

Affiliate Trust Asset Allocation Review: Health Care Fund Reserve & Long-Term Care Fund

Trust Level Portfolio Management
Global Equity, Affiliate Investment Program
June 18, 2018

Affiliate Trust Asset Allocation Review: Investment Committee (IC) Engagements in 2018

Monday, April 16th
Investment Committee

Asset Allocation Review:

- Supplemental Income Plans (SIP)

Monday, May 14th
Investment Committee

Asset Allocation Review

- Legislators' Retirement Fund (LRS)
- Judges' Retirement Fund (JRS)
- Judges' Retirement Fund II (JRS II)
- California Employers' Retiree Benefit Trust Fund (CERBT)

Monday, June 18th
Investment Committee

Asset Allocation Review:

- Health Care Fund (HCF) Reserve
- Long-term Care Fund (LTC)

Affiliate Trust Asset Allocation Review: Health Care Fund (HCF) Reserve & Long-term Care Fund (LTC)

Organizational groups connected to the Affiliate Trust Asset Allocation Review

<p>Investment Office</p>	<p>INVO Governance Committees (IMC, ISG, OC) Trust Level Portfolio Management (TLPM) - Affiliate Project Team Global Equity – Affiliate Investment Program (AIP) Global Fixed Income (GFI) Investment Compliance and Risk (ICOR) Investment Servicing Division (ISD) Investment Servicing Division Investment Finance Services (ISD - IFS) Investment Risk and Performance (IRP)</p> <p>Consultants: Wilshire (All Funds), RV Kuhns (SIP) Fund Managers: State Street Global Advisors (SSGA) Fund Administrators: LTCG (LTC), VOYA (SIP)</p>
<p>Enterprise</p>	<p>Asset Liability Management Advisory Committee (ALMAC) Actuarial Office (JRS, JRS II, LRS, HCF, & LTC) Financial Office Legal Office (LTC) Benefit Services Division: Internal Fund Administrators (JRS, JRS II, & LRS) Pension Contracts & Prefunding Programs (CERBT & SIP) Health Policy and Benefits Branch (HCF & LTC)</p>
<p>Board of Administration</p>	<p>Investment Committee (IC), Finance & Admin Committee (FAC), Pension & Health Benefits Committee</p>
<p>External Stakeholders</p>	<p>Affiliate Fund Members & Beneficiaries</p>

Agenda

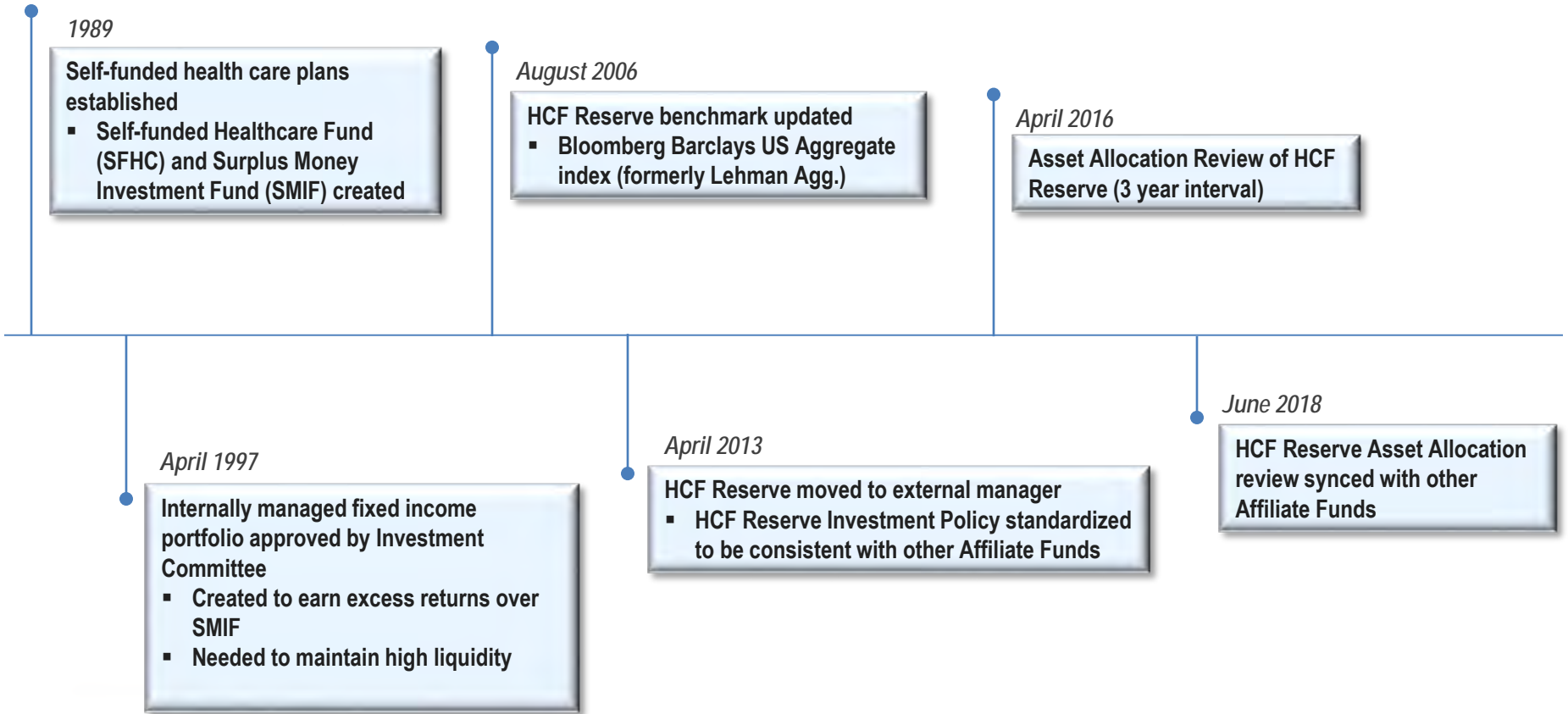
- Overview of Program Characteristics: Health Care Fund (HCF) Reserve
- Strategic Asset Allocation & Recommendations: Health Care Fund (HCF) Reserve
- Overview of Program Characteristics: Long-Term Care (LTC) Fund
- Strategic Asset Allocation & Recommendations - Long-Term Care (LTC) Fund
- Appendices

Health Care Fund (HCF) Reserve

Overview of Characteristics

Strategic Asset Allocation and Recommendations

History of Health Care Fund



Health Care Fund Reserve Purpose

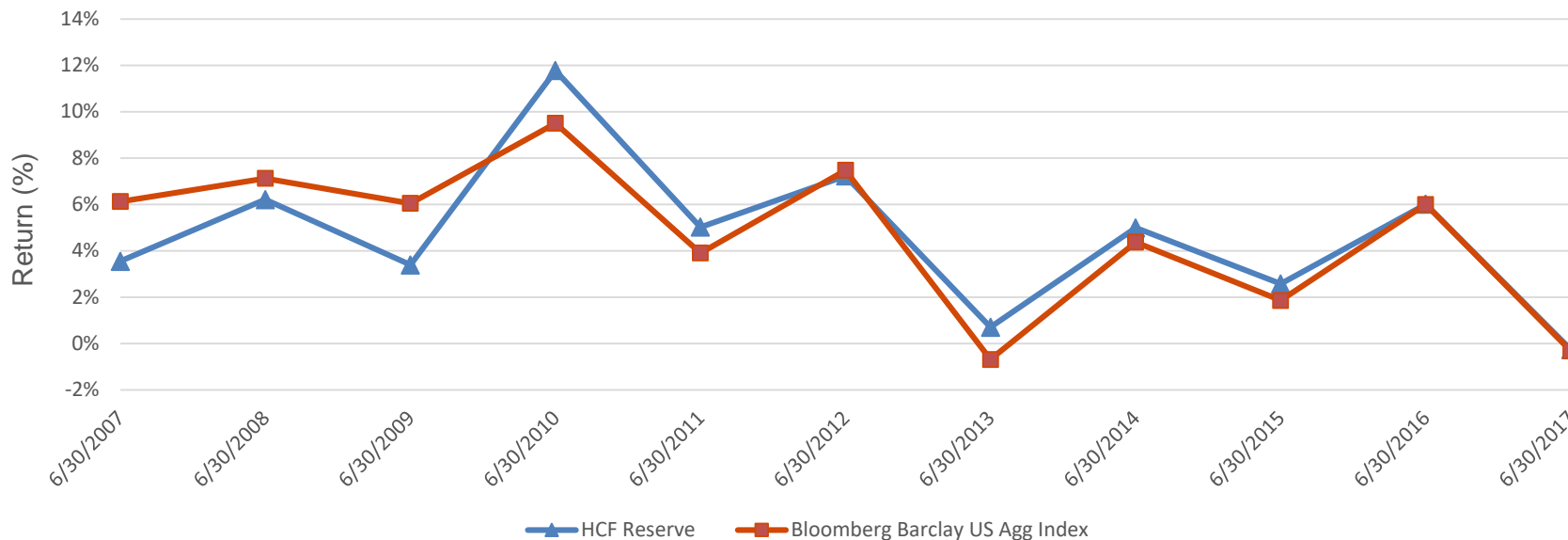
- To pay for health care expenses that have been incurred, but not yet paid
- To provide funds to cover claims that exceed premiums
- To provide funds to cover catastrophic and unforeseen events

Health Care Fund Reserve Investment Objectives

- Provide stability of principal
- Enhance returns within prudent levels of risk
- Maintain liquidity to meet needs of health care program

Health Care Fund Reserve Investment Performance

Fiscal Year Returns



HCF Reserve Investment Performance (as of 12/31/2017)

	FYTD	1 Year	3 Year	5 Year	10 Year
Net Return of HCF Reserve Fund	1.23%	3.60%	2.30%	2.48%	4.25%
Excess Return to Benchmark	(0.01%)	0.06%	0.06%	0.38%	0.24%

Health Care Fund (HCF) Reserve

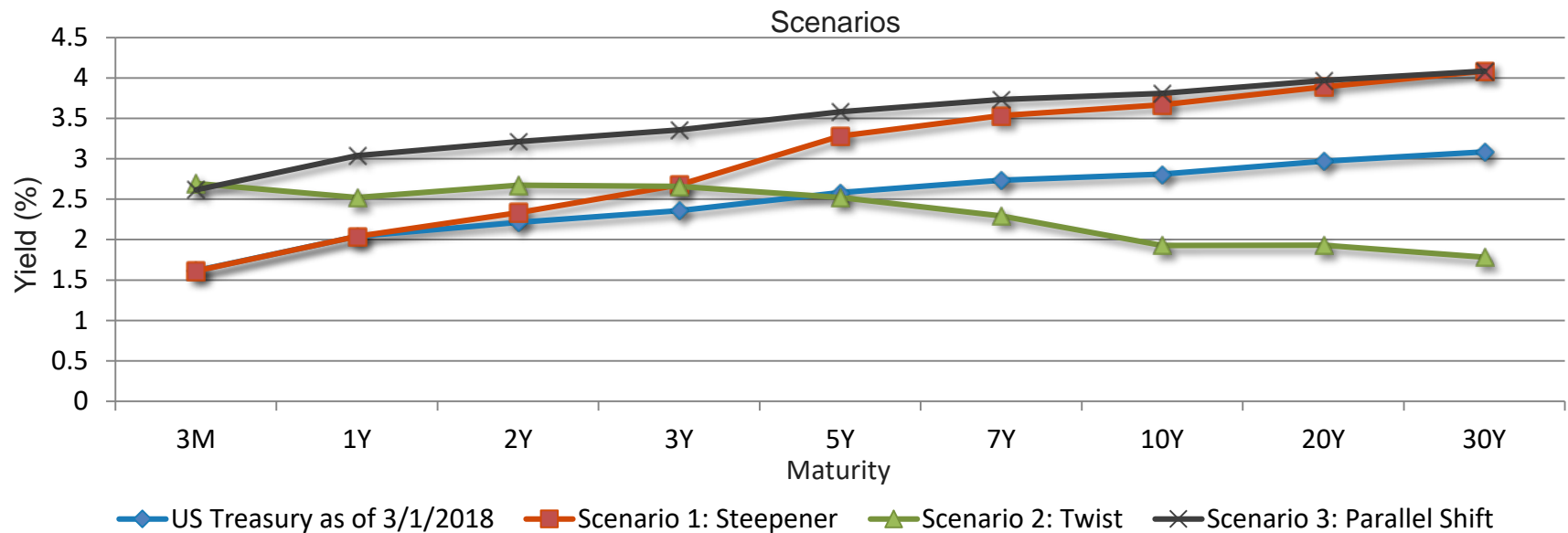
Overview of Characteristics

Strategic Asset Allocation and Recommendation

Health Care Fund Reserve Strategic Allocation Recommendation

- Maintain current 100% fixed income allocation
 - Consistent with the objective and purpose of HCF Reserve
 - The HCF Reserve can withstand the modest amount of volatility that this allocation represents
 - A more volatile mix of assets would not be consistent with the objective and purpose of the fund

Health Care Fund Reserve Yield Curve Scenarios Analysis



Forecasted Scenario Impacts	Scenario 1: Steepening	Scenario 2: Twist	Scenario 3: +100 bps Shift
Price Return	(4.6%)	3.9%	(5.5%)
Income Return (Yield)	3.9%	3.0%	4.3%
12 Month Total Return	(0.7%)	6.9%	(1.2%)

Long-Term Care (LTC)

Overview of Program Characteristics

Strategic Asset Allocation and Recommendations

Long-Term Care Program Objective

The CalPERS Long-Term Care (LTC) program helps to provide financial protection from the high cost of care caused by chronic illness, injury or old age. LTC reimburses the cost for covered personal care services.

History of Long-Term Care Program

- 1991 Authorized by legislature
- 1995 Launched by CalPERS
- 2008 Program closed to new applicants

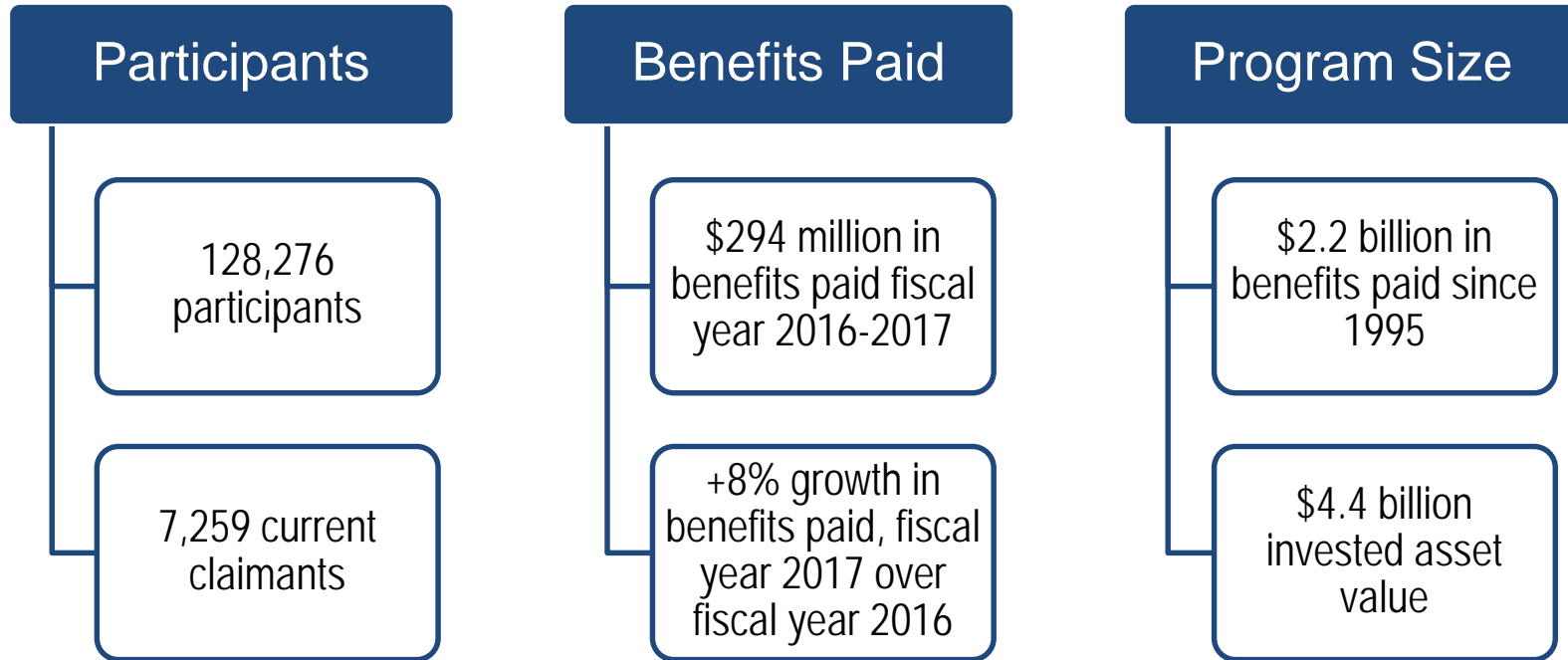
2010 - 2012

Stabilization Plan initiated to adjust:

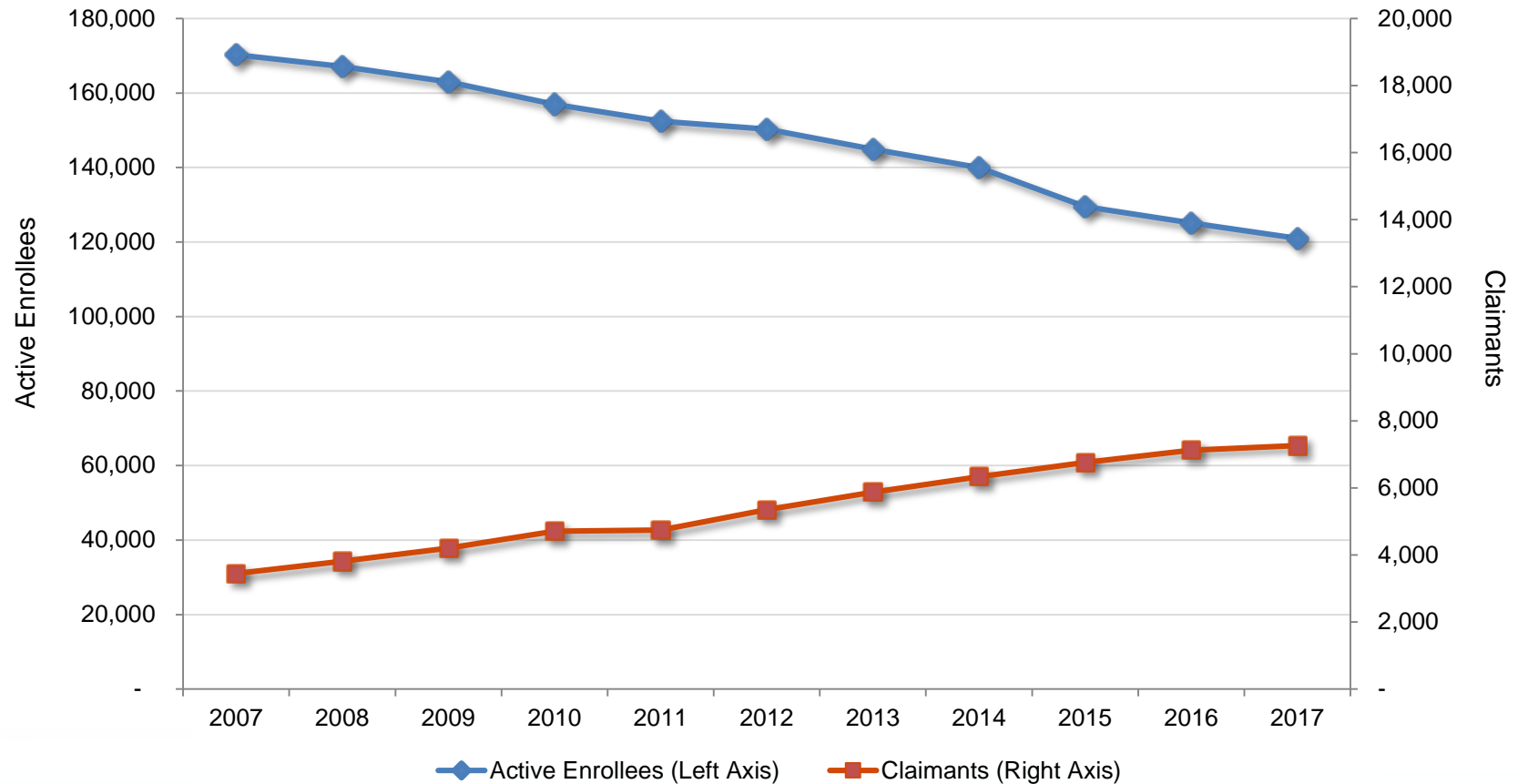
- *Margins*
- *Discount rates*
- *Premiums*
- *Conversion options*
- *Benefits*
- *Asset Allocations*

- 2013 Program reopened to new applicants
- 2015 Reaffirmed asset allocation

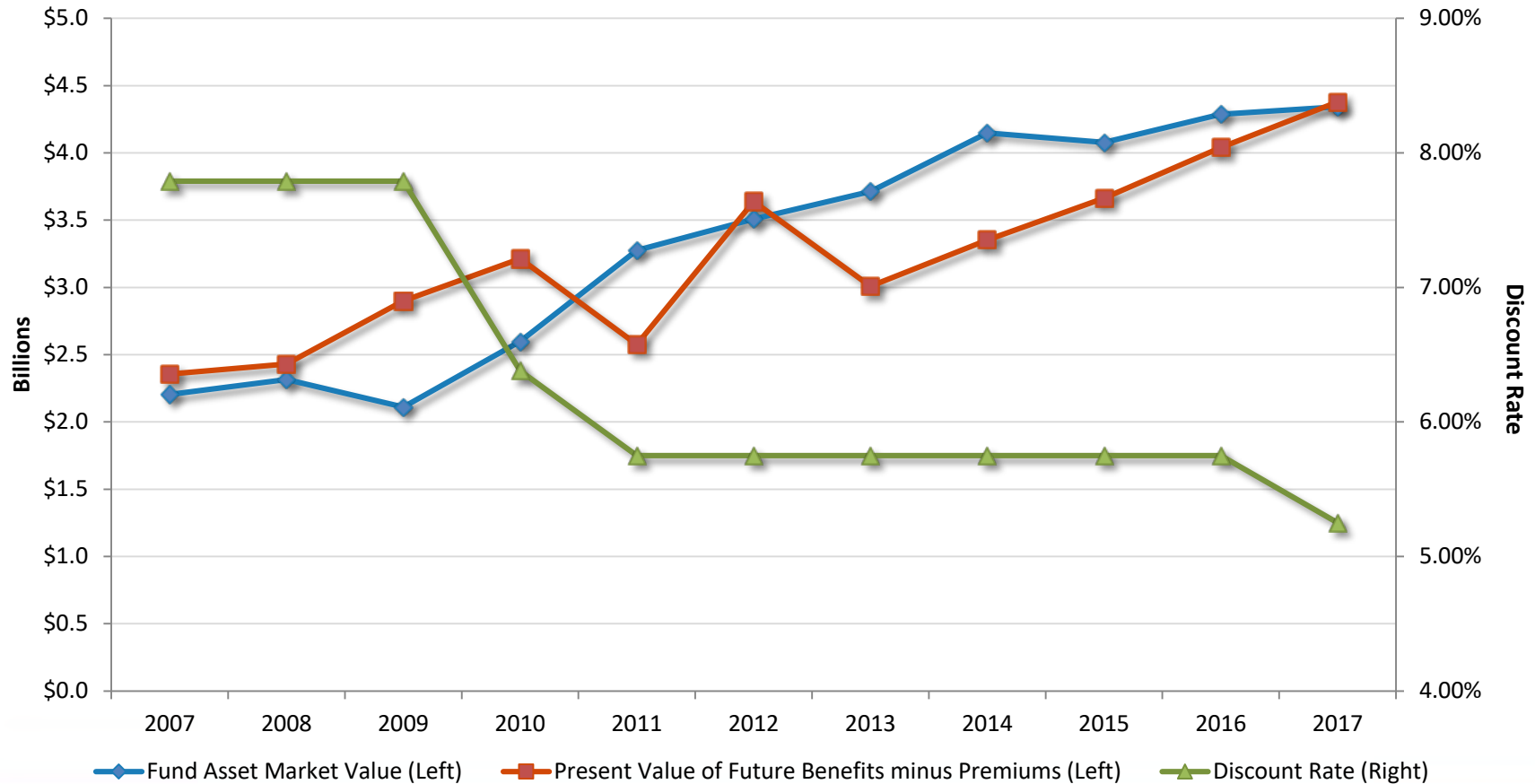
Long-Term Care Key Statistics



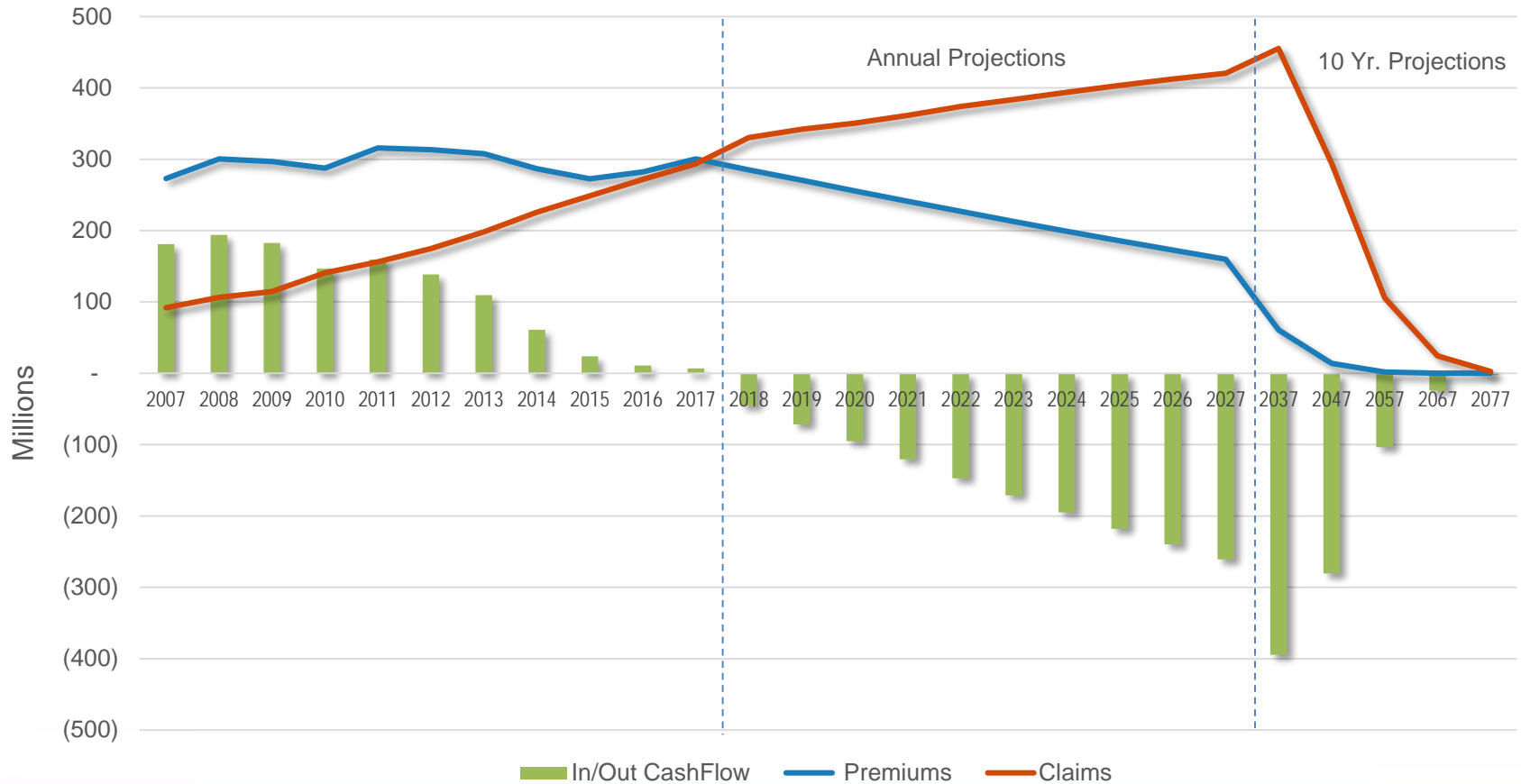
Long-Term Care Historical Number of Active Enrollees & Claimants



Long-Term Care Historical Assets & Liabilities



Long-Term Care Historical & Projected Premiums, vs. Claims, and Net Flows

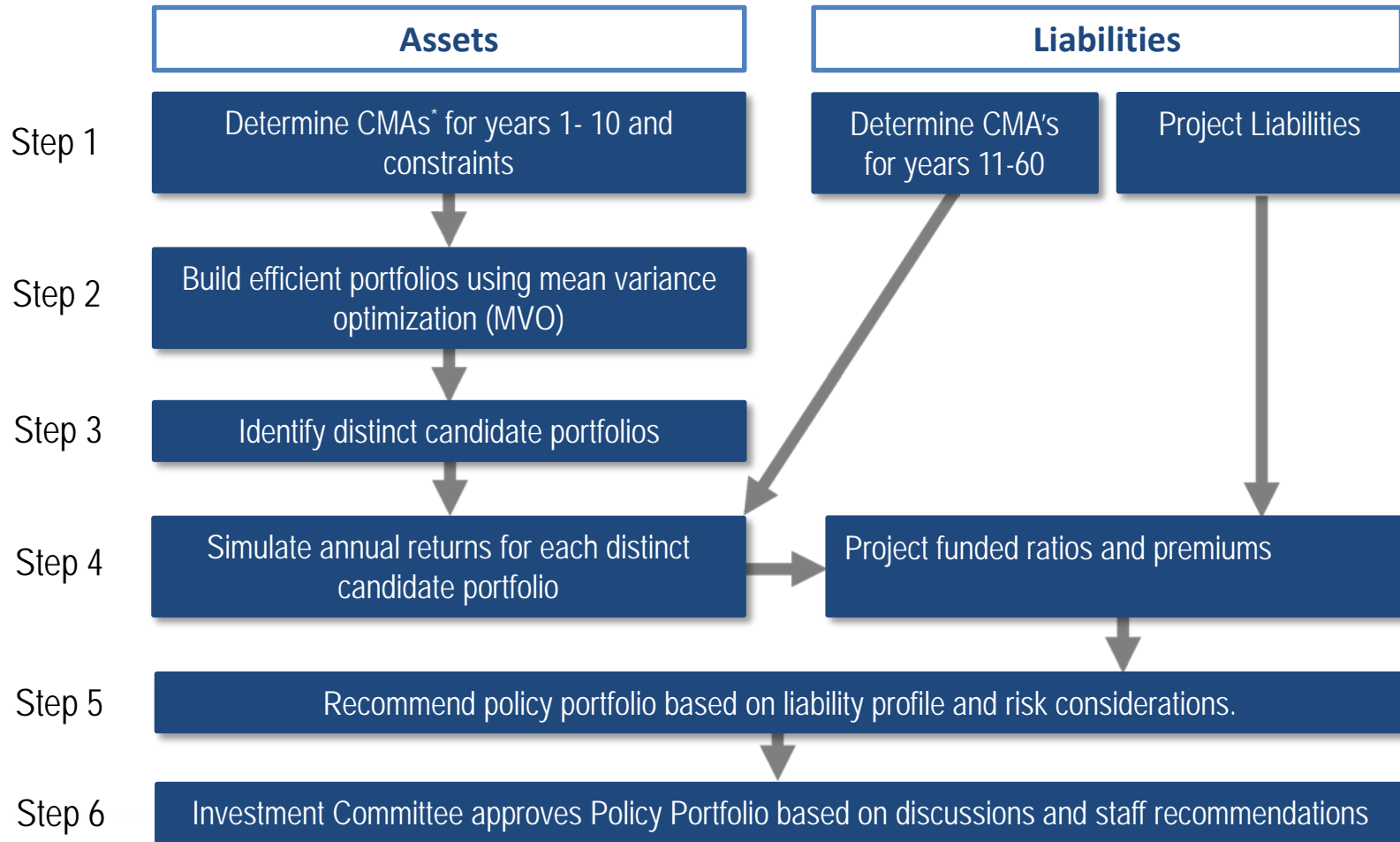


Long-Term Care (LTC)

Overview of Program Characteristics

Strategic Asset Allocation and Recommendation

Steps to Obtain Policy Portfolio



2018 CMAs and Constraints for Affiliate Funds

- Global Equity and Commodities CMAs are carried over from the Public Employees’ Retirement System 2017-18 Asset Liability Management process.
- Fixed Income and TIPS¹ CMAs are updated to reflect only domestic securities.
- REITs² expected returns are estimated using a Dividend Discount Model.
- Floors were placed on TIPS, Commodities, REITs; Cap assigned to Global Equity

2018 CMAs	Compound Return	Volatility	Arithmetic Return	Constraint	
				Floor	Cap
Global Equity	6.80%	17.00%	8.14%	0.0%	15%
Fixed Income	3.10%	7.83%	3.40%	0.0%	100%
TIPS¹	2.25%	5.46%	2.40%	5.0%	100%
Commodities	3.50%	21.50%	5.71%	3.0%	100%
REITs²	5.50%	17.28%	6.90%	8.0%	100%

¹ Treasury Inflation-Protected Securities (TIPS)

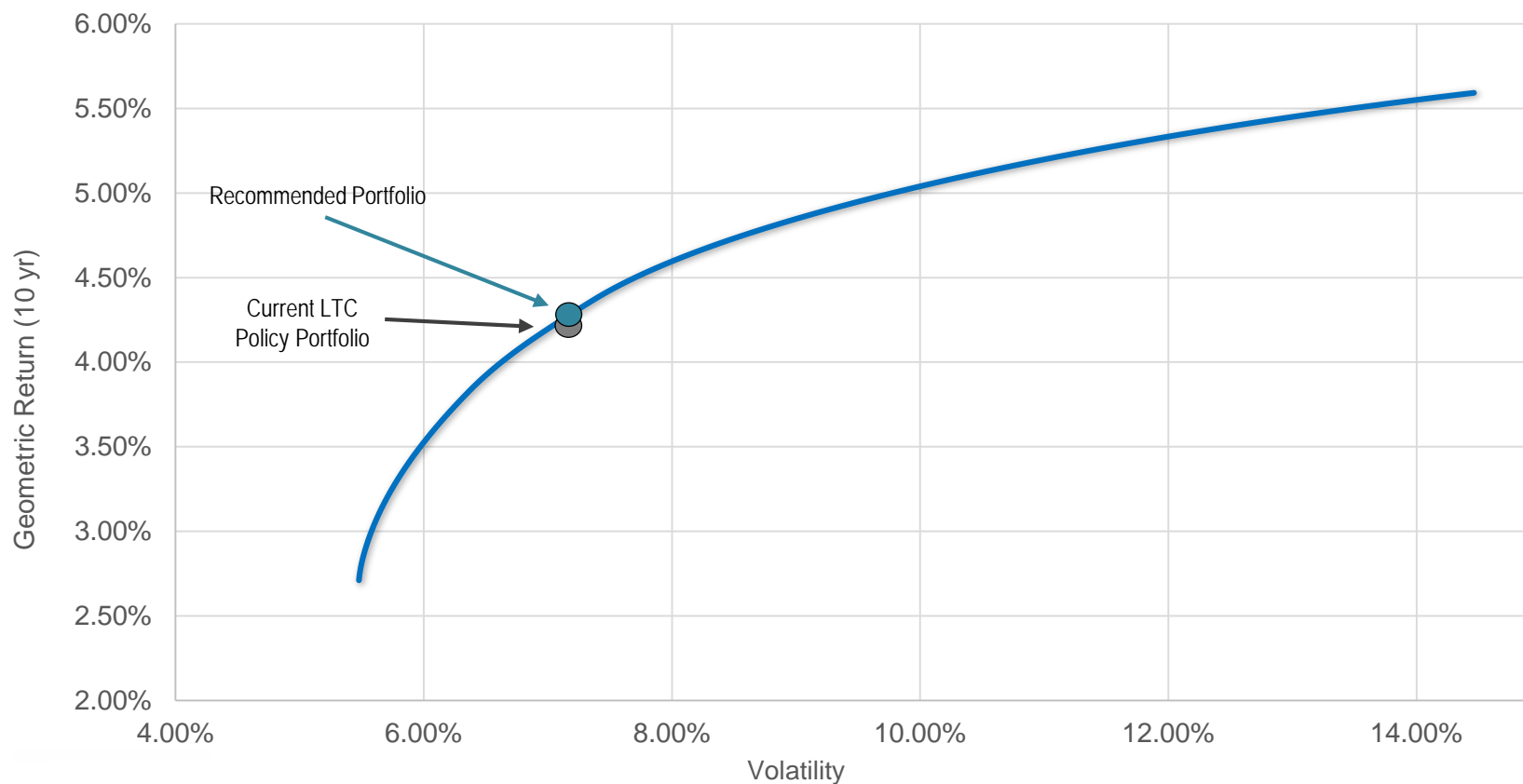
² Real Estate Investment Trusts (REITs)

* Inflation: 2%

Long-Term Care’s Liability Profile Influences Strategic Asset Allocation*

Liability Attribute	Description	Current Position	Leads to:
Funded Status	If well funded, able to pay liabilities while incurring less risk.	The LTC Program is 99% funded.	Keep Existing Volatility Level
Duration of Liabilities	A plan can better absorb an investment loss if benefit payments are later.	LTC duration of liabilities has shortened as participant pool ages.	Keep Existing Volatility Level
Cash Outflows	Large claims reduce ability to recover from an investment loss.	Claims paid now larger than premiums collected.	Keep Existing Volatility Level
Diversity of Contributions	A plan should reduce risk if funding sources are concentrated.	LTC contributions consist entirely of member premiums; no sponsor contributions nor reinsurance.	Keep Existing Volatility Level

Long-Term Care Efficient Frontier*



Long-Term Care Proposed Policy Portfolio

Asset Classes	Proposed Policy Portfolio	Current Policy Portfolio	Change %
Public Equity	15.0%	15.0%	-
Fixed Income	60.0%	61.0%	-1.0%
TIPS	6.0%	6.0%	-
Commodities	8.0%	6.0%	+2.0%
REITs	11.0%	12.0%	-1.0%
Expected Compound Return (1-10 years)	4.36%	4.35%	+0.01%
Expected Compound Return (11-60 years)	6.71%	6.70%	+0.01%
Expected Blended Return (1-60 years)*	5.43%	5.42%	+0.01%
Expected Volatility	7.35%	7.35%	-

Long-Term Care Proposed Asset Class Ranges

Asset Class	Existing
Global Equity	+/- 4%
Fixed Income	+/- 5%
TIPS	+/- 2%
Commodities	+/- 2%
REITs	+/- 4%

Objectives:

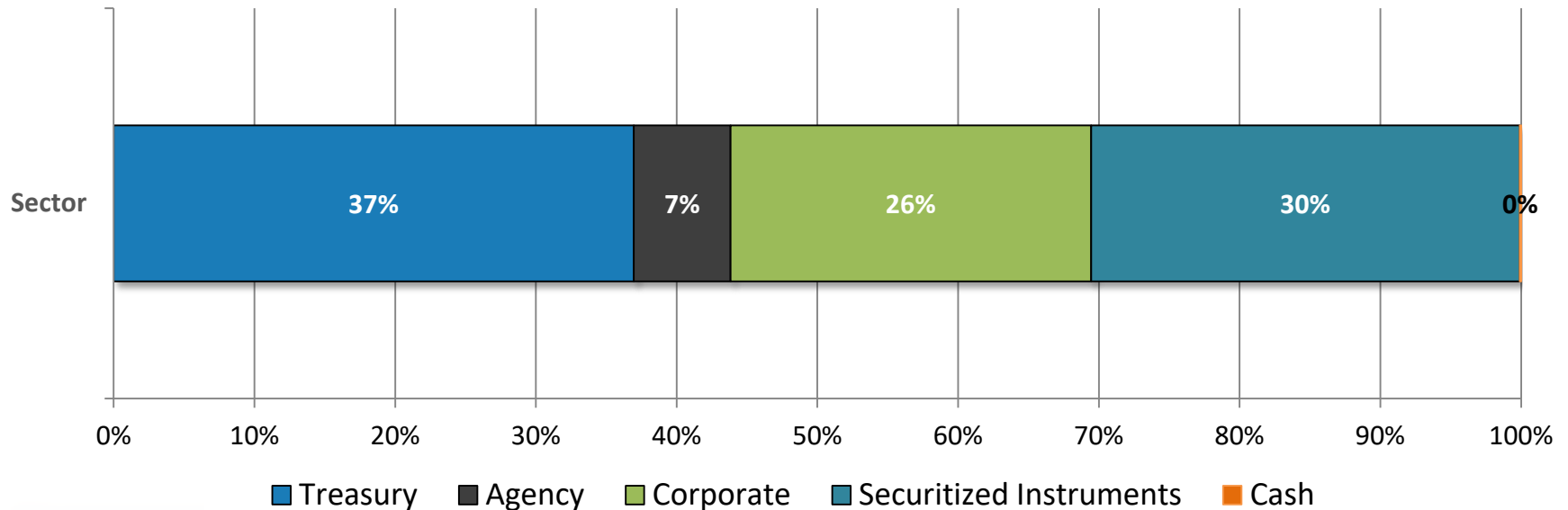
- Provide flexibility for changing market conditions
- Reduce rebalancing friction costs
- Facilitate cash flows
- Maintain current implementation

Appendix

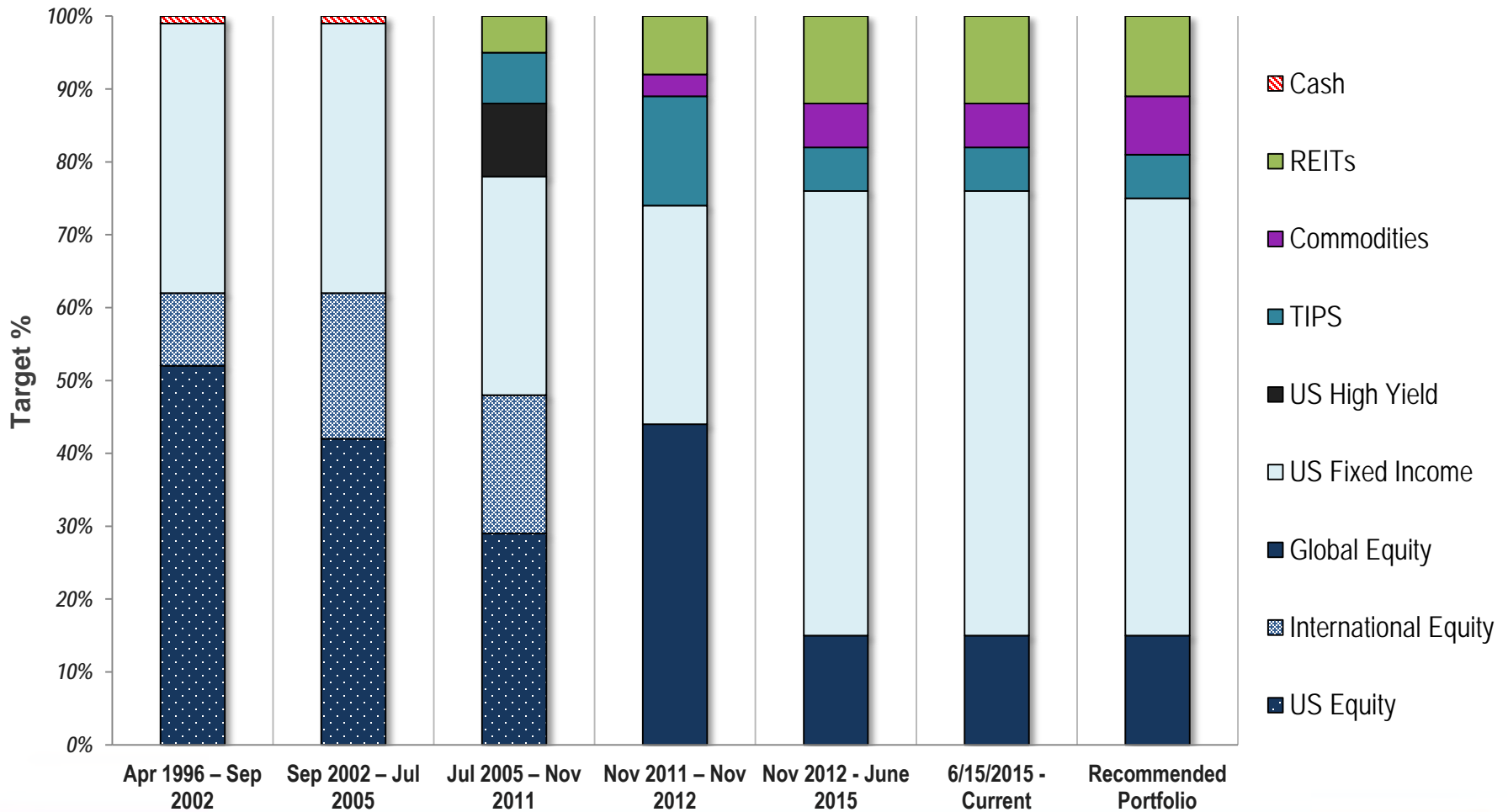
Health Care Fund Reserve Current Asset Allocation

- 100% Fixed Income Securities¹
- Benchmark: Bloomberg Barclays US Aggregate Total Return Index

HCF Reserve Fund by Sector (as of 12/31/2017)²



Long-Term Care: Historical Asset Allocation



Long-Term Care: Benchmarks

Asset Class	Long-Term Care Fund
Global Equity	MSCI ACWI IMI (Net)
US Fixed Income	Bloomberg Barclays Long Liability Index
TIPS	Bloomberg Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index
Commodities	S&P GSCI Total Return Daily
REITs	FTSE EPRA / NAREIT Developed Liquid (Net)

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Capital Market Assumptions

Asset Class	Arithmetic Return	Compound Return	Volatility (Std. Dev)	Correlation					Constraints	
				Global Equity	Fixed Income	REITs	TIPS	Commodities	Floor	Cap
Global Equity	8.10%	6.80%	17.00%	1	0	0.87	0.1	0.38	-	15%
Fixed Income	3.40%	3.10%	7.80%	0	1	0.11	0.77	0	-	-
REITs	6.90%	5.50%	17.30%	0.87	0.11	1	0.19	0.31	8%	-
TIPS	2.40%	2.30%	5.50%	0.1	0.77	0.19	1	0.15	5%	-
Commodities	5.70%	3.50%	21.50%	0.38	0	0.31	0.15	1	3%	-
U.S. Inflation Assumption: 2.00%										