The Asset Liability Management Cycle

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Understanding the ALM Process

What is the ALM process?

- The ALM process is a transparent review of our total fund that informs decisions to help achieve a sound and sustainable System

- The goal of the ALM process is to balance the expected cost of future pension payments with the expected future investment returns

- We involve our stakeholders and members in this process

| **A**-Assets | **L**-Liability | **M**-Management |

What is the goal of the ALM process?

To balance the expected cost of future pension payments with the expected future investment returns

Why is ALM important?

Achieve objectives	Assess risks	Strategic decision making
Benefit security	Investment risk	Asset allocation
Contribution stability	Asset/liability mismatch	Funding policies
Reduce employer contributions	Longevity risk	
	Contribution risk	
	Inflation risk	
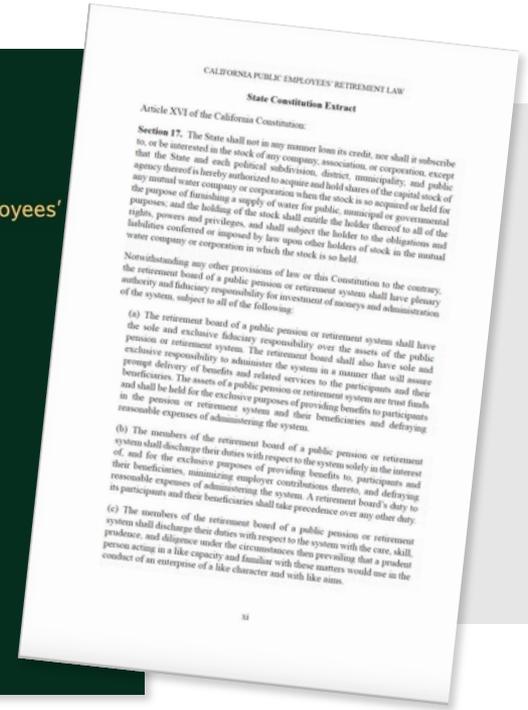
Stakeholder input
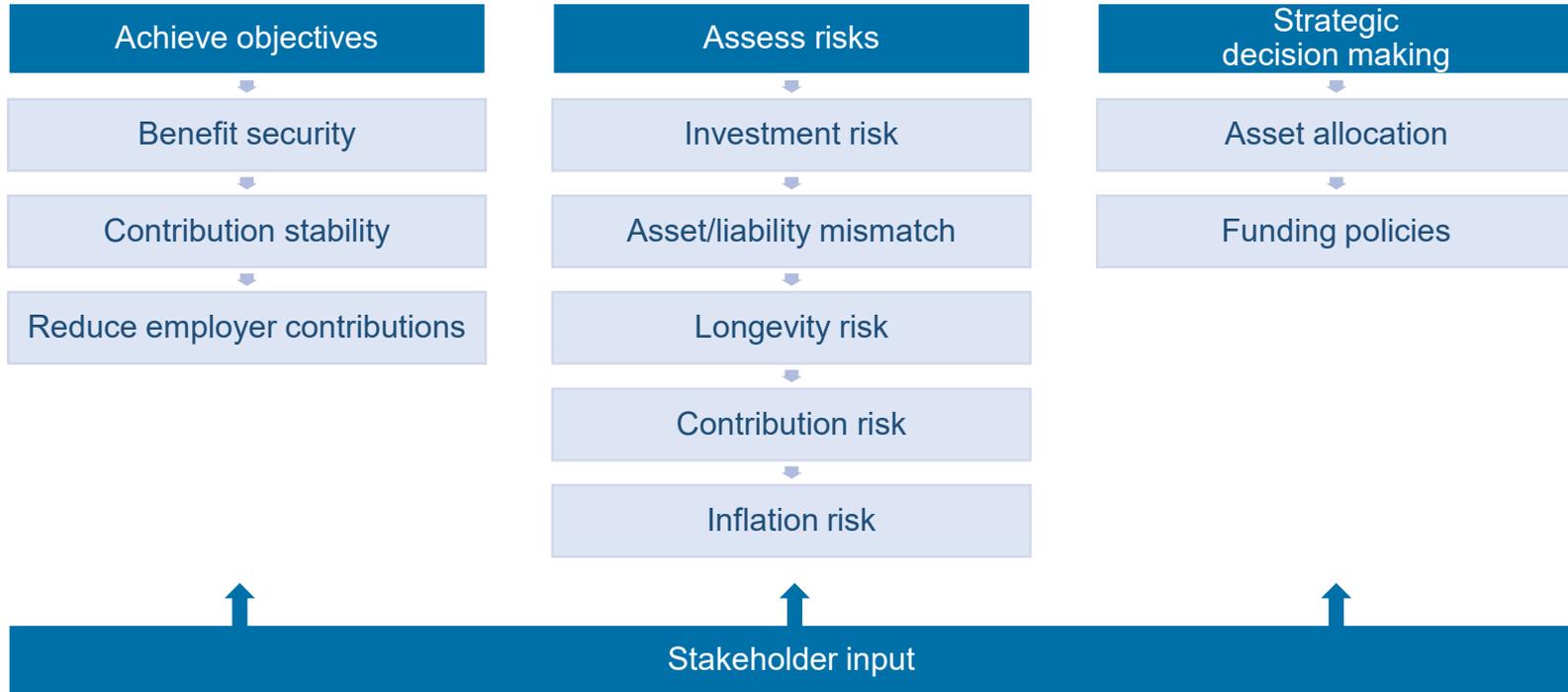
Key Functions within the ALM Process

Investment Office

Capital Market Assumptions, Strategic asset allocation, Construct candidate portfolios

Financial Office

Process oversight, Board education & facilitation

Communications & Stakeholder Relations

Stakeholder engagement, External voice

Actuarial Office

Economic assumptions, Demographic assumptions

CalPERS Board of Administration

Determine risk appetite and strategic asset allocation

Risk-based asset allocation, Discount rate, Funded status, Employer contributions

Stay Informed through the ALM Process

2021
February

- Educational sessions:

  o ALM concepts and framework

  o ALM timeline

June

- Capital Market Assumptions

- Economic Assumptions

July*

- Educational sessions:

  o ALM process & framework

  o Investment funds risk assessment

  o Gauging the funds' ability to tolerate market risk

September

- Discussion of candidate portfolios with proposed discount rates

November

- Experience study results

- Discussion of candidate portfolios with discount rates

- Final approval of discount rate

- Final approval of strategic asset allocation

2022
July*

- Effective date for strategic asset allocation

Board offsite

Learn more: ALM Factsheet

(A) Assets

CalPERS Investment Strategy

Mission

Manage the portfolio in an efficient and risk-aware manner to generate returns to sustainably pay benefits

Vision: Work as one team to effectively manage one Total Fund

- *Generate returns to sustainably pay benefits for generations*
- *Take prudent risks in order to meet the assumed rate of return*
- *Only take risk where we believe we'll be rewarded*

Performance

Total Fund

30 year	**8.0%**
20 year	5.5%
10 year	8.5%
5 year	6.3%
1 year	4.7%

By asset class

	20 year	10 year	5 year	1 year
Public Equity	4.8%	9.7%	6.6%	0.6%
Private Equity	7.4%	10.4%	6.6%	-5.1%
Income	6.9%	5.9%	6.3%	12.5%
Real Assets	6.1%	8.8%	5.9%	4.6%
Liquidity	2.2%	1.3%	1.4%	1.6%

Fiscal Year 2019-20 Results

$392.5 billion
net assets under management

70.6%
overall funded status (est.)

4.7%
investment returns

Strategic asset allocation

Global Equity – Market Cap Weighted	35%
Global Equity – Factor Weighted	15%
Private Equity	8%
Fixed Income – Long Treasuries	10%
Fixed Income – Long Spread	15%
Fixed Income – High Yield	3%
Real Asset	13%
Liquidity	1%

Updates on Economics and Markets

US GDP and S&P 500

10-year average annualized return

10-year average annualized growth rate

Legend: Recession | S&P500 Composite Total Real Return | Real GDP (2012 dollars), RHS
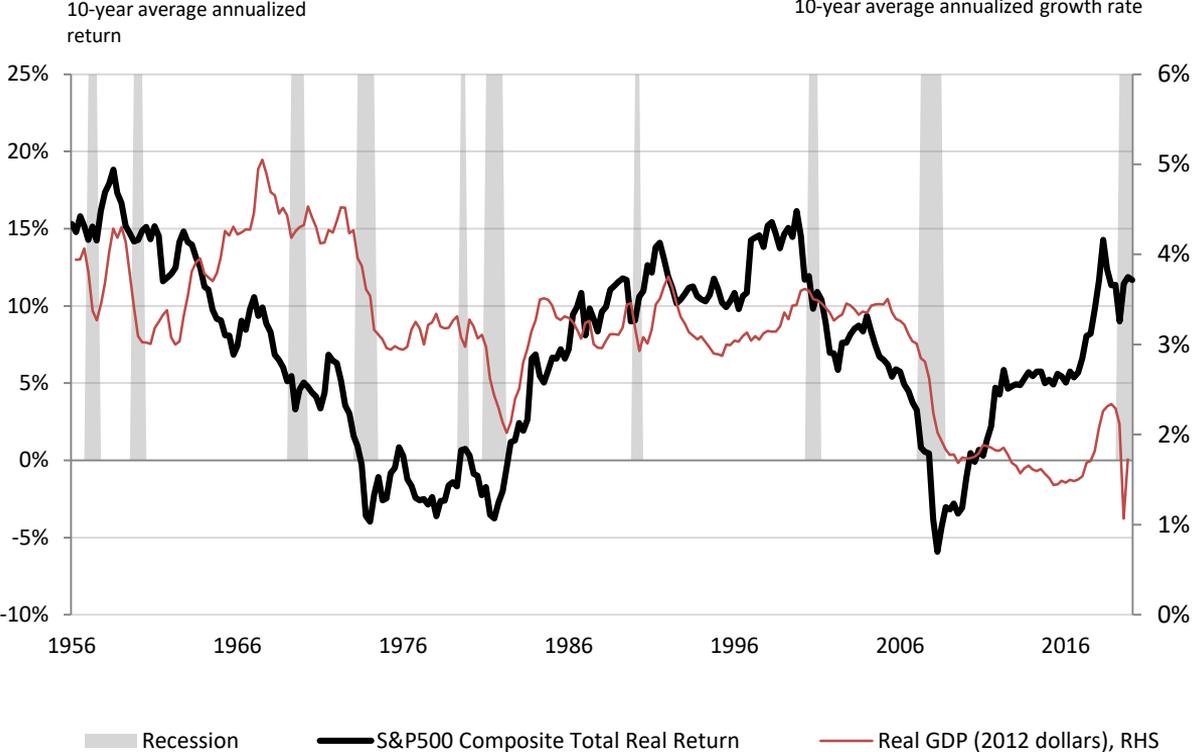
Source: Haver, Shiller

Challenges to Achieving Target Returns

US Treasury Yields Reduced to Near Zero

We Need to Take Risks to Achieve Returns

10-Year Treasury Constant Maturity Rate (%)
Annual, Not Seasonally Adjusted

Fixed Income portion
of CalPERS assets (%)

89%
6.11%
14.3%
73%
49%
7.26%
26%
4.93%
26%
1.62%
28%
0.63%
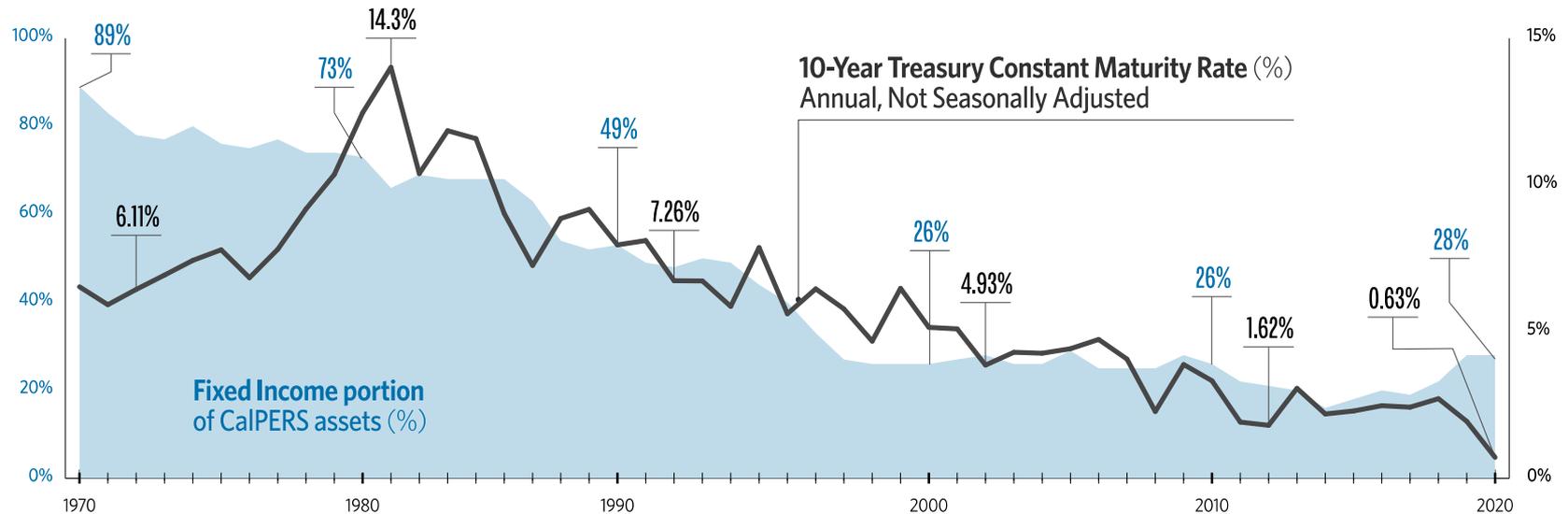
Putting the Portfolio Together

- Private assets
- Leverage
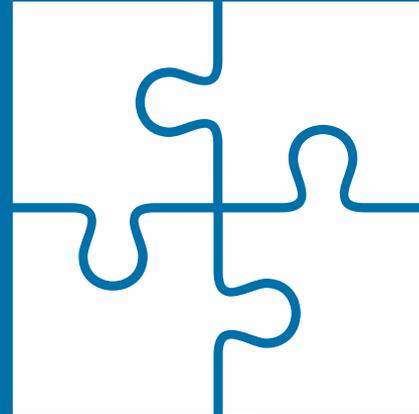
Capital Market Assumptions (CMAs)

- A comprehensive analysis of projected investment returns, volatilities, correlations, and market constraints by asset segment

- Conducted by CalPERS investment office and external consultants

- A key consideration in determining the strategic allocation and the discount rate

(L) Liability

Liability

Reflects numerous assumptions for future experience influencing investment performance and future benefit payments

Economic	Demographic
• Price Inflation • Wage Inflation • Discount Rate	• Service Retirement • Termination • Disability Retirement • Mortality

Liability – Assumptions

- Carefully chosen and continually monitored
- Guidance provided by Actuarial Standards of Practice (ASOPs)
- Variance between the assumptions and the eventual, realized outcomes can significantly impact plan funding
- Results from past experience studied to inform assumption selection – Experience Study

Liability – CalPERS Experience Study

- Conducted every 4 years

- Part of ALM process

- Experience period varies from 4 to 12 years

- Experience related to each significant assumption is analyzed separately

- Assumption selection also considers current trends and external conditions

Liability – Discount Rate

- Most impactful actuarial assumption

- Based on to the expected long-term investment return

- Two components
  - 1) inflation
  - 2) real rate of return

- Expectations for the future more relevant than recent past experience

Linking of Assets and Liabilities

Assets and Liability

Maximizing investment return is not the singular goal

A combined analysis of assets and liabilities is required to achieve all goals

Factors Driving Funding Risks

Plan Demographics

- Plans are maturing
- Public employees are living longer
- Increased cash outflows

Benefit Structure

- Asset and liability to payroll ratios increase with higher benefit formula

Market Conditions

- Portfolio and market environment includes significant risk of volatility
- Market valuations and return expectations

A Range of Risks and Outcomes

Stochastic analysis models thousands of future scenarios to predict likelihood of:

- Funded status falling below certain levels

- Required contributions exceeding certain thresholds

- Range of volatility in contribution requirements

Pension Outlook Tool

Educational

Informational

Analytical Tool

Budgeting Tool

(M) Management

ALM Timeline – Coming Up

2021
February

- Educational sessions:

  o ALM concepts and framework

  o ALM timeline

April

- Update Webinar for Stakeholders – April 27

June

- Capital Market Assumptions

- Economic Assumptions

Discussion: New Split Fund Employer Option

We are exploring whether and how to provide employers the option of reducing their plan's risk

- Any option would involve tradeoffs between investment risk, known costs, a plan's funded ratio, and other factors

We want your feedback – Contact Stakeholder Relations at calpers_stakeholder_relations@calpers.ca.gov

We're Here to Help You
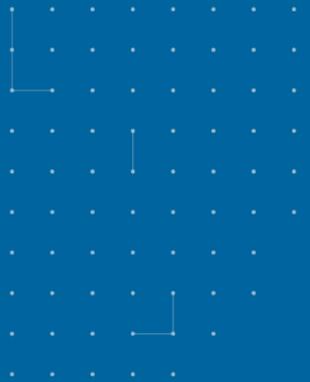
Questions

Contact Us:
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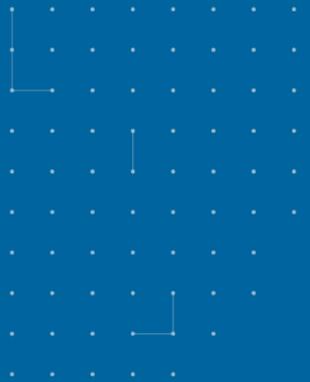
Public Comment

Appendix

Key Terms

Strategic Asset Allocation – percentage of the total investments by asset class:

- Global equity – U.S. and international public stocks

- Fixed income – government and corporate bonds and structured securities

- Real assets – physical assets including commercial real estate, forestland, and infrastructure

- Private equity – investments in companies that are privately held and not available for purchase through

- public exchanges

- Liquidity – money market securities such as Treasury bills, certificates of deposit, and commercial paper

Discount Rate – the rate of return used in calculating the accrued liabilities and normal costs for employers, as well as contributions for employees. It represents the long-term assumed rate of return on investments based on the portfolio allocation selected by the board.

Key Terms

Capital Market Assumptions – estimates investment returns, volatilities, correlations, and market constraints by asset segment.

Experience Study – a review of the demographic and economic assumptions that are used to calculate the System's projected liabilities and required contributions. Every four years, this study is conducted by the CalPERS actuaries, and examines factors like life expectancy, workforce changes, inflation, and payroll trends.

Affiliate Funds – separate pools of invested contributions for other Trusts administered by CalPERS, which includes Judges' Retirement System (JRS) Fund, Judges' Retirement System II (JRS II) Fund, Legislators' Retirement System (LRS) Fund, California Employers' Retiree Benefit Trust (CERBT) Fund, California Employers' Pension Prefunding Trust (CEPPT) Fund, Long Term Care Fund (LTC), Health Care Fund (HCF) and Supplemental Income Plan Funds (SIP).

CalPERS Assets and Liabilities 1999-2019
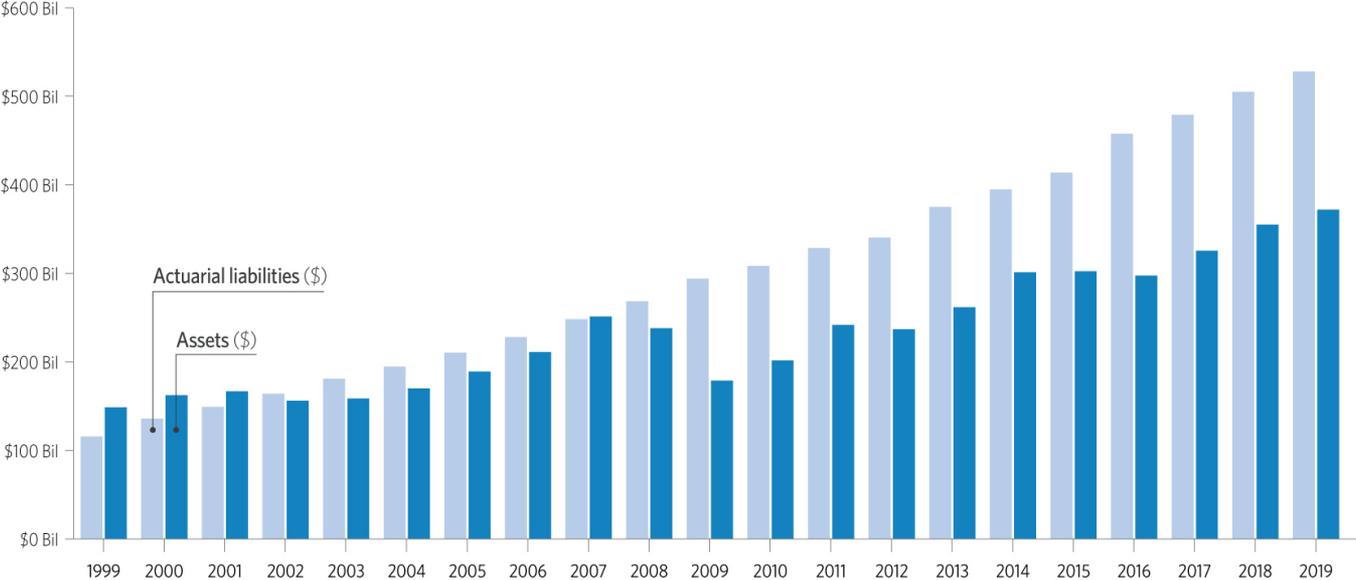
Our assets have grown over the years, especially since the financial crisis. But liabilities have grown at a faster pace.