model every year because the tools come up with a new overall distribution of expected claims, however, the relative values are expected to change only slightly from one valuation to the next.

CHAIR ERCHINGER commented that for the next four-year experience analysis there should be enough real health claims data for the defined contribution plan so the actuary will not need to use DB plan claims data and make adjustments.

MR. YOUNG agreed that as more DCR plan participants retire and the population gets larger, then the real health claims experience will, at some point, become credible on its own to calculate what their average expected cost would be.

MS. HARBO mentioned that a report to the Board from Mr. Worley indicates there are about eight retirees in each of the PERS and TRS defined contribution plans that are receiving health benefits.

CHAIR ERCHINGER asked if the retiree healthcare plan had been completed for the DCR retirees. COMMISSIONER RIDLE indicated that it was in place.

MR. YOUNG pointed out that the DCR health plan is designed so that it can be changed in the future, including adjustments to the premiums, deductibles, co-pays, and out-of-pocket limits for medical and prescription drugs. Conduent has to take that into account in projecting future costs because the DCR health plan will become less valuable relative to the DB plan over time. When it was first set up, Conduent modeled what they thought it would look like. Approximately 0.2% per year was the

best estimate, assuming that the deductibles and co-pays would, over the long term, increase 4% or 5% a year. When they project out the cost for the DCR plan, they will decrease the relative value factors they are using for the June 30, 2017 valuation by 0.2% a year in each future valuation year.

MS. THOMPSON stated that GRS has squawked about this adjustment before because the changes in the DCR health plan have not happened, the methodology is taking credit in the cost for changes that have not happened, and the actuary does not know for sure that any changes are going to happen. She thought it was important, as Conduent makes its recommendation, to advise the committee and the Board of the impact of taking those kinds of credits.

MR. YOUNG said he agreed entirely, having noticed when he first started looking at it that it did not look like the DCR health plan had been changed for several years. Something to consider is if there are plans to change the DCR health plan (such as premiums, deductibles, co-pays, and out-of-pocket limits for medical and prescription drugs) in the near future and, if so, if there was some idea by how much it would change the value of the health plan. Conduent should reflect that accordingly.

MR. YOUNG moved on to the healthcare trend rate assumption *(starting at slide 42)*. This assumption is reviewed annually to see whether there should be any changes. The last changes were adopted by the ARMB beginning with the June 30, 2014 valuation. This year he used the newest version of the Getzen model, and put in the same assumptions used before, to project an updated healthcare trend rate assumption for the June 30, 2017 valuation. (It is possible that the trend rate assumption could be different for the June 30, 2018 valuation, if a new inflation assumption is selected or any other combination of assumptions.)

MR. YOUNG pointed out that the biggest change between the current trend rate assumptions used for the 6/30/16 valuation and the alternative assumption for the 6/30/17 valuation is in prescription drugs, which go from 5.1% to 9.0%. That is based on the fact that a lot has happened to prescription drugs in the last couple of years. Survey data shows that almost all plan sponsors are using a prescription drug rate that is in almost a double-digit percentage range for the short term. Along with that, the RDS (Retiree Drug Subsidy) and EGWP (Employer Group Waiver Program) are based on the prescription drug cost, so that should also change in relation to that. So, the RDS/EGWP assumption is increasing compared to the current one. The prescription drug assumption has a big effect, particularly for the DCR plan, since prescription drugs are more than half the cost, once a person is eligible for Medicare, and the majority of their benefits are all after age 65.

MR. YOUNG said Conduent recommended the alternative healthcare trend rate assumption for the 6/30/17 valuation to get in line with what the best estimate should be *(slide 43)*.

MR. KERSHNER stated that, even though this is part of their experience study presentation, these alternative healthcare cost trend rates are part of the annual review and independent of whether they change the assumptions as part of the experience study.

MR. YOUNG confirmed that the ARMB looked at the trend rate every year since the fiscal year 2014 valuation report, and the last two years it was deemed not necessary to change it. However, this year he felt the alternative assumption for the fiscal year 2017 valuation was a good assumption *(slide 43)*.

Conduent researched the healthcare trend rates from other state systems. MR. YOUNG presented the data from some state systems that seemed to have plans most similar to Alaska *(slide 44)*.

MS. HARBO pointed out that most of the others states do not pay the prescription drug costs, while the Alaska systems do pay those costs for retirees.

MR. YOUNG next covered the retiree-paid premiums. He said there are not many retirees in the defined benefit plan who pay a premium – only those under age 60. This is a relatively minor impact on the total liability for the DB group. With the change of an alternative assumption for prescription drugs, it means this assumption would be a little bit higher than the current assumption. Regarding the DCR plan, participants pay a percentage of the plan cost, so contributions are assumed to increase with the same trend that is applied to the medical and prescription drug benefits. Conduent does not have to set an assumption for how much those retiree-paid contributions themselves will increase.

Regarding the subsidies, MR. YOUNG stated that currently everybody is in the Retiree Drug Subsidy (RDS) design. The DB plan assumes that the RDS will be in effect for all future years, forever (no change to an EGWP). The DCR plan assumes a move to the EGWP in 2018, and the EGWP is regarded as a more valuable vehicle to get federal dollars. The assumption was that for 2017/2018 the offset to the cost would go up by 60% because EGWP is that much more valuable. That did not actually happen for 2018. Conduent understands that that is part of the RFP the State has out currently, where both DB and DCR could go to the EGWP effective January 1, 2019. When more is certain, Conduent will reflect that in the valuation. The implication for the current valuation for the DCR group is to delay the EGWP until the fiscal year 2019 valuation – because that is the reality. That will be a small loss because the plan will not be getting the higher prescription drug subsidy for FY2018. Depending on who the EGWP vendor winds up being, they should be able to provide an estimate of what the EGWP subsidy will be, and Conduent will use that in the valuation.

COMMISSIONER FISHER stated that making the change from RDS to the EGWP is a fairly material assumption because of the difference in the prescription drug cost. While the State may not concretely know the effect of the subsidy, to not build any assumption around that is huge.

MR. YOUNG asked if the State was confident enough that the DB group was going to move to the EGWP that Conduent should reflect the difference in drug costs for that population.

COMMISSIONER FISHER said the State should dig into what is a good question, but he did not think the actuary should simply put this off because there is no final decision on when the DB plan will move to an EGWP. The unfunded liability is all about the DB group, and the drug subsidy is a tens-of-millions-of-dollars-per-year impact. Over the life of the plan, the impact is enormous.

MR. YOUNG said that, being new to the Alaska plans, he was unaware of the rationale for why the DB group was not assumed to move to an EGWP in 2018, along with the DCR group.

COMMISSIONER FISHER said it was just the logistics of getting the work done.

MR. YOUNG stated that if the committee thought that assumption should be made for the DB group and that there was a good enough probability that it would be accomplished, then it would be appropriate to put the EGWP in the 2018 valuation. The current assumption was that the DB group was not moving over to the EGWP yet and, absent any new information, he was not planning to change that assumption until there was more certainty around it. He agreed that the subsidy would be material and have a meaningful impact on the valuation results.

CHAIR ERCHINGER remarked that it would be a material overstatement of a subsidy that is *not* received if the DB plan does not move to an EGWP. She preferred not to include the EGWP unless there was a high likelihood that it would happen, because it would result in a loss and push the contribution rates off into the future.

MR. YOUNG said the benefits are going to be what they are in the future. It would really just change when the contribution rate changes materially.

COMMISSIONER FISHER interjected that it would impact the unfunded liability and the State's contribution. He added that he agreed that there is a real question that the Board needs to be comfortable with as to whether or not the EGWP is going to happen. He was objecting to the casualness with which the actuary was not building it in because they do not know. He felt the drug subsidy was probably one of the largest single drivers of the change that the committee was going to talk about, and he wanted to take it seriously.

CHAIR ERCHINGER recalled that last year the committee talked about and expected that the EGWP would be implemented, and then it did not happen. The caution was reasonable.

COMMISSIONER FISHER said that saying the EGWP could be put out a year and assume it would happen in 2020 to give another year of cushion would be fine. But to assume that the EGWP would never be implemented for the whole life of the defined benefit plan, and to assume that the plan was going to assume those prescription drug costs forever, did not make any sense to him.

COMMISSIONER RIDLE stated that the Department of Administration is talking about the implementation of EGWP. She asked Conduent when the Department needed to let them know when it was pulling the trigger and getting it done.

MR. YOUNG replied that if the ARMB wanted the EGWP reflected in the June 30, 2017 valuation results, Conduent would need to know prior to when the FY2017 valuation results were finalized.

MR. KERSHNER added that the time would be now, because the actuary is in the middle of performing the FY2017 valuations.

CHAIR ERCHINGER inquired if the potential move to the EGWP drug subsidy was up in the air because of a staffing issue, or if the Department was still working with the Internal Revenue Service (IRS) to see if the plans qualify or there was some regulatory issue that could hamper the move.

COMMISSIONER RIDLE said it was partly the work flow and partly getting all the legal steps done.

COMMISSIONER FISHER said he was not aware of any legal issue that stood in the way of the retirement plans moving to an Employer Group Waiver Program.

COMMISSIONER RIDLE agreed with Commissioner Fisher that the actuary should not assume the retirement plans are never going to move to an EGWP. The delay is logistical, and there are a few legal issues, but they are not unsurmountable. Other states have done it, and Alaska can do it.

Looking for a possible timeline, CHAIR ERCHINGER asked if it was fair to assume that EGWP would not be implemented in the coming year, that there was a 75% chance of implementing it next year, and that the next year it would be a 90% probability.

COMMISSIONER RIDLE responded that it would probably be faster than that.

MR. YOUNG explained that he had assumed the ARMB had made an intentional decision to wait on taking the EGWP into account for the DB plan. Unless something had changed, he thought Conduent would keep that current assumption until a final decision was made. If it seemed more likely than not that the EGWP would be implemented, then Conduent could reflect something.

COMMISSIONER FISHER voiced his thought that the EGWP should be reflected in the DB plan valuation because the State is aggressively moving in that direction. He understood the estimated savings to the plans was $60 million a year.

MR. YOUNG agreed that the EGWP was a more financially beneficial program, and said many groups have moved to that approach. He saw no reason not to reflect it in the valuations if there are plans to put it in place soon.

CHAIR ERCHINGER summed up the situation by saying that it was a question of Commissioner Ridle talking to Conduent and assuring them with some degree of certainty that the State is going to get the EGWP implemented. If Conduent does not receive the certainty, then she would assume that the program would not be in place in the first year, but would be in place after the first year.

MR. JOHNSON expressed his agreement with the Chair.

COMMISSIONER FISHER asked if the healthcare trend ever got to the same as inflation. He noticed that Conduent's model always says that it does not. He was curious, in the assumptions that are built into the plan for 2090, what percentage of the economy healthcare costs would be.

MR. YOUNG stated that this model does get the healthcare trend to be inflation plus real GDP growth, so the percentage of the economy that healthcare consumes does not go beyond a certain level. The Getzen model is something like 25.5%, so the trend rates projected out assume that healthcare never goes above that level.

After a brief back-and-forth on what real GDP growth plus inflation will be in the distant future, COMMISSIONER FISHER asked Ms. Thompson if she was comfortable with the forecast. MS. THOMPSON said that she was.

Moving on, MR. KERSHNER said the committee had gone through all the different considerations for the various economic assumptions, as summarized on slide 49. Two alternative investment return assumptions for PERS and TRS would decrease from the current 8.0% return net of all expenses to a 7.75% or 7.5% investment return net of investment expenses only. Underlying those return assumptions is either a 2.75% inflation assumption or 2.5%. The payroll growth is basically a 25-basis-point productivity/merit assumption over and above the inflation. That affects the rate at which the unfunded liability is amortized (the combination of the investment return and the payroll growth means amortizing more of the unfunded liability a bit faster). The salary increases under the two alternatives were outlined on slides 33-35. The healthcare trend rates were outlined on slide 43 (since the trend rates shown on page 43 are not reflecting any changes to the underlying inflation assumption, Conduent did not vary the trend rates between the two alternatives). He stated that the ARMB can mix and match among the various alternative assumptions that were presented.

MR. JOHNSON interpreted the ARMB's option to "mix and match" among the various alternative assumptions to mean that each alternative that Conduent presented has kind of a band of what would still be considered reasonable on either side of a point. He asked if there was a consistent band that falls within the range of reasonability. For example, does the band fall between 7.0% and 9.0% for the investment return assumption, or is the band 2.0% and 4.0% for inflation.

MR. KERSHNER replied that there are bands that they consider reasonable, but there is no one answer. Conduent can reasonably and confidently say that they do not think it would be reasonable to increase the investment return assumption above 8.0%, even though there are some people who may think something higher than 8.0% is reasonable. What he meant by "mix and match" is that the ARMB could chose to change the investment return to 7.75% but want to change the salary growth assumptions or the underlying inflation to be something lower than what Conduent presented as alternatives. If the ARMB wanted to lower the investment return to 7.25%, for example, Conduent thinks that it would be increasing the margin for adverse deviation, but it would not be creating an unreasonable assumption. They are not saying that 7.5% investment return is the end of the range of reasonableness. There is no definitive answer to say where the band is for each of the assumptions. And the assumptions also have to be looked at together.

MR. DRISCOLL(?) pointed out that there is a margin for adverse deviation in there, too, that has to be looked at independent of the reasonableness of the underlying assumption.

CHAIR ERCHINGER referred back to slide 27, a summary of results for asset mix #4 under two alternative approaches. She mentioned the herd mentality in investing, that everybody wants to do what everybody else is doing so that nobody stands out as having done something that looks stupid when others have a better outcome. There is tremendous pressure to tend toward the norm. Looking at the results for approach #1 on slide 27, which represented a reversion to the norm, the 20-year horizon using the GEMS® model has an expected nominal return, net of investment expenses, of 8.51%. The building block approach 20-year horizon has an expected nominal return of 9.36%. Those

are fairly significant returns above even where the ARMB is today. Then, approach #2 was assuming that the new normal would be a very low interest rate environment and low returns. Her question is where the ARMB falls relative to Conduent's expectation for those two scenarios.

MR. SCHULMAN stated that when comparing the building block numbers to the GEMS® numbers, it is important to keep in mind that the building block numbers are all arithmetic.

MS. THOMPSON said she had some reservations about this and would comment on it later.

CHAIR ERCHINGER said she understood that Conduent was simply providing some options and not actually making a recommendation at this point, but she was trying to put the 7.75% return assumption in perspective for herself. She wanted a further conversation about the model projections before looking at alternative assumptions. Secondly, looking at the summary of potential assumption changes on slide 49, the current investment return assumption is 8.0% nominal return and a 3.12% inflation assumption, so the real return assumption is 4.88%. In both the alternative scenarios, the real return assumption is 5.0%, which is higher than the current assumption, and a lower inflation assumption of either 2.5% or 2.75%. The ARMB is criticized for having an 8.0% return assumption, "which is so much higher than other plans in the nation, and there is no way the retirement funds can possibly hit it." Yet the current real return assumption is 4.88%. That is the pressure that the ARMB is under, and she wanted some clarity around that.

MR. SCHULMAN referred to the asset allocation on slide 18, saying that the ARMB has a fairly aggressive asset mix, even in the context of other state retirement plans. The ARMB asset mix has very little fixed income, and most of the assets in the portfolio are what Conduent would call return-generating assets. It is something of an apples-and-oranges comparison to other state retirement plans.

CHAIR ERCHINGER mentioned that Ms. Harbo had requested from NASRA (National Association of State Retirement Administrators) a comparative table of all the state pension plans (their nominal returns, inflation assumptions, and actual real returns). Not only was the ARMB well above its real return target, it stood out as having great performance and well above its target compared to other state pension plans. However, that is not what people look at when they are comparing plans – they look at the nominal returns. To her, going above the ARMB's current real return target feels like doing it for all the wrong reasons. Nevertheless, she realized that the most important thing is what inflation is expected to be, which will help inform what the committee and the Board finally settle upon. It is important to have that conversation.

COMMISSIONER FISHER mused that it may be a mistake to focus on the real return as if that is what the ARMB really should be measuring. He is not convinced that the retirement plan costs vary with inflation that much. To a certain extent, the costs are defined by the nature of the plan. So, if the ARMB hits its real return target, and if inflation is below expectations, he believes it creates an unfunded liability. The nominal return may be the more important return number for the ARMB to consider.

MR. KERSHNER stated that on the pension side the decreases in the salary increase assumption and the inflation assumption (that affects the COLA and the PRPA liabilities) fairly well offset the drop

in the interest rate assumption. The real change is on the healthcare side, where the trend rates are causing a big increase in the liability based on the alternative assumptions. Those alternative assumptions reflect the current inflation assumption. If the ARMB were to adopt a lower inflation assumption, then Conduent would expect the trend rates they are showing here to come down with a lower inflation assumption, all other things being equal, because they reflect a 3.12% inflation currently. Some of the cost estimates that Conduent is showing are probably on the conservative or high side, as it relates to retiree medical.

MR. KERSHNER reminded everyone that at the last meeting and the meeting before that, when there was some question of whether Conduent should change the investment return assumption before getting to the experience study, that they recommended looking at the assumptions together. For example, when they lower the inflation component, it affects the salary increase assumption and the COLA. They all work together, and some forces go in opposite directions, which help mitigate some of the impacts.

Clarifying further in response to COMMISSIONER FISHER's reference to the healthcare trend rates chart on slide 43, MR. KERSHNER said the trend assumptions will change based on the inflation assumption that the ARMB makes. He added that the trend assumptions on slide 43 reflect the current 3.12% inflation assumption. If everything else stays the same, in terms of healthcare experience and the Getzen model, etc., and all that happens is lowering the inflation assumption to something less than 3.12%, the healthcare trend rates will come down, particularly the ultimate, if it is a function of the inflation plus real GDP. He stressed that the trend rates that reflect a big increase in liabilities reflect the current inflation assumption.

COMMISSIONER FISHER observed that the healthcare trend is where the inflation assumption has the biggest impact.

MR. KERSHNER agreed, and added that the demographic assumptions also have an impact – for example, if the ARMB decided to change the investment return assumption to 7.5% but, to help offset some of that conservatism or have a margin for adverse deviation, it is not as conservative on the demographic assumptions. They all work together and have to be looked at together. When trying to compare what other retirement plans are doing, the committee has to look at everything together as well.

CHAIR ERCHINGER requested a sensitivity analysis around each of the assumptions to give the committee an idea to what extent the assumptions are material relative to one another. It would be helpful for spending more time on the assumptions that matter the most.

The next step was to look at the estimated cost impact of the potential assumption changes, in terms of future contributions. MR. KERSHNER stated that, because Conduent is still in the midst of performing the 6/30/17 valuations, the cost impacts were done as of 6/30/16 because that is the last known starting point.

Looking at the estimated cost impact for PERS and TRS, MR. KERSHNER drew attention to the actuarial accrued liability, which was split into pension and healthcare. The pension liability goes

down under both alternatives but more so under alternative #2. The healthcare liability goes up, so the overall liabilities go up, but most of the increase is being driven from the changes in the healthcare assumptions combined with the other assumptions. The interest rate is also part of the healthcare, so it is not only the trend – the discount rate decrease also is raising the liabilities.

MR. YOUNG pointed out that if the EGWP were to become effective for the defined benefit group then the numbers would change.

MR. KERSHNER stated that Conduent believes, based on their analysis, that it would be reasonable to stay at 8.0% for the investment return assumption. They included two alternatives which add some margin for adverse deviation so that meeting the investment return is likely easier to achieve.

CHAIR ERCHINGER remarked that the discussion on the economic assumptions was a lot to take in, and she appreciated everyone being there. She asked Ms. Thompson, the review actuary, for her comments.

MS. THOMPSON stated that GRS reviewed Conduent's PowerPoint presentation and appreciated the many phone calls with Conduent and their patience. GRS does not use an economic scenario generator, but she had the 200-page practical guide to the GEMS® economic model as a reference. The practical guide contained a number of quotes that said very specifically that it is not to be used to predict economic variables. She extracted those quotes and forwarded them to Conduent to get their response, because she had formulated the conclusion that the GEMS® economic model is a fabulous tool, but it is the wrong tool for this job. Conduent went back to one of the actual authors, and that author said that what they are doing is fine. As of today, she remains unconvinced but continues to listen.

MS. THOMPSON said that Mr. Schulman's presentation helped solidify for her how the model gets calibrated, whether a person believes things will revert to the mean that goes back 60 years or the mean that goes back a shorter period of time. She shared Commissioner Fisher's questioning as she tried to digest the presentation material: what was she really saying if she believed that things are going to go back to the longer reversion to the mean? She was not at that point because she thinks that some things happened in the macro economy that cannot be repeated. Women entering the workforce in the 1960s and 1970s improved the GDP so much, and it cannot be repeated. The microchip and all that that has brought into the economy will not be repeated. Those are the kinds of things that she looks at on a macroeconomic basis and concludes that she is not going to buy reversion to the mean. She is under the new normal scenario.

CHAIR ERCHINGER mentioned that the ARMB had a fantastic education conference in October, and one of the topics was the tremendous pace at which technology is changing things. She would like to have a conversation about that sometime, because Ms. Thompson was making a very good point, but the education conference presented a somewhat opposite point.

MS. THOMPSON stated that she has become extremely concerned about the horizon, and Mr. Schulman shared similar thoughts on that concern. She did not think that the ARMB had the luxury of talking about long-term anymore because the DB plans are closed, and the plans are paying a lot

of benefits quickly. Even though the plan assets are going to last a long time, the ARMB has to be very careful about that. A nice thing about Conduent's presentation was being able to see how 10 years, 20 years, 30 years, the rates are increasing, but the ARMB cannot use those long-term rates because it is burning too fast on the closed plans.

MS. THOMPSON said that four years ago, when she went through the GEMS® model with the prior signing actuary, that actuary could not answer questions about calibration, about steady state, or other questions. She felt there was an incredibly heavy reliance on something that was not disclosed. She was saying the same thing to Conduent now. Her opinion is that if they are relying on a subcontractor to develop the assumptions, that needs to be disclosed in the signing of the valuations.

MS. THOMPSON said she did not mean to be so frictional, but if something really went south and the retirement plans got in trouble for an assumption, her question was whether Conning was liable or Conduent was liable because it subcontracted out that work. It is something to take up with Conduent.

Regarding the building block approach, MS. THOMPSON stated that none of the people at the table were around when it was done the old way eight years ago, and then it was moved to the GEMS® way. That was a surprise and not talked about with anybody before it was done. The investment committee looked separately and said they wanted to see the old way and the new way. This year, it looked like Conduent's building block approach used the GEMS® numbers, rather than doing it the old way. GRS looked at a survey of 30 investment consultants for their capital market expectations and used the ARMB's asset allocation mix #4 and came up with numbers. GRS also thought it was important to see what Callan Associates was predicting. The Callan 10-year compound return was 6.6% for asset allocation mix #4. The 30-year return came out closer to Conduent's alternative #2 in the GEMS® model.

MS. THOMPSON said her understanding of today's presentation was that the signing actuary would be willing to sign under any scenario. She would not be willing to sign the 8.0% investment return because she did not believe that was a reasonable assumption anymore. She was fine with the salary scale and other assumptions. She had had a few comments about the healthcare assumption but had spoken with Mr. Young and was in agreement with where he was headed in his review.

MR. JOHNSON asked if GRS concurred that there are ranges of reasonableness based on the numbers that Conduent presented.

MS. THOMPSON said she believed there is not a single point that is correct and that there is a range.

MR. JOHNSON asked if that range was typically one deviation away or one percent away from each of Conduent's assessment points. He said he was trying to figure out how big her band of reasonableness was.

MS. THOMPSON replied that she had not done the work that Conduent has done, so she did not know the length of her band. She did know what was not reasonable. The range of reasonableness for her right now would be 7.0% to 7.75% (for the investment return assumption).

CHAIR ERCHINGER asked her what the inflation assumption would be.

MS. THOMPSON stated that GRS has a corporate policy that the inflation assumption has to be less than 3.0%. She sticks very close to Social Security because they are also long term. Because Alaska's closed plans are burning up, she would be closer to 2.5% inflation.

CHAIR ERCHINGER indicated that one of the next steps would be for the committee to get feedback from Callan, the Investment Advisory Council members, and staff, at least with respect to the investment return assumption and the inflation assumption.

MR. SCHULMAN stated that if the ARMB chose a 2.5% inflation assumption, the Board would have a lot of company. Quite a few large plans that he works with are probably using 2.5%, so there would be some comfort there.

VII. FUTURE MEETINGS

A. Calendar Review

The schedule of meetings for 2017-2018 was included in the packet.

B. Agenda Items

There were no items other than the requests made during the meeting.

C. Requests / Follow-Ups

CHAIR ERCHINGER said she would like to have the capital market survey information that Ms. Thompson referenced a few minutes ago.

MS. HARBO requested an update on where the Administration is on the EGWP drug subsidy.

VIII. Adjournment

The meeting adjourned at 1:35 p.m., on a motion made by Ms. Harbo and seconded by Mr. West.

Note: An outside contractor prepared the summary minutes from staff's recording of the meeting. For in-depth discussion and presentation details, please refer to the recording, staff reports, and written presentation materials on file at the ARMB office.

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