Mid-Cycle Public Employees' Retirement Fund Asset Liability Management Review March 2024

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"minimize the risk of loss", "maximize the rate of return", and "assure prompt delivery of benefits", while "minimizing employer contributions". The actual choice of portfolio must strike a balance among these competing objectives.

Background

The mid-cycle review of the strategic asset allocation is part of the PERF asset liability management process (see appendix). This review involves CalPERS' Actuarial, Communications and Stakeholder Relations, Financial, and Investment Offices (see appendix).

The PERF Policy Portfolio is a benchmark asset mix designed to harvest scalable long-term risk premia while maintaining an acceptable risk of loss.

The SAA is designed with the following considerations in mind:

a) Having a reasonable expectation of PERF returns meeting or exceeding the actuarial discount rate over the long-term.
b) Minimizing the risk of loss needed to support the harvesting of risk premia.
c) Ensuring sufficient liquidity to meet our obligations now and in the future.

The Board approved the current Policy Portfolio in November 2021 by adopting CMAs, selecting a strategic asset allocation, a projected return, and a projected risk. To facilitate this mid-cycle review, we use the 2021 Policy Portfolio asset mix to represent the Board risk appetite.

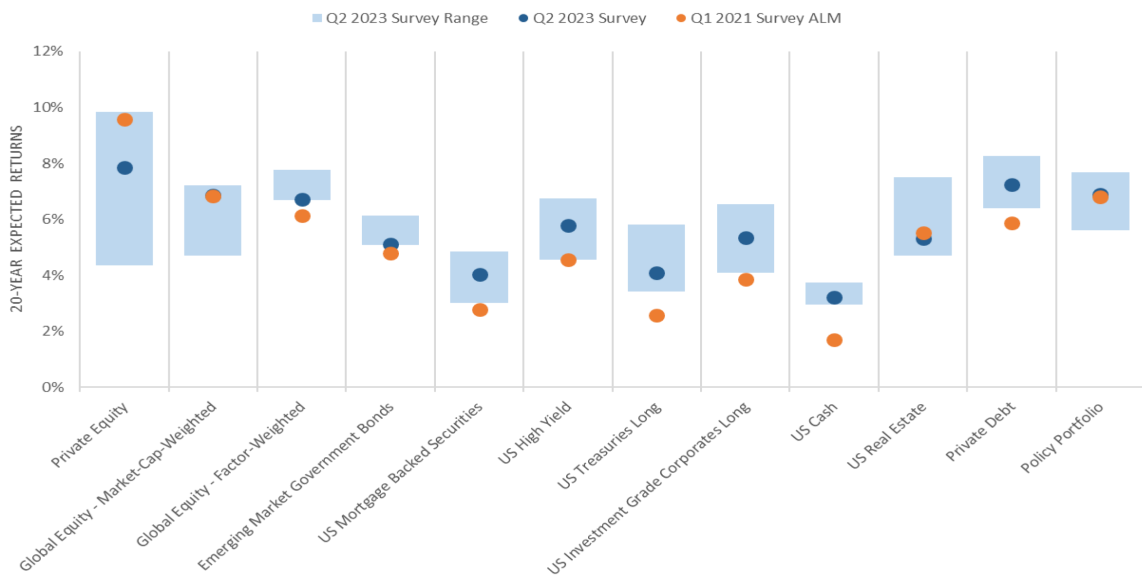
Our recommendation relaxes self-imposed constraints on private equity allocations used in 2021. The recommended portfolio also reflects the material change in the rate environment.

Capital Market Assumptions

Our most recent survey (end of Q2, 2023) of 20-year projected returns is presented in Exhibit 2. There were no material changes relative to the CMAs provided in Q3, 2023 (see appendix).

The light blue boxes represent the range of responses for asset class returns, and the blue dots represent the median value of the responses for the asset class. The orange dots represent the median values used in the 2021 ALM analysis. The size of the blue boxes represents the diversity of surveyed expert opinion and are indicative of the uncertainty associated with return projections.

Exhibit 2. Expected Returns: 20-Year CMA Survey Estimates



Projections for fixed income and private debt returns have increased, while projected private equity returns have decreased. These changes are attributed to the general increase in both short- and long-term rates, leading to increased bond returns. These same rate increases can lead to increased financing costs for private equity, reducing private equity returns.

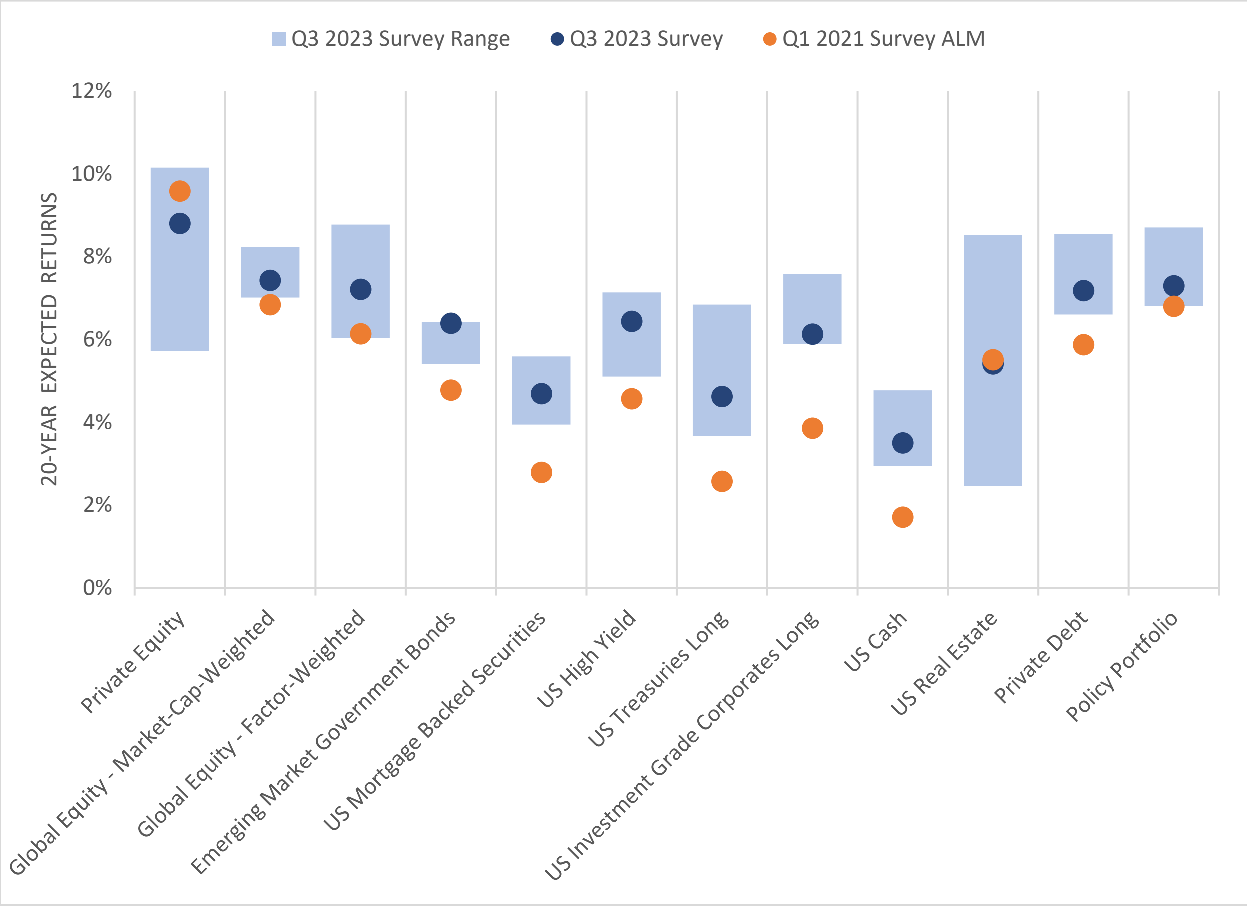
Diversification

Portfolio diversification is an integral part of asset management and is a critical component of managing the overall risk of a portfolio. The benefits of diversification can be illustrated through the sequential addition of new asset classes and leverage to a portfolio, starting from a basic asset class mix and gradually incorporating more complex assets.

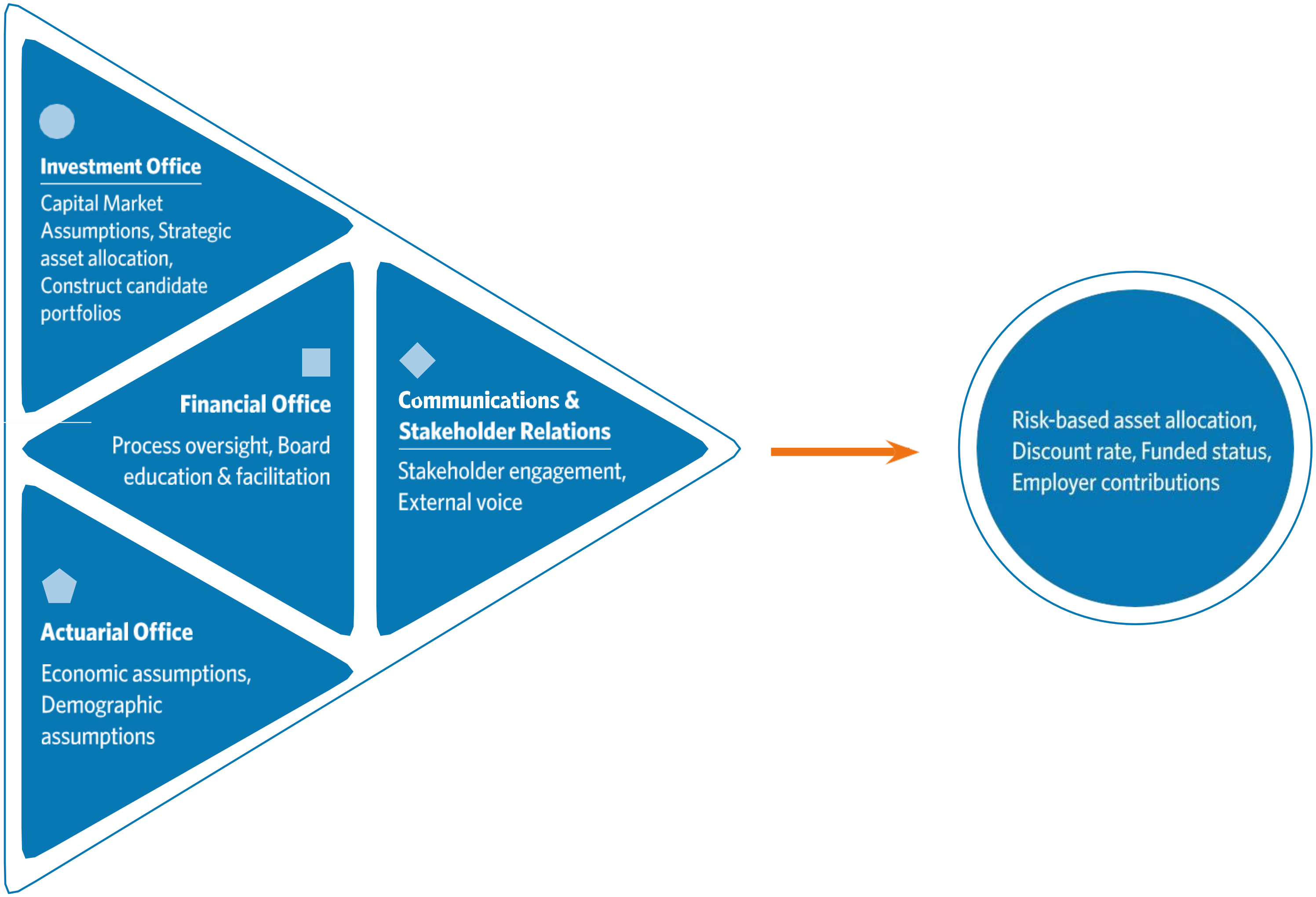
The risk-reducing benefits of diversification are illustrated in Exhibit 3. Drawdown risk, as a percentage of total portfolio, is plotted on the left vertical axis. The right-hand axis measures drawdown risk in dollars. Four portfolios of increasing diversification are plotted along the horizontal axis. All the portfolios target the same projected return of 6.8%.

The simplest portfolio (labelled 'Global Equity & Treasury') is leftmost, constructed using public equities, long treasuries, and cash. This simple portfolio has a drawdown risk of roughly -37%. The sequential addition of new asset classes increases diversification and reduces risk. In order, the addition of leverage, then investment grade bonds, and finally, private assets, reduces drawdown risk to -35%, -26%, and finally -15%. Leverage is used to increase the exposure to lower risk assets (such as treasuries) and reduce the exposure to risky assets (equity). Private assets provide economic diversification and exhibit valuation characteristics that smooth and lag market value changes, thus moderating short-term fluctuations and contributing to overall portfolio stability.

Appendix: Q3 2023 Capital Market Assumptions

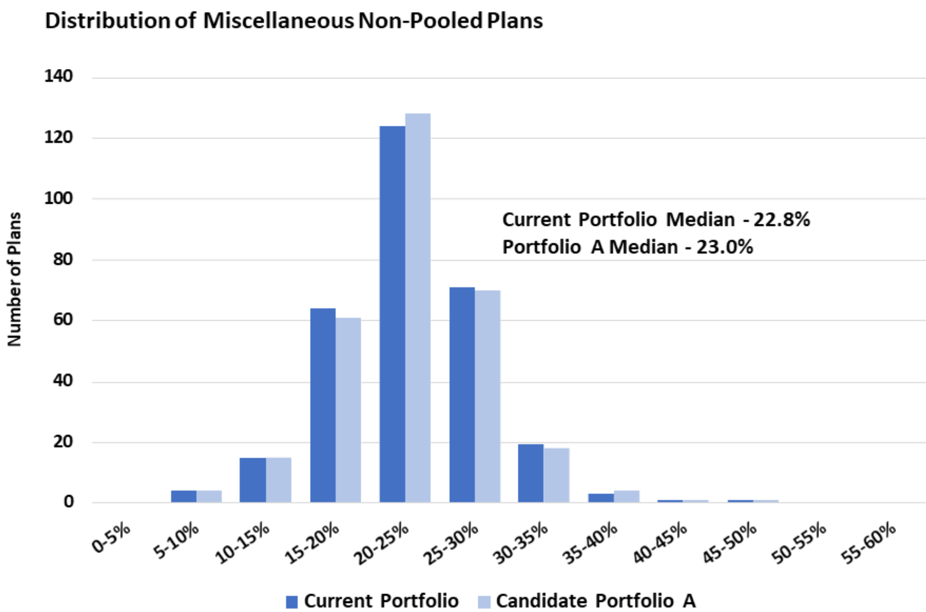


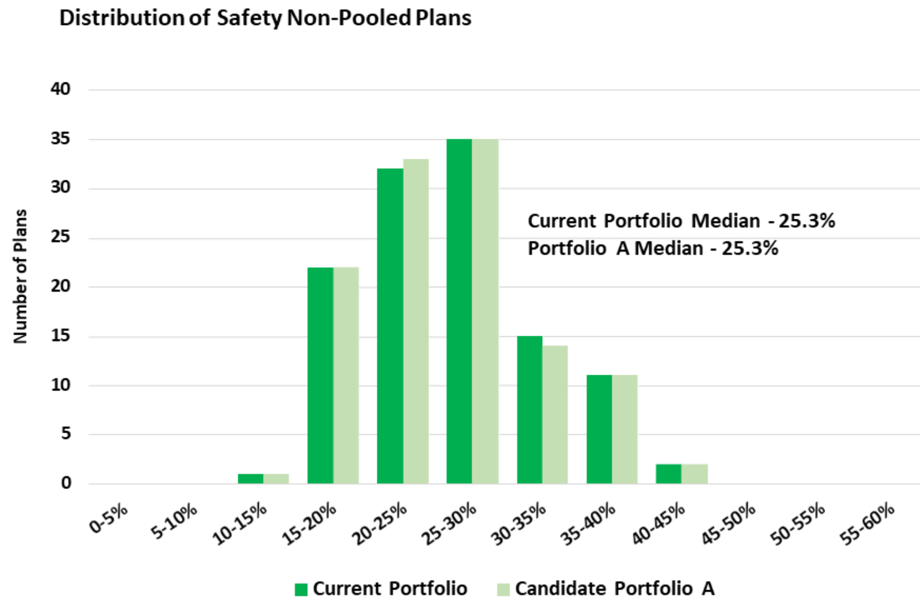
Appendix: Key Functions Within the ALM Process



The probability of funding falling below 50% for Miscellaneous Non-Pooled and Safety Non-Pooled plans are given in the next two exhibits. The dark shaded bars are for the current portfolio, and light shaded for the Candidate Portfolio A.

Looking at the Miscellaneous Non-Pooled Plans exhibit, the horizontal axis indicates the probability of funding dropping below 50%. The vertical axis is the number of plans having that probability. The left most part of the exhibit shows there are 0 funds having a probability in the range of 0-5%. Second from the leftmost, there are roughly 3 plans having a probability of 5-10%. The two portfolios have similar funding ratio risk.





Distributions of employer contributions for Miscellaneous Non-Pooled and Safety Non-Pooled plans are presented in the next two exhibits. Again, we see the current and Candidate Portfolio A have very similar outcomes.