

Total Fund Portfolio Management Annual Program Review

Sterling Gunn, Managing Investment Director
Total Fund Portfolio Management
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Program Overview

Role

- Day to day portfolio management of total plan financing, liquidity and allocation
- Research and analysis on macroeconomy, global markets, and total fund positioning/risk to support decision making
- Development of total portfolio strategy

Key Metrics

- Portfolio completion and rebalancing tracking error: **< 5bps**
- Net financing managed to support strategic and active exposures: **\$27B**
- Expected annual return impact of mid-cycle adjustment to strategic allocation: **~\$500m**

Investment Beliefs

- Strategic Asset Allocation is the dominant determinant of portfolio risk and return
- Liabilities must influence the asset structure: Strategic Asset Allocation
- A long-time investment horizon lets us invest in illiquid assets, opportunistic strategies
- CalPERS must articulate its investment goals and performance measures and ensure clear accountability for their execution: SAA, Risk Budgets
- CalPERS will take risk only where we have a strong belief we will be rewarded for it
- Strong processes and teamwork and deep resources are needed to achieve CalPERS goals and objectives



Key Responsibilities



Portfolio Implementation

- *PERF financing and liquidity*
- *PERF allocation management*



Analytics and Research

- *Portfolio analytics (exposures and risk)*
- *Macroeconomic and market research*



Strategy Development

- *Strategic Asset Allocation*
- *Active risk allocation (risk budgeting)*
- *Cross-portfolio / multi asset investment strategies*



Portfolio Implementation

What are the specific responsibilities?

- Manage financing and liquidity to ensure PERF maintains adequate cash to meet external and internal funding needs now and in the future (Investment Treasury)
- Manage aggregate PERF risk profile to target levels (rebalancing & completion)
- Seek incremental value add through efficient financing and opportunistic liquidity provision to funding markets

Why is this important?

- Material allocations to private assets and the use of leverage generate significant cashflow management requirements
- Market volatility and private asset cashflows can quickly lead to undesirable risk configurations *across* asset segments that can dwarf the impact of positioning *within* segments



Analytics & Research

What are the specific responsibilities here?

- Maintain a current understanding of market and macroeconomic conditions, and their applicability to CalPERS' trusts
- Maintain a current understanding of risk and positioning across the portfolio (portfolio analytics)
- Support decision making across the investment office and for the Investment Committee via bespoke and standardized reporting

Why is this important?

- There are economies of scale to centralizing broad economic and market research activities
- Aggregated positioning and risk information is required for effective allocation decisions and risk oversight



Strategy Development

What are the specific responsibilities here?

- Research and recommend portfolio options to Investment Committee for Strategic Asset Allocation (SAA) decisions
- Advise CalPERS' CIO on risk allocation relative to SAA and long-term liquidity planning
- Research and recommend multi-asset strategies for implementation

Why is this important?

- Asset allocation drives the vast majority of risk and return of the portfolio
- Top-down risk allocation helps ensure staff's investment leeway is deployed in a coherent fashion that optimizes return-to-risk
- Research on new strategies across asset classes can identify 'white space' not covered within asset class-specific Programs



Market Environment

Current Concerns

- Risk of increased bank regulation (Basel III Endgame) impacting the costs and liquidity of financing markets
- Elevated equity funding rates, if persistent, could increase long-term financing cost expectations



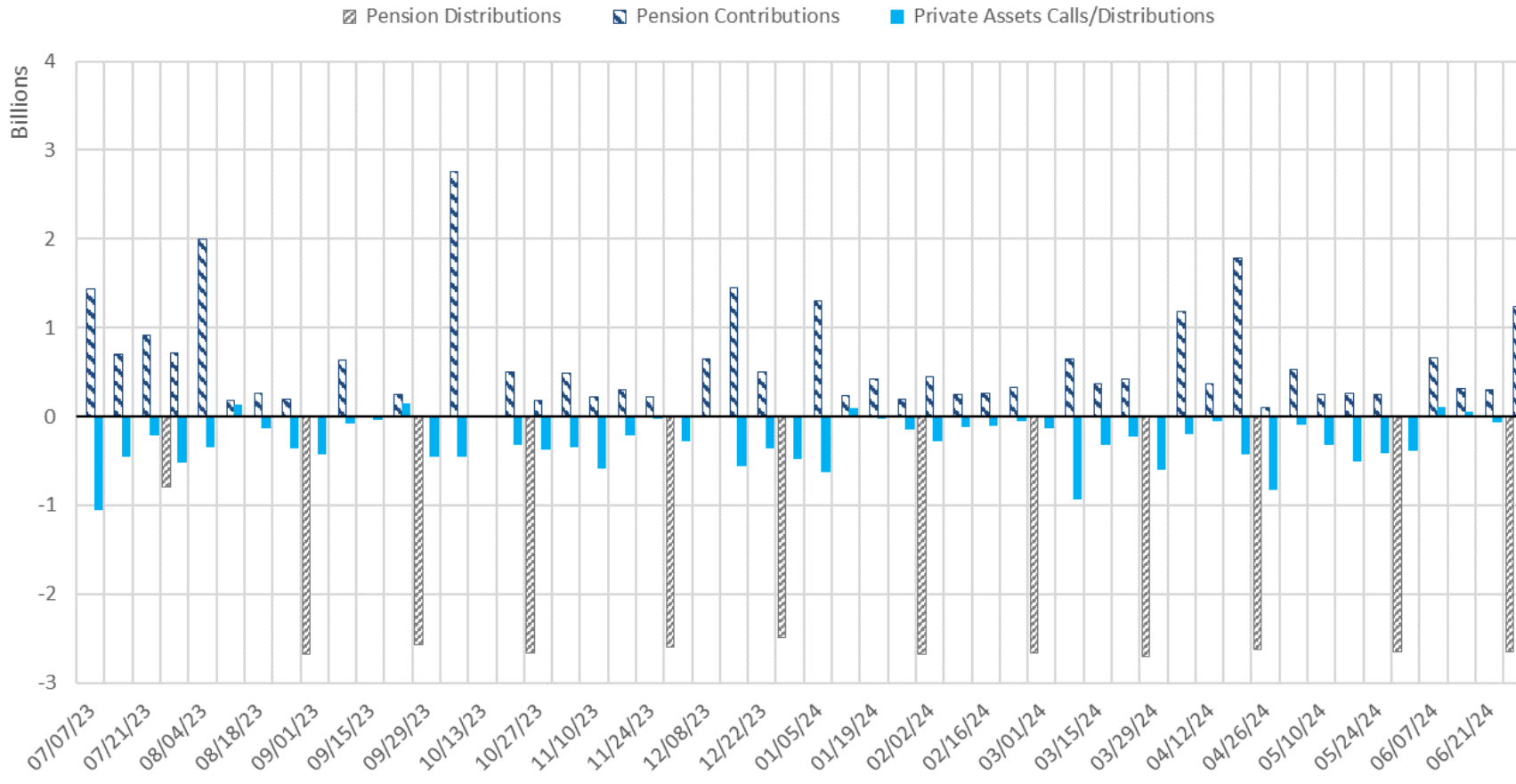
Investment Themes

- SEC-mandated central clearing of UST repo will shift current market mechanics, which could lead to increased transparency and depth of liquidity (mid-2026)
- Continuing to increase diversification of funding and liquidity management across asset classes, term structure, instruments, and counterparties allows us to better navigate through volatility and manage risk



Portfolio Performance and Risk | Cashflow Management

Weekly Cash Flow Activity
FY 2023/2024

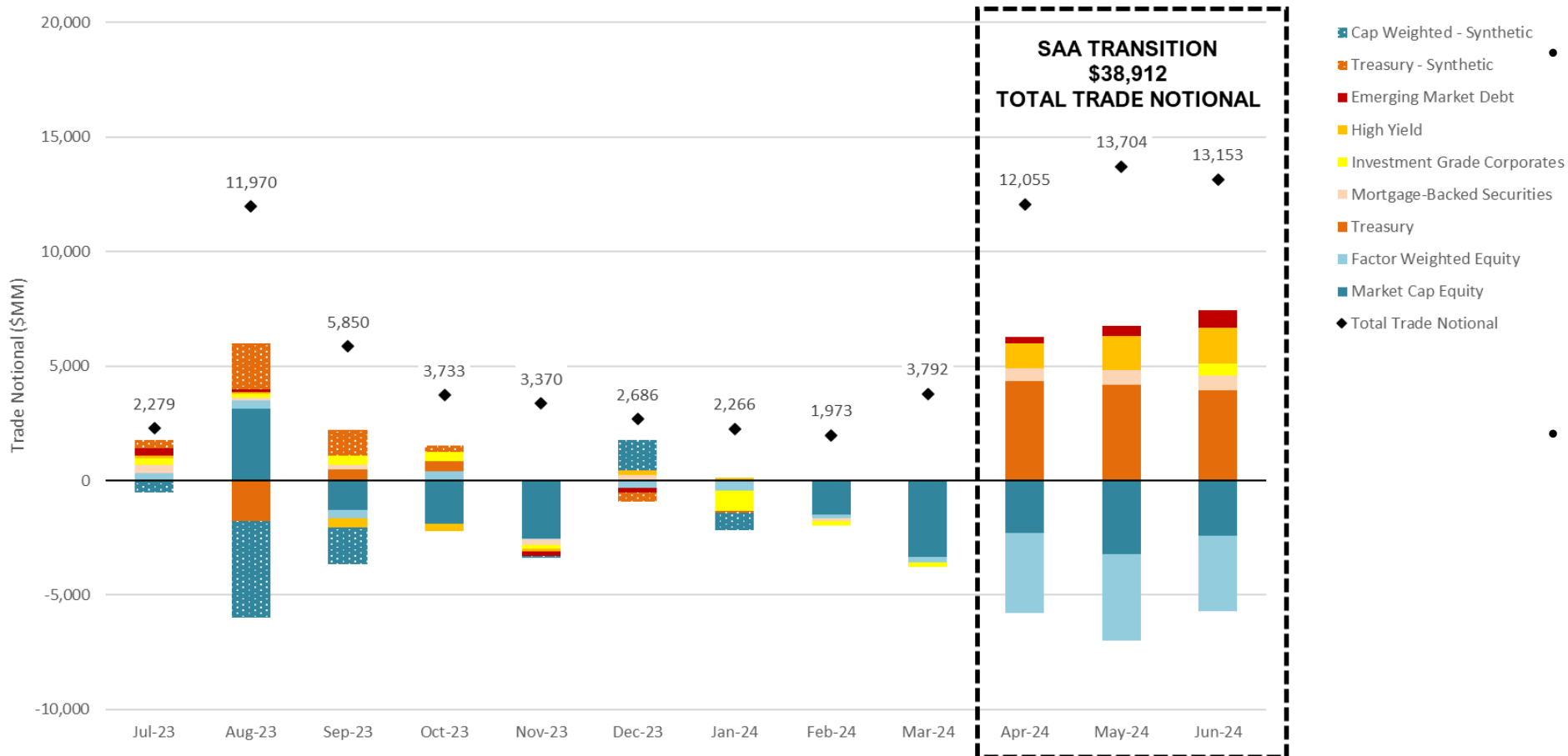


- TFPM monitors PERF aggregate cashflow requirements
- Liquidity buffers are maintained to ensure cash is available to meet both projected and unexpected flows
- Portfolio exposures are managed to maintain target levels and composition



Portfolio Performance and Risk | Allocation Activity

Total Fund Allocation Activity
FY 2023-2024

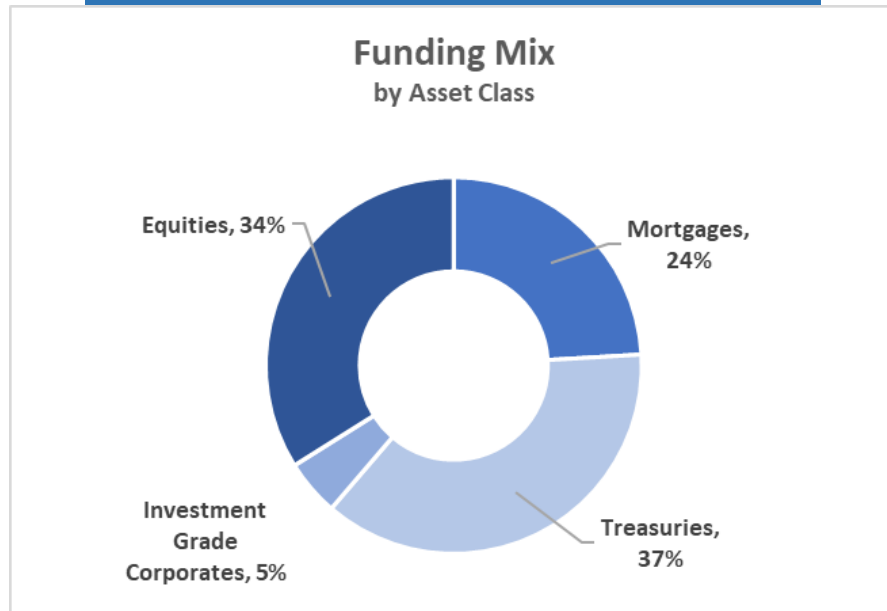


- TFPM adjusts allocation between public market segments as the primary mechanism to maintain a consistent risk profile in response to cashflows and market returns
- In addition, allocation is adjusted when target Strategic Asset Allocation (SAA) changes

Portfolio Performance and Risk | Financing

Investment Treasury function manages funding across diverse collateral types and funding channels to maintain resiliency and optimize costs

Funding Mix: Asset Segments



As of 6/30/2024

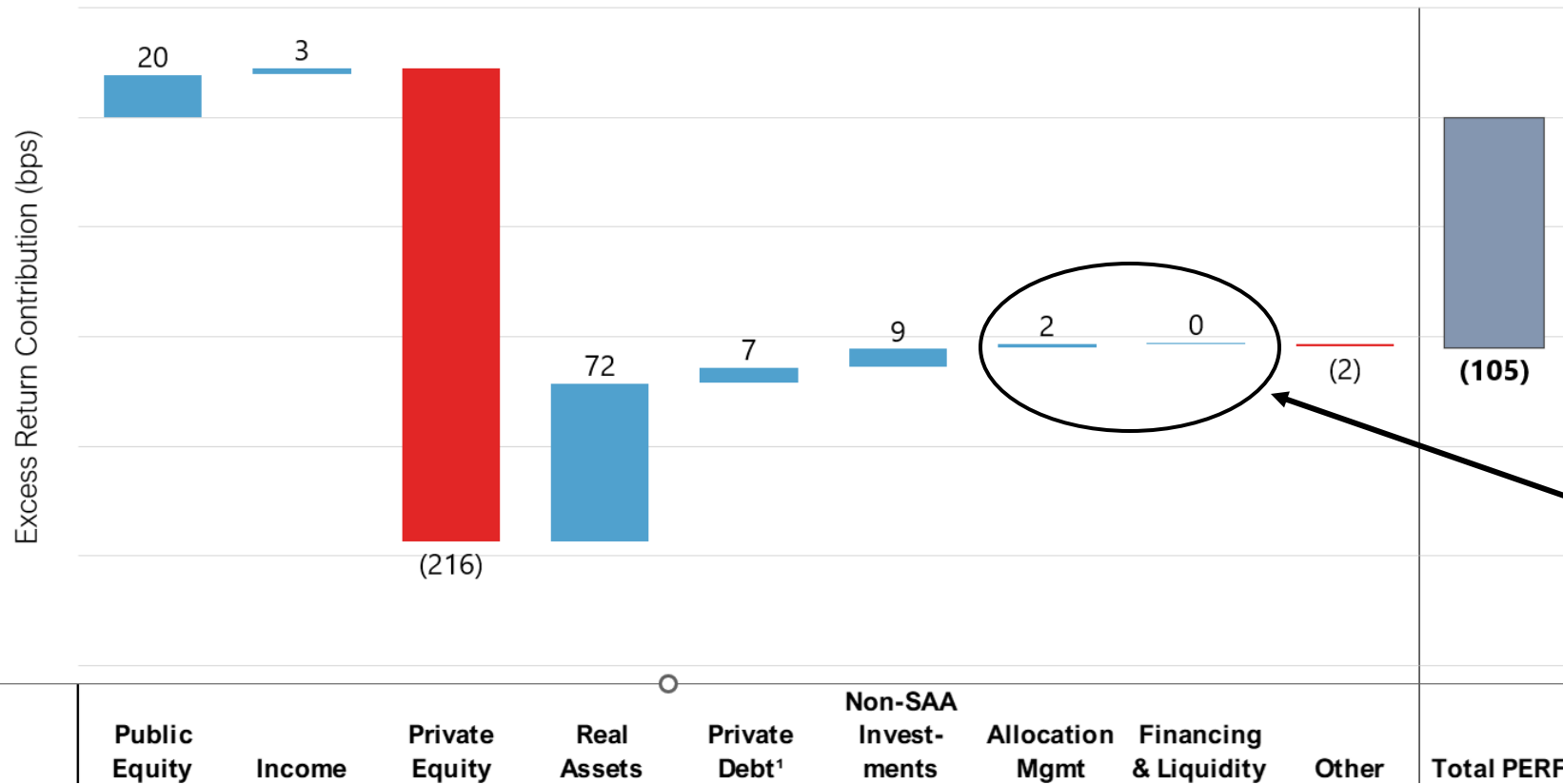
Funding Channel Expansion Milestones (since 2022)

- ✓ **Initial** Utilized Equity and Treasury **derivatives**
- ✓ **2022** Added Treasury and Mortgage **repo**
- ✓ **2023** Added Investment Grade Corporate **repo**
- ✓ **2024** Integrated **Securities Lending**
- ✓ **2025** To explore Mortgage **derivatives**
- ✓ **2026+** To explore additional **derivatives** and **repo**



Portfolio Performance and Risk | Attribution Context

Excess Return: 1-Year Attribution by Asset Class (as of 6/30/2024)



Excess return impact from implementation & financing activities

Impact is generally expected to be small relative to overall PERF drivers

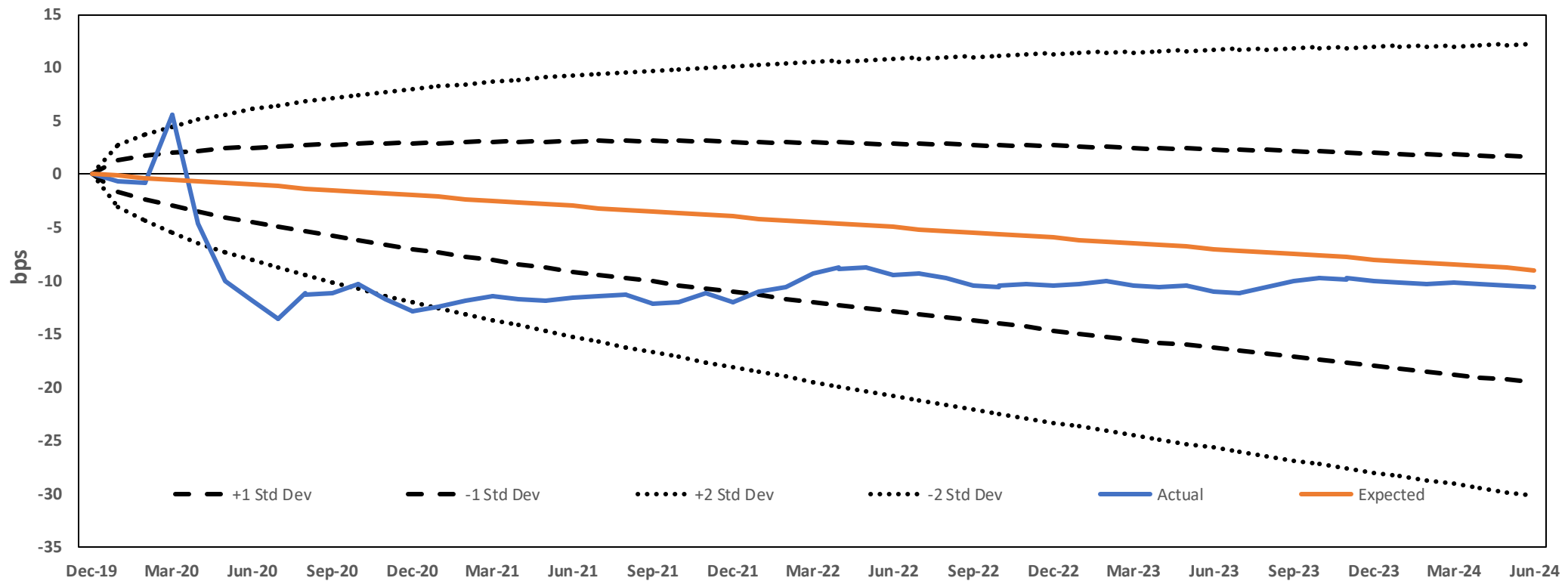


Portfolio Performance and Risk | Allocation and Implementation

January 2020 – June 2024*

Expected Annual Costs = 2 bps

Expected Volatility = 5 bps



*Attribution period begins at inception of systematic private proxying in policy benchmarking process

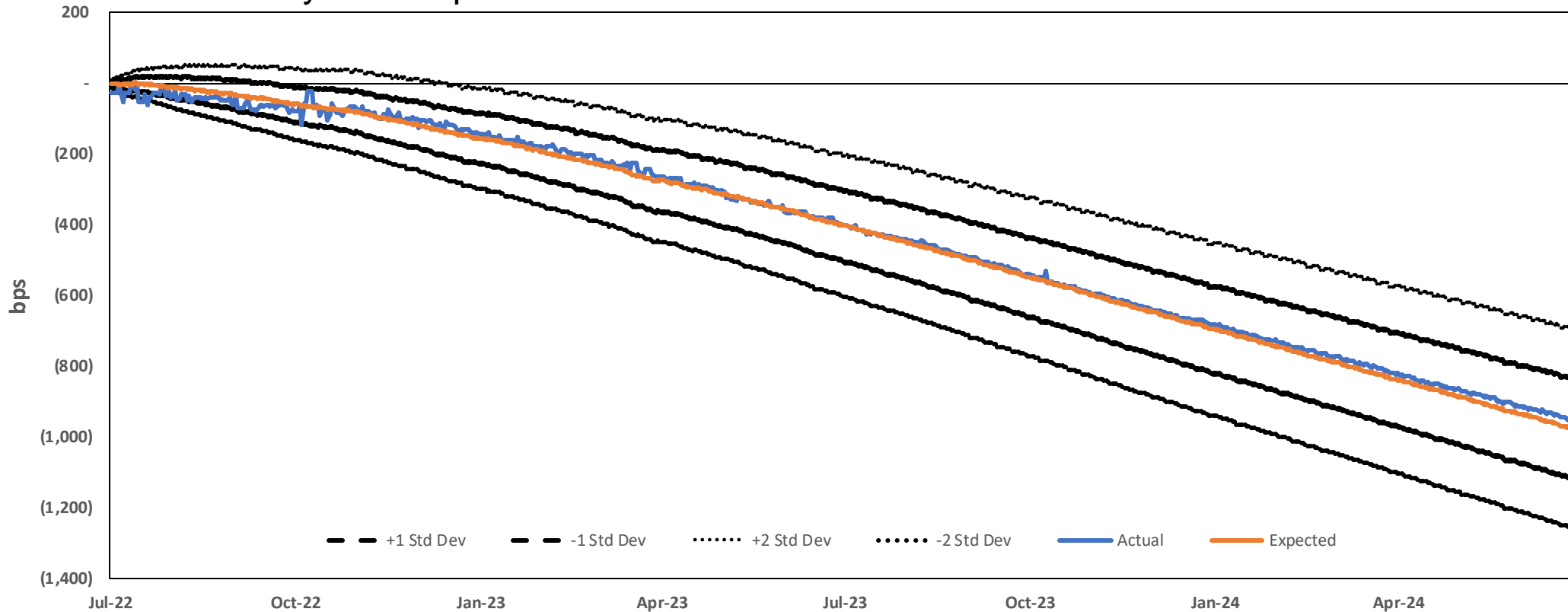


Portfolio Performance and Risk | Total Fund Financing

July 2022 – June 2024

Expected Annual Costs = 3 Month T-Bill +50 bps

Volatility = 100 bps





Business Updates and Key Initiatives | Evaluation

What Worked



- Continued buildout of the Investment Treasury function:
 - ✓ Further centralization of liquidity management and liquidity pools
 - ✓ Integrated new financing channel of Securities Lending within financing/liquidity framework
 - ✓ Increased stability of funding portfolio – further diversification, term funding, pre-funding future liquidity needs
- Developed a scalable framework for diversifying multi-strategy investments
- Enhanced granularity of expectations for return and risk across active strategies to support risk budgeting

Areas for Refinement



- Ongoing need to improve data and technology capabilities and related build out of automated analytics and dashboards
- Institutionalization of active risk budgeting is closely tied to overall portfolio management approach, to be developed with new CIO



Key Initiatives | Fiscal Year 2024-25

- Support new CIO in review overall portfolio management processes and exploring 'Total Portfolio Approach' concepts at CalPERS
- Collaborate with the Actuarial Office and external partners to refine and strengthen the upcoming Asset Liability Management (ALM) process
- Conduct research to further improve the risk-return profile of the SAA framework
- Continue innovating the multi-strategy program by exploring risk mitigation strategies to strengthen portfolio resiliency
- Invest in automation and technology to strengthen financing, allocation, and risk functions



Key Initiatives | Integration of Governance and Sustainability

Sustainable Investment Activities	Description / Status
<p>Customization of Climate Transition Index</p>	<ul style="list-style-type: none"> Reviewed Sustainable Investments and Global Public Equity Group proposal to customize the Climate Transition Index, improving portfolio resilience and capturing potential climate-related alpha opportunities in global public equities
<p>Climate Scenario Integration in Strategic Asset Allocation</p>	<ul style="list-style-type: none"> Integrated Network for Greening the Financial System (NGFS) climate scenarios analysis into the Strategic Asset Allocation in the 2023 Mid-cycle ALM review
<p>Climate-Informed Capital Market Assumptions</p>	<ul style="list-style-type: none"> Evaluated the impact of future climate scenarios on Capital Market Assumptions (CMAs) across asset classes.