

REPORT FROM THE PENSIONS & LOCAL GOVERNMENT PENSIONS SUBCOMMITTEE

ADDITIONAL QUESTIONS FOR CAVANAUGH MACDONALD

OVERVIEW SECTION

1. ***Mitigation Tools and Layered Amortization***—On page 3 of the report for PERS, the last paragraph, the report states that the largest risk factor facing PERS is the short term investment volatility and that since both the benefits and the funding are set in statute, there are “no tools available to mitigate this risk”. And, then the report goes on to suggest an alternative funding method called “a layered amortization methodology”.

- a. Could CM be more specific about what is meant by “there are no tools”?
- b. Could CM please explain in greater detail what “layered amortization” is and how employee and employer contributions would be affected if this layered amortization tool were adopted by the legislature?
- c. Could CM further explain what the risk is that would be mitigated by the layered amortization tool, because short-term investment losses and an amortization period exceeding 30 years can be tolerated for a certain amount of time without the system becoming insolvent, right?

MATURITY RISKS

2. ***Active to Retired Ratio and Contribution Sensitivity***—On page 4 of the PERS report, there is a discussion about the active to retired ratio and asset volatility. The last sentence of the first paragraph under asset volatility ratio is “The higher this ratio, the more sensitive a plan’s contribution rate is to investment return volatility.”

- a. Could CM further explain what is meant by “contribution rate sensitivity”? Right now contribution rates do not change unless the legislature changes that rate in statute. So, could CM be more explicit about what active to retirees ratio and asset volatility ratio would cause the system to become insolvent if the legislature did not increase contributions?
- b. Could CM contrast what this contribution rate sensitivity means (i.e., how would it change) if the legislature adopted a layered amortization method?
- c. Based on current assumptions and actuarial projections, at what point would the asset volatility ratio stabilize for PERS

3. ***On Active to Retiree Ratio***—Where do we cross from an acceptable ratio to an unhealthy ratio?

4. **On Asset Volatility**—It increased in the last 7 years, is that likely to continue? What makes it better or worse? How would this change if the plan’s realized return were below assumed return for some period?

5. **Cash Flow**—On pages 6-7, regarding cash flow:

- a. Could CM please further explain in layman’s terms the concept of “sustainable negative cashflow” as it is used in the column header? There are numbers in bold and then in 2037, the numbers are not in bold and it looks like that is where the negative cashflow actually becomes “sustainable.” So, does the bold mean the negative cash flow is not sustainable? Or, does it mean that because progress is being made, PERS’s negative cash flow is sustainable?
- b. What effect would a layered amortization policy have on cash flow projections for PERS?

6. **Historical Cash Flow**—At what percent negative cash flow should we be concerned? These numbers are shown meeting the assumed rate of return. Please illustrate with other, lower returns.

QUALITATIVE

7. **Amortization Policy**—On pages 10 and 11 of the PERS report, regarding the amortization policy and the alternative layered amortization method discussed:

- a. Does the chart on page 11 reflect the PERS board’s current amortization policy?
- b. What would a summary table show if a layered amortization period policy were adopted (i.e., would it still show one actuarial determined contribution rate, or two)? An example would be helpful to contrast the current table in the June 30, 2019 valuation with a table based on a 20-year and 30-year layered amortization policy.

8. **Layered Amortization**—What would the results be by running these illustrations with stochastic numbers rather than deterministic?

9. **Payroll Growth and Assumption of Active Membership**—On page 12 of the PERS report, the report states that if there were a “material shift” in PERS membership the funding of the plan would be impacted. Given the size of PERS, what amount of payroll and/or membership could be taken out of the plan before it would constitute a “material shift” impacting funding?

10. **Payroll Growth**—Impact on plan in amortization terms of lower growth or a declining payroll? When would the plans surpass 30 year amortization?

QUANTITATIVE

11. **Population growth on page 15**—Does amortization period rise during the declines? If so, how quickly? When would the Legislature be faced with the need for action? (assuming the trigger to act is the exceeding of 30 year amortization)

INVESTMENT RETURN

12. **Risk Due to Order**—This is certainly illustrative of the concept, but both are very unlikely scenarios. Please run a more common scenario to illustrate the same point.

13. **Risk of Low Returns for Sustained Period**—Illustrate lower returns for 20 years and then higher returns for 10 years, the opposite of what has been done here, as well.

14. **Risk of Shock**—Why is this illustrated for just a single year? Shocks often have negative returns for two years. Please illustrate with shocks that might match that pattern of one big shock, one modest negative. Please translate the funded ratio chart on page 21 (PERS) into question from above. When would the legislature have to act?

15. **Repeat of Last 20 Years**—Last 10 years showed no negative numbers in fiscal year return. How common is that? Due to our amortization policy when and how big of a response would be required so the plans would not become insolvent using this example? Can a sample be illustrated of something between the last 20 and the assumed return answering the same questions?

16. **Investment Return Risk**—For the two graphs on page 21 regarding the various investment return scenarios, for the scenarios that involve a significant loss and then recovery or no recovery, what exactly is the “no recovery” and “with recovery” scenario or assumption? The report defines that in general, but could CM please provide the exact rate of returns that are behind those two line graphs?

On page 23, the last sentence under the second line graph is “Based on the projections above, with no additional contributions, the minimum market value return that can be achieved and still be sustainable is 7.15%.”:

- a. Could CM please clarify the 7.15% minimum...Is that the minimum the market return must achieve on average of over the next 30 years to sustain the plan?
- b. A similar statement is not in the TRS report for its similar graph on page 24. What would the minimum return need to be for TRS?

On page 25, regarding the expected return scenarios...the second paragraph states that the scenarios are based on “the expected return and standard deviation of the PERS’s portfolio”:

- c. Could CM just spell out and clarify as simply as possible how expected return is determined?
- d. Could CM explain for the layperson standard deviation and the percentiles? In other words, could CM explain for the layperson what the percentiles (25th, 50th, and 75th)

mean in terms of high, medium, or low investment volatility risk and how to read these types of graphs since the color of the 25th percentile and the 75th percentile is the same.

- e. Could CM explain how they would do an experience study for PERS and come up with a recommendation for an investment rate of return assumption?

17. **Funded Ratio and Insolvency**—Given that contributions for PERS and TRS are statutorily fixed, based on all current assumptions and methods, what is the minimum funded ratio for each system that can be tolerated before the plans will eventually become insolvent in 30 years or less without contribution increases?

SENSITIVITY ANALYSIS

18. **7.4%, 6.9% and 6.4% Returns**—RVK’s capital market forecast for BOI was 6%. Please run an illustration at that 6% and translate the results to answer the question when does the amortization period go above 30 years and how large would the response need to be to bring that back down to 30 years, i.e. when does the Legislature need to act?

19. **Variability of Returns**—What happens with these results if using RVK’s capital market expectation of 6%?

20. **Probability of Low Funding**-How does the probability of any level of funding translate into amortization and thus Legislative action to assure proper funding? Second paragraph below the table says “...41% chance that it will **not** drop below 70%” Please explain, it seems that there is a 41% chance it **will** drop below 70? (In PERS version, only)

21. **Layered Amortization**—when referencing the ADEC does employer contributions include just the actual employer contributions or also the statutory appropriations?

GENERAL QUESTIONS

1. Can Cavanaugh MacDonald respond to the topics in the Legislative Finance Committee’s memo dated December 3, 2018 on [Pension Stress Testing Recommendations](#) not addressed in the Cavanaugh MacDonald analysis?

2. Would it be more prudent after the GFC in 2008 and now the Covid-19 pandemic to utilize more “risk adverse” near term forecasts than the less predictable 30 year or longer forecasts in building assumed return?

3. Does overfunding a plan hold as much risk as underfunding? If so what are they?

4. If unfunded liabilities saw little drop or additional increases after a 10-year bull market what should we expect for the future? (It is understood that changes were made that both positively and negatively affected those liabilities in the last 10 years.)
5. If fully funding accrued benefits long term became our goal should we use the current 50% probability approach in choosing our assumed investment return?
6. Can a better explanation on layered amortization be provided?
7. What other states are using layered amortization? Can Cavanaugh MacDonald provide a scenario of how layered amortization is working in other states?
8. Which elements from stress testing is the most helpful and which are the least helpful? What specific aspects of the stress test are particularly useful? What elements are the most important, to make sure we can get a read on to really understand when we have to act and how quickly do we have to act? These are the important underlying questions that need to be answered.
9. Can Cavanaugh MacDonald do more interpreting of the data they have provided?
10. Can we receive a recommendation from the actuaries on what they recommend should be done?