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March 27, 2018

Mr. Henry Jones
Chair of the Investment Committee
California Public Employees' Retirement System
400 Q Street
Sacramento, CA 95814

Re: Supplemental Income Plans (SIP) Asset Allocation Glidepath

Dear Mr. Jones:

You requested Wilshire's opinion as it relates to Staff's recommended asset allocation glidepath for the Supplemental Income Plans (SIP). As of December 2017, the CalPERS SIP had approximately \$1.7B in assets, which includes the CalPERS 457 Plan (\$1.5B), the Placer County 401(k) Plan (\$42MM) and the Supplemental Contributions Program (\$115MM).

The Process

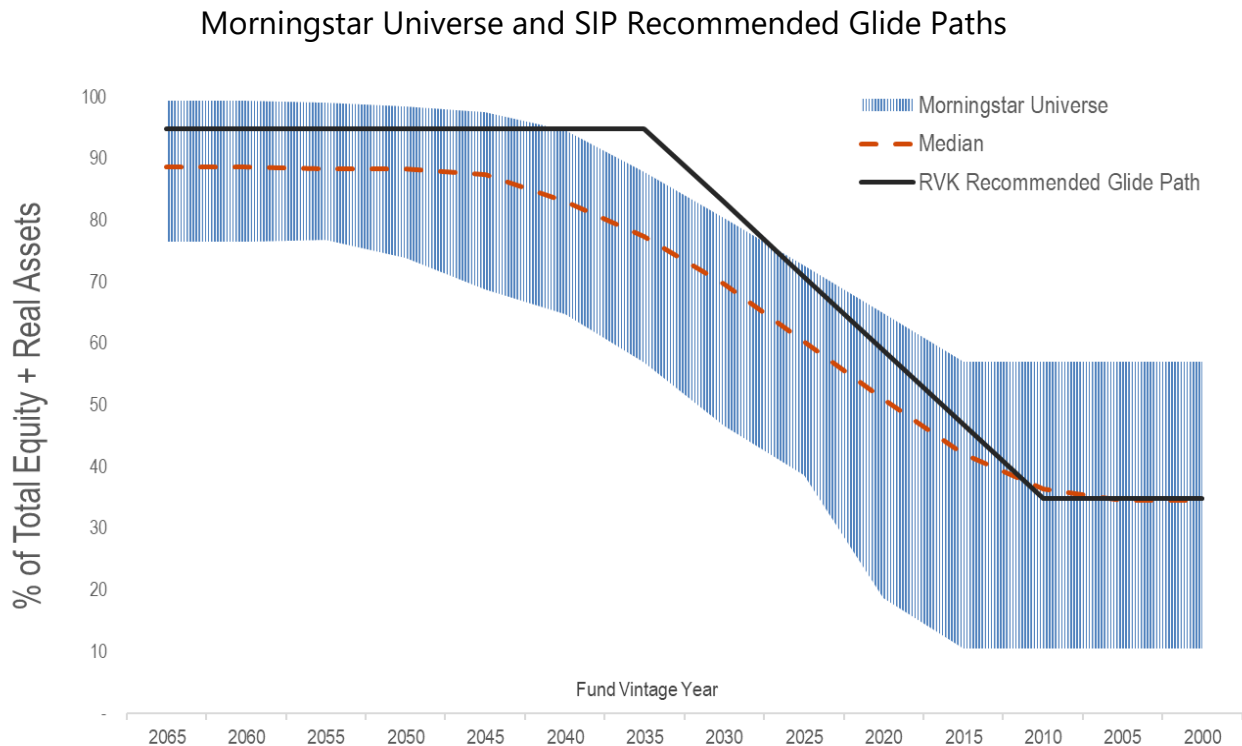
Staff engaged an external consultant to conduct glidepath analysis for the SIP program. Wilshire believes that the methods, inputs and data used to perform the evaluation are appropriate and reasonable. For example, the asset class assumptions used in the process were consistent with those approved and utilized within the PERF's recent ALM review (the only exception was within the Real Assets segment to accommodate the SIP's requirement of utilizing marketable securities). Demographic and participant behavior data were incorporated through the modeling and/or gathering of elements such as salary growth, contribution rates, income replacement goals, sources of household income, plan distributions, and life expectancies. The importance of liability information with the analysis is consistent with Investment Belief 1 (i.e. liabilities must influence the asset structure).



In evaluating the appropriateness of various glidepath options, Staff and the external consultant primarily focused on trade-offs between the competing goals of maximizing the expected median replacement income and minimizing market risk. However, as can be seen on slide 22 of Staff’s presentation deck (attachment 1 of this agenda item), other estimates such as ending balance, replacement rate, probability of shortfall, years before drawdown, required additional contribution, etc. were also factored into the glidepath analysis. The consideration of this wide variety of risk metrics is both important to understanding glidepath characteristics and consistent with Investment Belief 9 (i.e. Risk to CalPERS is multi-faceted and not fully captured through measures such as volatility or tracking error).

Glidepath Selection

The proposed glidepath, which is reflected on slides 20 and 21 of attachment 1 and pasted below, reflects Staff’s and their external consultant’s recommended glidepath based on their assessment of the various risk trade-offs referenced above.



As noted in Staff’s letter, the recommended glidepath reflects both higher expected return and risk than the SIP’s current glidepath. While such an increase in risk taking may be perfectly appropriate and consistent with the SIP’s underlying demographic and

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behavioral changes, Wilshire specifically highlights several observations to ensure that the Investment Committee is comfortable with the risk characteristics embedded in the proposed changes:

1. The glidepath's starting risk level, during the "accumulation plateau" phase that proceeds de-risking, is near the top of the Morningstar Universe.
2. The "accumulation plateau" extends the starting risk allocation further along the glidepath (i.e. ~ 10 years).
3. The interaction of characteristics 1 & 2 above lead the glidepath to exceed the risk levels of the Morningstar Universe immediately before and in the early stages of its de-risking path. However, it should be noted that the proposed glidepath has a steeper de-risking pace than does the Morningstar Universe, so returns to be well-within the universe at the landing phase.

Should you require anything further or have any questions, please do not hesitate to contact us.

Best regards,

A handwritten signature in black ink, appearing to read 'Steven J. Foresti'.

Steven J. Foresti

A handwritten signature in black ink, appearing to read 'Thomas Toth'.

Thomas Toth