

CalPERS Trust Level Review & Annual Program Reviews

Investment Committee
September 14, 2020

Investment Program Purpose

- Our Mission

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

- Our Vision

Work as one team, with a culture of trust, respect, and accountability to effectively manage one Total Fund

- Key CalPERS 2017-22 Strategic Plan Goal

Strengthen long-term sustainability of the pension fund

Chief Investment Officer (347)

Strategy & Research

Implement

Monitor, Review, & Assess

Board Governance & Sustainability

Research & Strategy Group

Global Equity

Global Fixed Income

Opportunistic Strategies

Private Equity

Real Assets

Trust Level Portfolio Management & Implementation

Investment Controls & Operational Risk

Investment Servicing Division

Investment Risk & Performance

Total Fund Business & Analytical Services

Our Beliefs & Strategy | Highlights

Our Total Fund investment strategy and processes reflect our Investment Beliefs and Governance & Sustainability Strategy in many ways. For example, we:

- Systematically assess our strategies to ensure alignment with our performance and funded status goals
- Are intentional in where and how we take investment risk
- Manage liquidity at the Total Fund level so we can navigate market disruptions and take advantage of market opportunities
- Understand risk is multi-faceted, and that our investment decision-making processes must consider different risks

Key Accomplishments | 2019-2020

- Developed Liquidity Dashboard
- Responded to COVID-19
- Initiated and progressed Investment Strategy Reviews
- Advanced our 5-year [Total Fund Governance & Sustainability Strategic Plan](#)
- Made organizational changes to reflect “One Team, One Fund” approach
- Developed 2020-2025 Strategic Plan



INVO Strategic Plan Objectives – 4 Ps

Portfolio

- Construct a Total Fund portfolio positioned to generate the required rate of return over the long term, by ensuring effective allocation of risk, leverage and liquidity

Processes

- Institutionalize transparent, disciplined and clear investment decision-making processes to increase organizational effectiveness and support a culture of accountability

People

- Work as one team, with a culture of trust, respect, and accountability to effectively manage one well regarded Total Fund

Performance

- Achieve relative outperformance in service of delivering our long-term projected rate of return

Key Initiatives | 2020-2021

- Implement investment strategy – Better Assets and More Assets
- Conduct 4-year Asset Liability Management review
- Continue Investment Strategy Reviews
- Strategic Plan - Continue evolution of One Team, One Fund

Strategic Objective	Number of Year One Initiatives
Portfolio	4
Processes	5
People	2
Performance	1

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Trust Level Fund Review

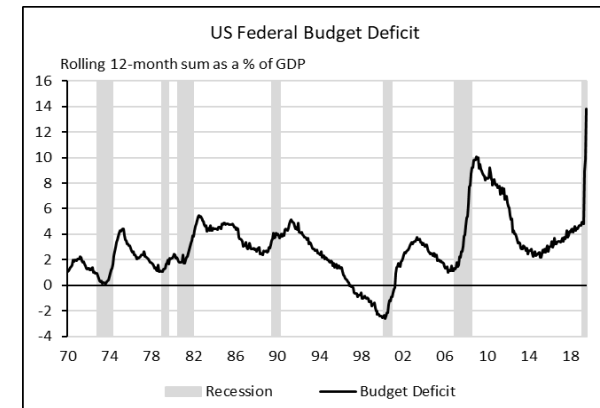
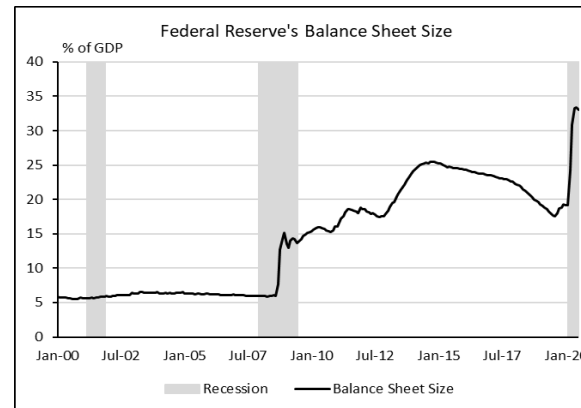
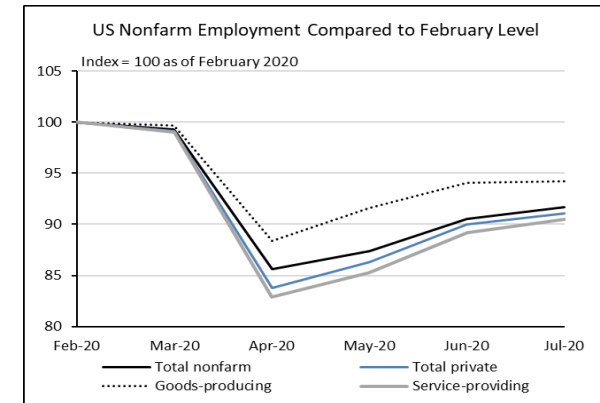
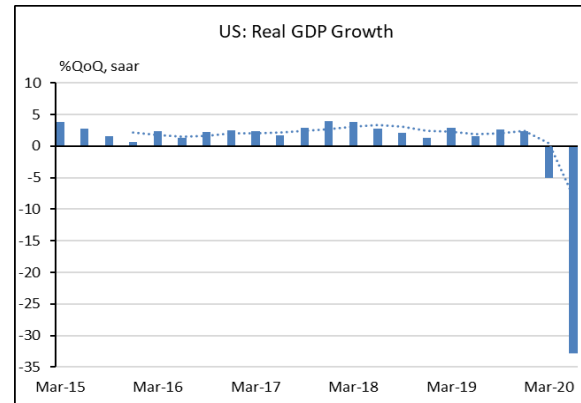
Investment Programs Review

Appendix

Economic Update | Review

An unprecedented crisis continues to unfold

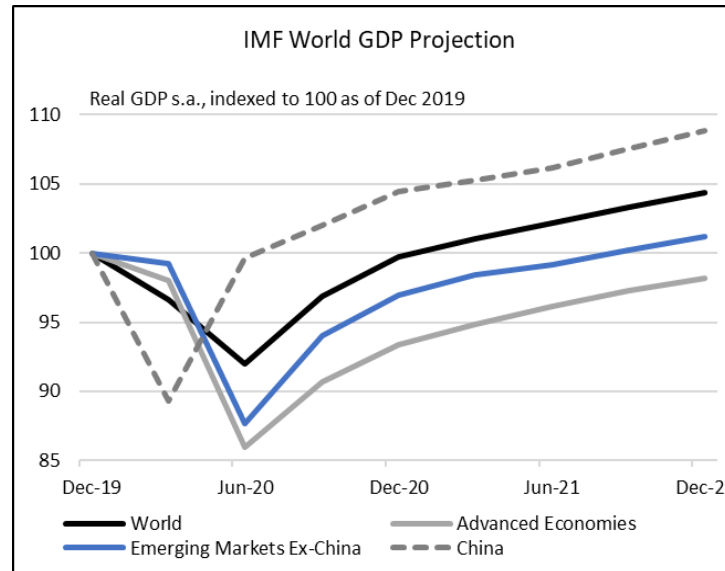
- The United States (US) economy contracted at an annualized pace of 5% in Q1 and 33% in Q2, with activity bottoming out in the April month
- Data in May and June rebounded sharply as the economy reopened, though most indicators remained well-below pre-crisis levels
- Record fiscal and monetary support both in the US and abroad helped to stabilize the demand shock and broader financial conditions
- The path of the recovery going forward depends crucially on the course of the virus



Economic Update | Outlook

A protracted recovery lies ahead, particularly for advanced economies

- The shape of the recovery looks likely to follow a “swoosh” pattern across the globe, though most notably in advanced economies
- Significant uncertainty remains that present both downside and upside risks to the outlook, including:
 - Escalating international tensions
 - US election in November
 - Long-term impact of the virus on consumer confidence and business viability
 - Containing the spread of the virus and distributing an effective vaccine



IMF Real GDP Forecasts as of June 2020*

Country	Actual		Projection		Chg from April	
	2018	2019	2020	2021	2020	2021
World Output	3.6	2.9	-4.9	5.4	-1.9	-0.4
Advanced Economies	2.2	1.7	-8.0	4.8	-1.9	0.3
United States	2.9	2.3	-8.0	4.5	-2.1	-0.2
Euro Area	1.9	1.3	-10.2	6.0	-2.7	1.3
Japan	0.3	0.7	-5.8	2.4	-0.6	-0.6
United Kingdom	1.3	1.4	-10.2	6.3	-3.7	2.3
Canada	2.0	1.7	-8.4	4.9	-2.2	0.7
Emerging Markets	4.5	3.7	-3.0	5.9	-2.0	-0.7
China	6.7	6.1	1.0	8.2	-0.2	-1.0
India	6.1	4.2	-4.5	6.0	-6.4	-1.4
Russia	2.5	1.3	-6.6	4.1	-1.1	0.6
Brazil	1.3	1.1	-9.1	3.6	-3.8	0.7
Mexico	2.2	-0.3	-10.5	3.3	-3.9	0.3

*All values represent annual growth compared to the prior year

Trust Level Performance Summary (as of June 30, 2020)

PERF FY 2019-20 absolute return of 4.7%

- Fixed Income and Real Assets posted the highest returns of 12.5% and 4.6% respectively
- Public Equity slightly positive at 0.6%
- Partially offset set by -5.1% return of Private Equity
- Resulting in Total Fund performance of 6.3% for the 5-yr, 8.5% for the 10-yr, and 5.5% for 20-yr time periods

PERF FY 2019-20 active return of +38 bps

- Key Contributors: Income-Spread Segment +14 bps, impacts from allocation +14 bps, and Real Assets +8 bps
- Resulting in Total Fund excess performance of -13 bps for the 5-yr, +10 bps for the 10-yr and -37 bps for the 20-yr periods

Affiliate Investment Programs returns for FY 2019-20 were in line with their respective asset allocations

FINO now independently calculates official fund performance

Trust Level Risk Summary (as of July 1, 2020)

- The current risk model estimate for Total Fund volatility is 11.5% which is an increase versus 9.7% a year ago due to recent market turbulence
- Total Fund risk is dominated by equities
- The estimate for Total Fund tracking error is 105 bps
- Liquidity remains adequate. Tier 1 30-Day Stress Scenario Liquidity Coverage Ratio is 2.9X

Performance Summary (as of June 30, 2020)

Funds Managed	Ending Market Value (MM)	20-Yr		10-Yr		5-Yr		3-Yr		1-Yr	
		Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Public Employees' Retirement Fund	389,037	5.5%	(37)	8.5%	10	6.3%	(13)	6.6%	(3)	4.7%	38
CalPERS Health Care Bond Fund	520	4.4%	13	4.2%	38	4.3%	3	5.4%	5	8.8%	8
CEPPT Strategy 1 ¹	9	-	-	-	-	-	-	-	-	-	-
CEPPT Strategy 2 ¹	2	-	-	-	-	-	-	-	-	-	-
CERBT Strategy 1	9,566	-	-	8.2%	26	5.8%	37	5.9%	28	3.5%	38
CERBT Strategy 2	1,434	-	-	-	-	5.7%	32	6.2%	24	5.4%	26
CERBT Strategy 3	672	-	-	-	-	5.3%	26	6.1%	20	6.3%	22
Judges' Retirement Fund	46	1.8%	11	0.7%	7	1.3%	12	1.8%	7	1.6%	(1)
Judges' Retirement System II Fund	1,867	5.4%	11	8.2%	18	6.0%	28	6.2%	29	4.5%	38
Legislators' Retirement System Fund	114	5.5%	4	6.7%	25	5.4%	22	6.2%	21	6.4%	25
Long-Term Care Fund	4,910	4.3%	11	5.8%	9	4.6%	(1)	5.3%	(13)	4.7%	(38)
Terminated Agency Pool	188	-	-	-	-	6.5%	-	8.3%	-	16.1%	-

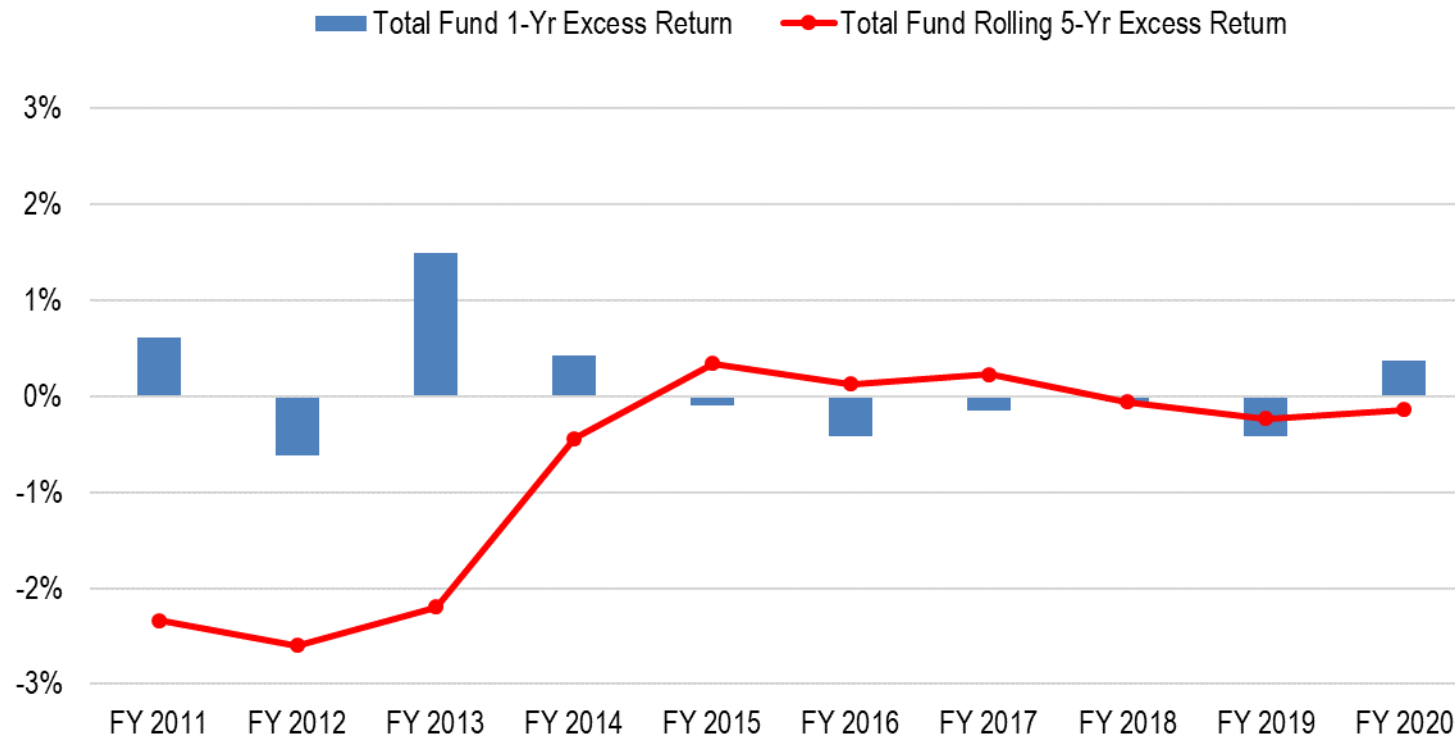


¹ Performance is not reported for CEPPT Strategy 1 and 2 because they funded less than 1-year ago. CEPPT 1 has an inception date of Oct 1, 2019 and CEPPT 2 has an inception date of Jan 1, 2020.

Supplemental Income Plan Performance (as of June 30, 2020)

Funds Managed	Ending Market Value (MM)	20-Yr		10-Yr		5-Yr		3-Yr		1-Yr	
		Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Target Income Fund	112	-	-	5.2%	9	4.4%	18	5.2%	22	6.9%	52
Target 2015 Fund	93	-	-	6.1%	1	4.3%	19	5.0%	22	6.7%	53
Target 2020 Fund	171	-	-	6.5%	3	4.2%	20	4.8%	24	6.2%	61
Target 2025 Fund	179	-	-	7.2%	3	4.6%	22	5.0%	26	5.2%	64
Target 2030 Fund	160	-	-	7.7%	(2)	4.6%	15	4.7%	15	3.9%	30
Target 2035 Fund	95	-	-	8.1%	(5)	4.8%	16	4.6%	17	2.8%	36
Target 2040 Fund	85	-	-	8.5%	(5)	5.1%	15	4.7%	15	1.9%	30
Target 2045 Fund	47	-	-	8.8%	(6)	5.6%	15	5.2%	16	1.9%	30
Target 2050 Fund	25	-	-	8.7%	(7)	5.6%	15	5.2%	16	1.9%	29
Target 2055 Fund	10	-	-	-	-	5.6%	14	5.2%	15	1.9%	29
Target 2060 Fund	4	-	-	-	-	-	-	-	-	1.8%	22
SSgA STIF	121	-	-	-	-	1.4%	18	1.9%	17	1.7%	3
SIP US ST Bond Core	42	-	-	-	-	2.0%	(10)	2.8%	(7)	4.2%	(2)
SIP US Bond Core	70	-	-	-	-	4.3%	4	5.4%	6	8.9%	12
SIP Real Asset Core	7	-	-	-	-	0.6%	8	0.5%	17	-8.1%	63
SIP Russell All Cap Core	547	-	-	-	-	10.0%	(0)	10.0%	(5)	6.4%	(10)
SIP Global All Cap EX-US	61	-	-	-	-	2.6%	29	1.3%	33	-4.3%	49

PERF Excess Returns | Rolling 5-Year (as of June 30, 2020)



1 Year (+38 bps excess return)

- + Primary Contributors
 - Income – Spread (+14 bps)
 - Real Assets (+8 bps)
 - Allocation effect (+14 bps)

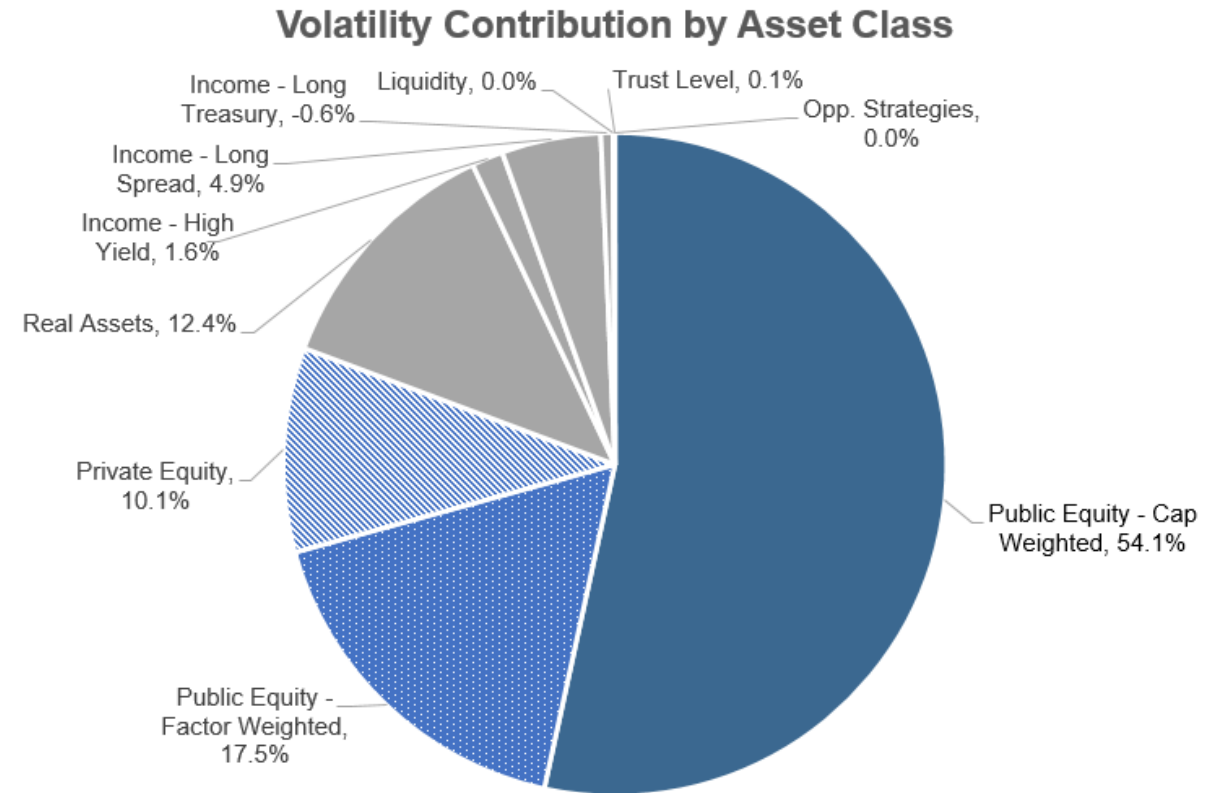
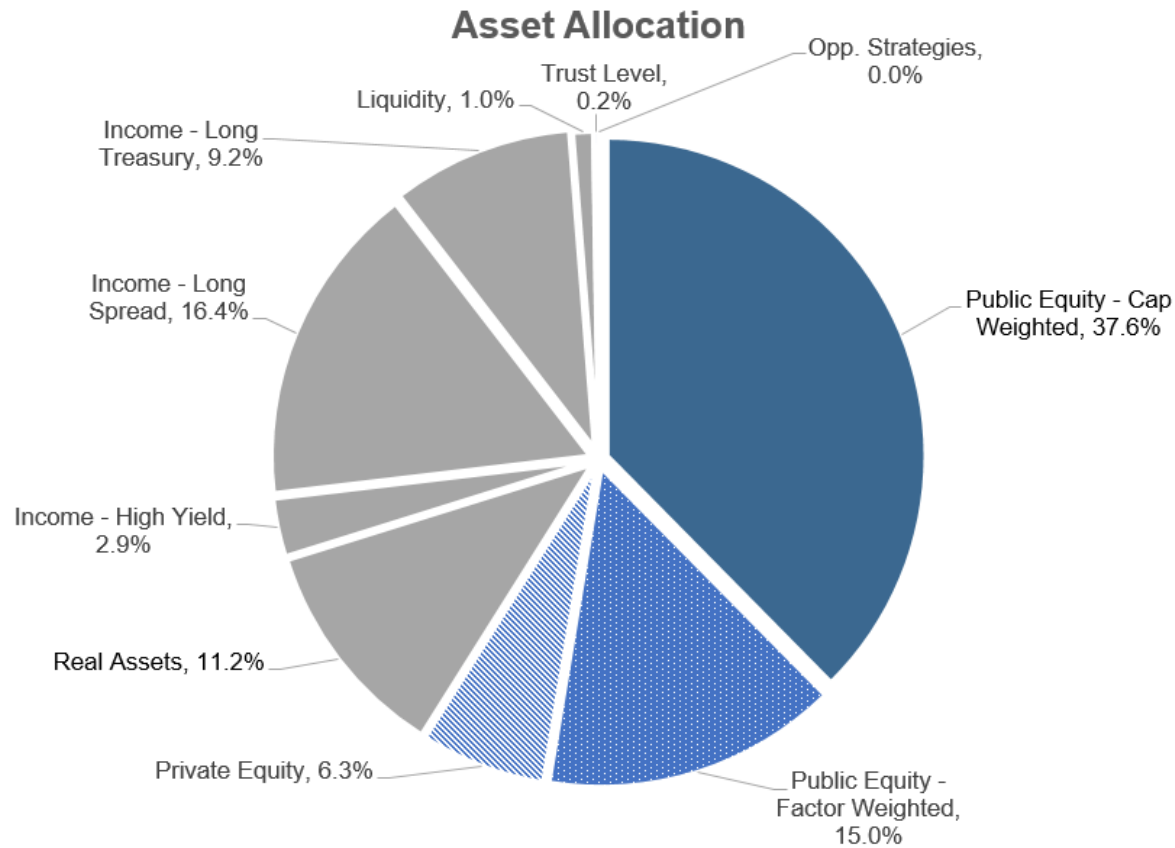
Other segments generally flat consistent with reducing active risk during FY 2019-20

5 Year (-13 bps/yr excess return)

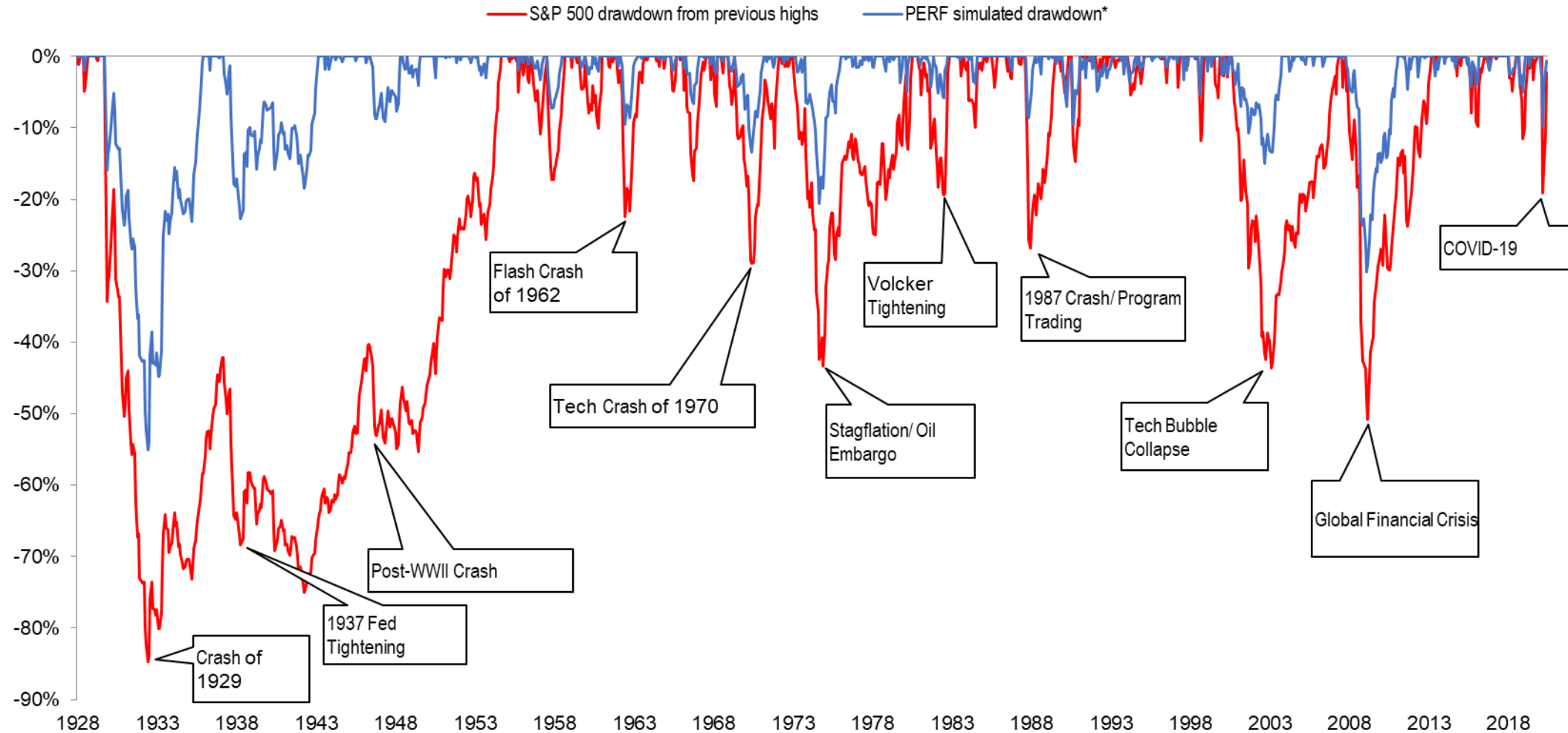
- Primary Detractors
 - Real Assets (-13 bps)
 - Private Equity (-5 bps)
 - Allocation effects (-13 bps)

- + Primary Contributors
 - Income – Spread (+8 bps)

Growth Assets Dominate Risk (as of June 30, 2020)



Equity Markets Drive PERF Drawdowns



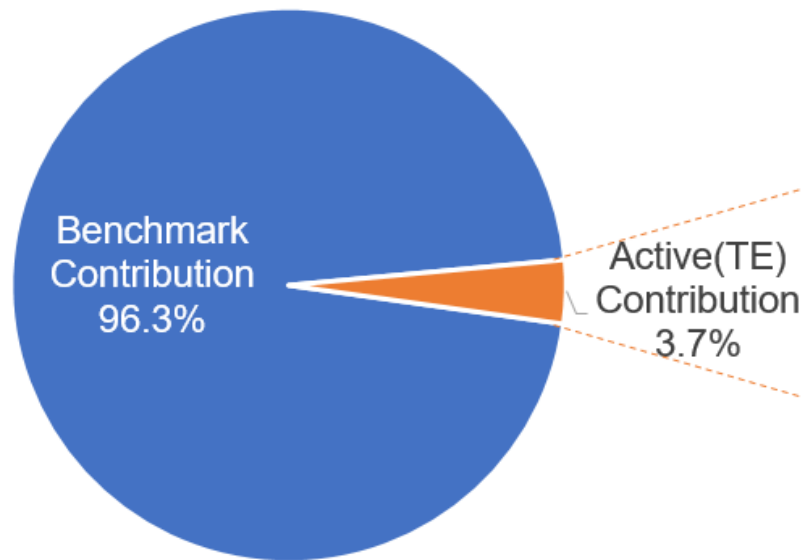
*Simulated performance of current PERF asset allocation rebalanced quarterly to current policy targets based on historical returns for current benchmarks or their proxies.

Data Source: Bloomberg Finance L.P., J.P. Morgan, MSCI, Inc., Kenneth R. French & Robert J. Shiller

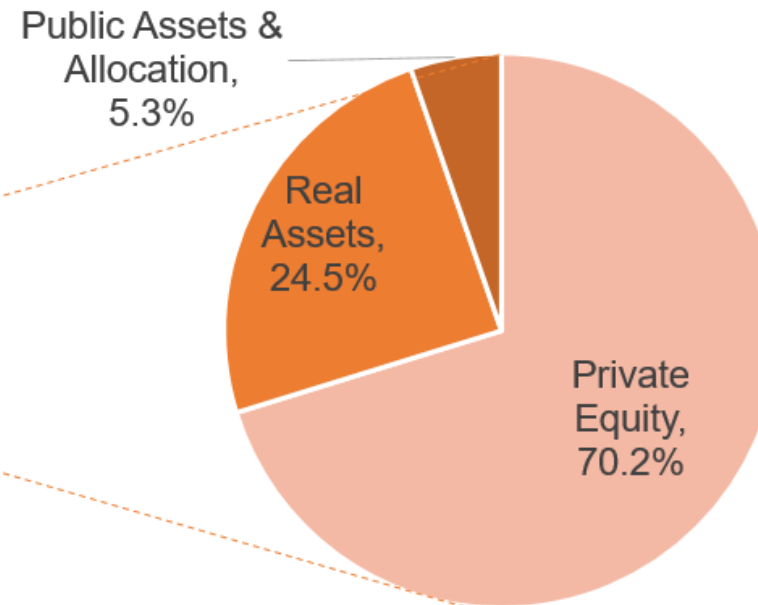
Tracking Error in Total Fund Context (as of July 1, 2020)

- Strategic Asset Allocation (Policy Benchmark) determines the vast majority of risk for the PERF
- Of the total PERF tracking error, 95% comes from private asset classes and is driven by nonactionable benchmark effects

PERF Volatility = 11.5%



PERF Tracking Error = 105 bps



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Global Equity | Implementation Highlights

Global Equity is the principal asset class providing growth exposure in the strategic asset allocation

- Global Equity Team participates in global capital markets and provides perspective to support strategic asset allocation and Total Fund decisions
- Total AUM: \$206 Billion (72% cap-weighted, 28% factor-weighted)

Program thoughtfully delivers multiple equity betas with low active risk and an efficient cost structure

- 97% of the portfolio is invested in cost-efficient, internally-managed strategies

Defensive positioning and high conviction strategies moderated impact to the Total Fund during drawdown

- Public Equity, as a whole, delivered positive absolute and relative returns for FY 2019-20, amid COVID-19 related market sell-off and volatility

Global Equity Performance (as of June 30, 2020)

	Ending Market Value (MM)	20-Yr		10-Yr		5-Yr		3-Yr		1-Yr	
		Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Public Equity	206,247	4.80	(4)	9.68	20	6.58	4	5.96	(10)	0.59	21
Cap Weighted	148,309	4.81	(5)	9.70	19	6.64	2	6.05	(14)	1.80	15
Index Oriented	141,378	5.05	-	10.05	17	6.98	12	6.59	11	2.08	22
Active	5,447	5.16	23	8.70	71	6.17	70	6.24	123	5.17	476
Allocation Mgmt./Completion	-	-	-	-	-	-	-	-	-	N/M	-
Alternative Beta	1,030	-	-	8.84	(5)	5.59	(72)	4.80	(123)	(0.55)	(217)
Emerging Manager	452	3.12	(164)	7.10	(170)	1.04	(286)	(1.76)	(411)	(12.35)	(813)
Factor Weighted	57,938	-	-	-	-	-	-	-	-	(2.57)	17

- Global Equity ended the year positive following the drawdown in Feb/March
- The program's active risk reduction resulted in a smaller allocation to Active strategies with the remaining managers outperforming their respective benchmarks
- Alternative Beta and the Emerging Manager Program (which were also part of risk reduction activities), underperformed their respective benchmarks
- Factor Weighted experienced 30.6% draw down (34.5% Cap Weighted) but lagged behind Cap Weighted during the recovery
- Index Oriented was a funding source for Low Liquidity Enhanced Return (LLER) assets during the year and those assets contributed +11 BPs to the Index Oriented strategy

Global Equity | Priority Accomplishments

Major Accomplishments for 2019-2020

- Reviewed and ultimately restructured the Traditional Active, Emerging Manager and Alternative Beta portfolios
- Successfully adapted to the remote environment that resulted from COVID-19 and shelter-in-place
- Effectively managed the Global Equity portfolio and quarterly rebalance during extreme market volatility driven by the COVID-19 sell-off and recovery
- Progressed implementation of the Total Fund Governance & Sustainability Strategic Plan (Executive Compensation, Board Diversity, and Climate Action 100+)

Global Equity | Priority Initiatives

Major Initiatives for 2020-2021

- Continue to contribute to the development and implementation of the multi-year Total Fund Governance & Sustainability Strategic Plan
- Complete selection of next generation Multi-Asset Trading Platform and begin integration
- Continue to evaluate strategic benchmarks that more effectively capture equity market betas
- Integrate risk exposure management across public and private equities

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Global Fixed Income / Implementation Highlights

Global Fixed Income utilizes an internal allocation and investment review process to optimize allocation and control risk:

- Weekly Portfolio Allocation Committee (PAC)
 - Bi-monthly we include the entire GFI team to discuss implementation of investment management decisions, allocation among Spread sectors, information sharing, and testing of investment ideas
 - Incorporation of alternative measures of risk and potential return including risk premia analysis, correlation analysis, and alternative risk “bucketing”
- Collaboration with the Research and Strategy Group’s (RSG) Economic and Quant teams has contributed to strong investment returns
- Daily and weekly reports highlight current allocations by weight, risk and return

Global Fixed Income Performance (as of June 30, 2020)

	Ending Market Value (MM)	20-Yr		10-Yr		5-Yr		3-Yr		1-Yr	
		Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Income	109,851	6.93	61	5.85	64	6.28	41	7.37	30	12.53	19
Spread	64,043	-	-	-	-	-	-	-	-	8.84	99
Mortgage	31,009	-	-	4.17	100	3.80	52	4.45	41	6.00	26
Credit Ex Sov	26,892	-	-	8.05	88	8.25	61	8.67	81	13.55	163
Sovereign	3,135	-	-	6.65	50	6.80	58	8.07	63	9.52	102
High Yield	2,908	-	-	6.95	76	5.08	91	3.23	60	(0.49)	115
Spread Non-Core	55	-	-	-	-	-	-	-	-	3.73	-
Treasury	34,505	-	-	-	-	-	-	-	-	19.97	(61)
High Yield	11,303	-	-	-	-	-	-	-	-	(1.09)	(22)
Liquidity	3,311	2.16	9	1.26	(5)	1.40	32	1.96	38	1.61	33
Inflation	0	-	-	-	-	-	-	-	-	-	-

- US treasury rates declined during the fiscal year (e.g., 10-year decreased almost 100 BPs) and these lower rates produced sizable capital gains for Treasury and the Spread strategies
- All four components of Spread produced positive excess returns by active portfolio management throughout the fiscal year and by taking advantage of market dislocations and liquidity constraints during the Feb/Mar sell-off and subsequent recovery
- Treasury was the primary funding source of LLER assets during the Feb/March drawdown when LLER had negative returns and detracted approximately 70 BPs from Treasury performance. After accounting for the impact from LLER, Treasury has slightly positive excess returns consistent with expectations of the segment
- Although High Yield underperformed its benchmark during the most recent fiscal year, returns were within expectations given market volatility bringing the 2-year absolute return to 3.54% and excess return to +7 BPs

Global Fixed Income | Priority Accomplishments

Major Accomplishments for 2019-2020

- Total Fund Focus
 - Contributed to “7% Solution”
 - Stress Model/Regime Based Guidelines development as part of Total Fund Liquidity Management Committee
 - Transition of Treasury Segment to new benchmark
 - Financing Dashboard development collaboration
- Asset Class Collaboration
 - Industry and company due diligence, research, and analysis with Real Assets (RA) on investment opportunities
 - Collaboration with RSG on investment and economic research and analysis
 - Due diligence, research, and analysis with Opportunistic Strategies (OS) on fixed income investment opportunities
- Performance
 - Strong performance results during very tough pandemic influenced markets

Global Fixed Income | Priority Initiatives

Major Initiatives for 2020-2021

- Support INVO's Total Fund Focus
 - Portfolio Decision Making group focused on Total Fund portfolio strategy
 - Support Private Equity/OS/RA/RSG in analyzing potential new investment opportunities
 - Support RSG's global research effort (China, Emerging Markets research, etc.)
 - Multi-Asset Trading Platform evaluation and testing
 - Direct involvement in INVO's LIBOR Reform Task Force

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Opportunistic Strategies | Implementation Highlights

Successes

- Opportunistic: Exposure is being implemented across various strategies (Middle Market Direct Lending, Specialty Lending, Public Market Dislocation), and geographies (U.S. and Europe) to ensure a well diversified portfolio
- LLER: Investments in AAA/AA Collateralized Loan Obligations (CLOs) and other structured products, add value to the Total Fund with a remote probability of capital loss
- OS/LLER: Ability to negotiate favorable terms due to current market dynamics

Challenges

- Opportunistic: Deployment into Private Debt is a slower process than purchasing public market securities, thorough diligence and analysis is essential
- LLER: Market volatility can cause temporary mark-to-market loss, however our liquidity position allows us to hold these securities to maturity and earn an illiquidity premium

Opportunistic Strategies Performance (as of June 30, 2020)

	Ending Market Value (MM)	20-Yr		10-Yr		5-Yr		3-Yr		1-Yr	
		Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Low Liquidity Enhanced Return (LLER)	10,811	-	-	-	-	2.53	123	2.57	78	1.11	(27)
Opportunistic	79	-	-	-	-	-	-	-	-	-	-
Public Market Dislocation	61	-	-	-	-	-	-	-	-	-	-
Private Debt	18	-	-	-	-	-	-	-	-	-	-

- The market value and impact from LLER investments are currently included in the Public Equity – Cap Weighted and Treasury segments
- Recently funded the two opportunistic strategies in June 2020

Opportunistic Strategies | Priority Accomplishments

Major Accomplishments for 2019-2020

- Developed framework for the Private Debt investment process and due diligence procedures
- Committed \$1B within the Opportunistic area (Q2 2020)
- Received Board approval of revisions to the Total Fund Policy, Opportunistic Program

Opportunistic Strategies | Priority Initiatives

Major Initiatives for 2020-2021

- Continue to deploy capital to Private Debt to ensure a robust and well diversified portfolio
- Enhance the private debt governance framework, portfolio analytics and reporting

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Private Equity | Implementation Highlights

- Expanded our partnerships with existing managers, re-established partnerships with former managers, and initiated partnerships with a targeted number of new managers
- Disciplined expansion of capital deployment while increasing portfolio cost efficiency and diversification
- Commenced strategic planning process

Private Equity Performance (Time Weighted Returns as of June 30, 2020¹)

Performance by Strategies

	Ending Market Value (MM)	20-Yr Net Return	10-Yr Net Return	5-Yr Net Return	3-Yr Net Return	1-Yr Net Return
Private Equity	24,553	7.45	10.43	6.58	5.88	(5.07)
Buyouts	16,876	11.59	11.08	7.82	6.70	(6.27)
Credit	1,532	8.47	6.68	(2.02)	(3.42)	(16.44)
Growth/Expansion	3,678	4.64	11.55	8.81	7.85	1.67
Opportunistic	1,983	6.81	11.57	9.20	6.69	0.20
Venture	478	0.49	6.93	3.45	10.93	11.19
Other	6					

Performance vs. Benchmarks

	20-Yr Net Return	10-Yr Net Return	5-Yr Net Return	3-Yr Net Return	1-Yr Net Return
Private Equity	7.45	10.43	6.58	5.88	(5.07)
Policy Benchmark	7.29	10.19	5.56	3.18	(10.96)
Excess bps	15	24	102	270	590
Public Equity - Cap Weighted Benchmark + 150 bps, lagged	5.24	7.85	4.42	2.81	(10.96)
Excess bps	221	258	216	307	590

- Over the past year, private equity performance has deteriorated on an absolute basis across all time periods
- Outperformance vs. benchmark unlikely to prove durable in the near-term

Private Equity Performance (Money Weighted Returns as of March 31, 2020¹)

Program Performance vs. Peer Universe Benchmarks

	20-Yr Net Return	10-Yr Net Return	5-Yr Net Return	3-Yr Net Return	1-Yr Net Return
Private Equity - Internal Rate of Return	8.09	11.71	6.75	6.37	(5.17)
Cambridge Private Equity Index ²	9.31	12.78	10.47	10.83	2.18
Excess bps	(122)	(107)	(372)	(446)	(735)
State Street Private Equity Index		12.49	9.60	8.86	(1.86)
Excess bps		(78)	(285)	(249)	(331)

- Peer universe benchmarks are calculated using money weighted returns and serve an additional means of evaluating the Private Equity Program
- The Private Equity Program has consistently underperformed published industry benchmarks across all time periods. The primary drivers of this underperformance include:
 - Lack of consistent capital deployment. High allocation to poor performing vintages (2006-08) and low allocation to strong performing vintages
 - Lack of diversification. Limited allocations to strong performing strategies (e.g. Growth) and high allocations to lower performing strategies (e.g. FoFs, Credit, Energy)
 - Lack of strategic consistency. Historical cycling of strategies has led to volatility in approach and a disjointed portfolio
 - Lack of cost efficiency. Higher total program costs relative to peers given lack of co-investment program

¹ Program and benchmark returns reflect valuations as of 3/31/2020

² Customized Cambridge benchmark using the following asset class/strategies: Buyout, Venture Capital, Growth Equity, Subordinated Capital, Credit Opportunities, Senior Debt & Control-Oriented Distressed

Private Equity | Priority Accomplishments

Major Accomplishments for 2019-2020

- Continued to build a more effective and collaborative team culture
- Portfolio review and assessment
- Increased cost efficiency and portfolio diversification
- Re-established co-investment program
- Restructured internal processes to improve underwriting and monitoring
- Re-established internship program

Private Equity | Priority Initiatives

Major Initiatives for 2020-2021

- Strategic planning process underway to frame long-term objectives
- Focus on our core capabilities: effective underwriting, engaged monitoring and partnership with high-quality managers
- Ramp our co-investment program
- Deeper integration of data into our business and decision-making processes
- Deeper focus on and integration of ESG and D&I factors

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Real Assets | Implementation Highlights

Successes

- Invest in high-quality, essential core assets in defined target markets with stable cash flows held through business cycles
- Separate accounts with strong governance, alignment, and transparency managed by specialists with proven execution capabilities
- Unified team collaborating with Total Fund to implement repeatable, scalable and disciplined business model

Challenges

- COVID-19 impact on Real Estate and Infrastructure sectors
- Competitive pricing for core assets

Real Assets Performance (as of June 30, 2020)

	Ending Market Value (MM)	20-Yr		10-Yr		5-Yr		3-Yr		1-Yr	
		Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Real Assets	44,080	6.05	(258)	8.82	(73)	5.92	(112)	5.41	(31)	4.60	74
Real Estate	37,382	5.81	(327)	9.51	(95)	6.06	(140)	5.22	(61)	5.46	159
Infrastructure	5,428	-	-	13.79	793	9.95	432	10.28	468	0.16	(371)
Forestland	1,270	-	-	(2.37)	(754)	(3.66)	(779)	(3.13)	(784)	(0.11)	(398)

- Real Assets provided an annual income return of 3.5% to 4% across all periods
- Core Real Estate is more than 70% of Real Assets (and 85% of Real Estate) and returns exceeded the Real Estate benchmark for all time periods shown above
- Infrastructure continues to be a strong contributor to absolute and excess returns over the 3-yr, 5-yr and 10-yr periods despite recent performance
- Non-Strategic investments continue to dilute returns

Real Assets | Priority Accomplishments

Major Accomplishments for 2019-2020

- Further aligned portfolio with role, strengthened Core portfolio positioning and reduced Non-Strategic exposures
- Expanded Infrastructure business model and added investment vehicles to accelerate deployment
- Continued to implement and refine the manager alignment model to provide greater transparency, control and cost efficiency
- Enhanced collaboration across Total Fund program areas to improve decision-making

Real Assets | Priority Initiatives

Major Initiatives for 2020-2021

- Develop the 2021 Five Year Strategic Plan
- Continue to grow Core assets, build Infrastructure portfolio, rebalance exposures, and reduce Non-Strategic holdings
- Further embrace Total Fund integration for investment decision making – One Team, One Fund

Conclusion

- Recap & Next Steps
- Questions

Appendix

Additional Information

Trust Level

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Global Fixed Income

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Additional Information

Trust Level

Additional Trust Level Performance

Investment Beliefs

Additional Teams Overview

Additional Information | Trust Level (as of June 30, 2020)

	Ending Market Value (MM)	20-Yr		10-Yr		5-Yr		3-Yr		1-Yr	
		Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Trust Level ¹	914	-	-	-	-	-	-	-	-	-	-
Multi Asset Class	414	-	-	-	-	(1.86)	(794)	(4.85)	(1101)	(19.50)	(2317)
Absolute Return Strategies	235	-	-	4.48	(151)	3.85	(277)	7.94	59	50.98	4299
Completion Overlay ²	260	-	-	-	-	-	-	-	-	-	-
Other ^{1,3}	5	-	-	-	-	-	-	-	-	-	-

- Risk Mitigation Program managed by Trust Level Portfolio Management was defunded during FY19/20 with < +1 bp impact to PERF in current fiscal year
- Program's active risk reduction resulted in defunding three externally managed Multi Asset Class mandates during the fiscal year

¹ Aggregate includes multiple unrelated strategies and therefore net return and excess bps are not meaningful performance metrics

² Strategy was temporarily defunded from October 2019 through May 2020

³ Includes Member Home Loan Program, Internal Holding Fixed Income and Securities Lending portfolios

CalPERS Investment Beliefs Summary

[CalPERS' Investment Beliefs](#) are not a checklist to be applied to every decision. They are a guide for making decisions that often require balancing multiple inter-related decision factors. Each Investment Belief also contains several sub-beliefs that are actionable statements that provide insight as to how the Investment Beliefs will be implemented.

1. Liabilities must influence the asset structure
2. A long time investment horizon is a responsibility and an advantage
3. CalPERS investment decisions may reflect wider stakeholder views, provided they are consistent with its fiduciary duty to members and beneficiaries
4. Long-term value creation requires effective management of three forms of capital: financial, physical, and human
5. CalPERS must articulate its investment goals and performance measures and ensure clear accountability for their execution
6. Strategic allocation is the dominant determinant of portfolio risk and return
7. CalPERS will take risk only where we have a strong belief we will be rewarded for it
8. Costs matter and need to be effectively managed
9. Risk to CalPERS is multi-faceted and not fully captured through measures such as volatility or tracking error
10. Strong processes and teamwork and deep resources are needed to achieve CalPERS goals and objectives

Integration of Investment Beliefs | Example Highlights

Investment Beliefs

Investment Belief 1

Liabilities must influence the asset structure.

- Use of asset segments supports Portfolio Priorities (protect the funded ratio, stabilize employer contribution rates, achieve long-term required rate of return)

Investment Belief 2

A long time investment horizon is a responsibility and an advantage

- Investment processes are built on a strong liquidity management framework that provides adequate liquidity and allows us to harvest an illiquidity premium. Due to our long-term nature we are able to endure temporary market volatility

Investment Belief 3

CalPERS investment decisions may reflect wider stakeholder views, provided they are consistent with its fiduciary duty to members and beneficiaries

- CalPERS work on engagement, advocacy and integration of climate change risks and opportunities is rooted in partnerships

Investment Belief 4

Long-term value creation requires effective management of three forms of capital: financial, physical and human

- Integration of environmental, social, and governance factors into the investment management process contribute to the long-term sustainability of the fund.

Investment Belief 5

CalPERS must articulate its investment goals and performance measures and ensure clear accountability for their execution

- We routinely report on our investment performance and on our funding levels and risks

Investment Belief 6

Strategic allocation is the dominant determinant of portfolio risk and return

- We consider investment strategies that have the potential for material impacts to the Total Fund, such as our “Better Assets and More Assets” strategy

Investment Belief 7

CalPERS will take risk only where we have a strong belief we will be rewarded for it

- We conduct systematic reviews of our investment strategies and take action to reduce active risks. For example, the Global Equity program restructured its Traditional Active, Alternative Beta, and Emerging Manager portfolios

Investment Belief 8

Costs matter and need to be effectively managed

- The majority of our public assets are invested in cost-efficient, internally managed and implemented strategies

Investment Belief 9

Risk to CalPERS is multi-faceted and not fully captured through measures such as volatility or tracking error

- We consider risk factors that emerge slowly but that can materially impact our portfolio, such as the effects of climate change on real assets investments

Investment Belief 10

Strong processes and teamwork and deep resources are needed to achieve CalPERS goals and objectives

- We emphasize the importance of an inclusive and collaborative ‘One Team, One Fund’ culture that recognizes our team members are assets in achieving our objectives

Additional Information | INVO Teams

The following slides provide a high level introduction of the other eight teams that are integral to CalPERS' investment program

Board Governance & Sustainability

- Advise on board governance and strategy, along with strategy for specific programs within investments, including the emerging manager program and Total Fund Governance & Sustainability Strategic Plan

Research & Strategy Group

- Provide economic and quantitative analysis to support the investment-decision making process at both a Total Fund and asset class level

Trust Level Portfolio Management & Implementation

- Manage the Asset Liability Management process and implement the strategic asset allocation set by the Board, manage the Affiliate Funds, and provide centralized trading services

Additional Information | INVO Teams Continued

Investment Servicing Division

- Responsible for trade support and investment operations, management of investment-related IT, internal financial services, and strategic/business planning

Investment Controls & Operational Risk

- Responsible for trade controls, policy testing, benchmark and policy governance activities, Operational Due Diligence, and overall support for the operational risk control environment of the Investment Office

Investment Risk & Performance

- Create transparency on CalPERS' portfolios and investment processes to ensure that investment risks are intended, understood, and compensated

Additional Information | INVO Teams Continued

Private Asset Analytics

- At the direction of the Deputy Chief Investment Officer, lead and provide expertise for Strategic Initiatives and Special Projects across INVO bringing specialized experience in Private Market Assets

Total Fund Business & Analytical Services

- Deliver high-quality business, analytical and administrative support services to Investment Office asset class and program customers through a centralized operating model

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Global Equity | Role in the Total Fund

Percentage of PERF

	Target Allocation	Actual Allocation as of 6/30/2020
Total Public Equity	50% (+/- 7%)	53%¹
Cap-Weighted Segment	35%	38%
Factor-Weighted Segment	15%	15%

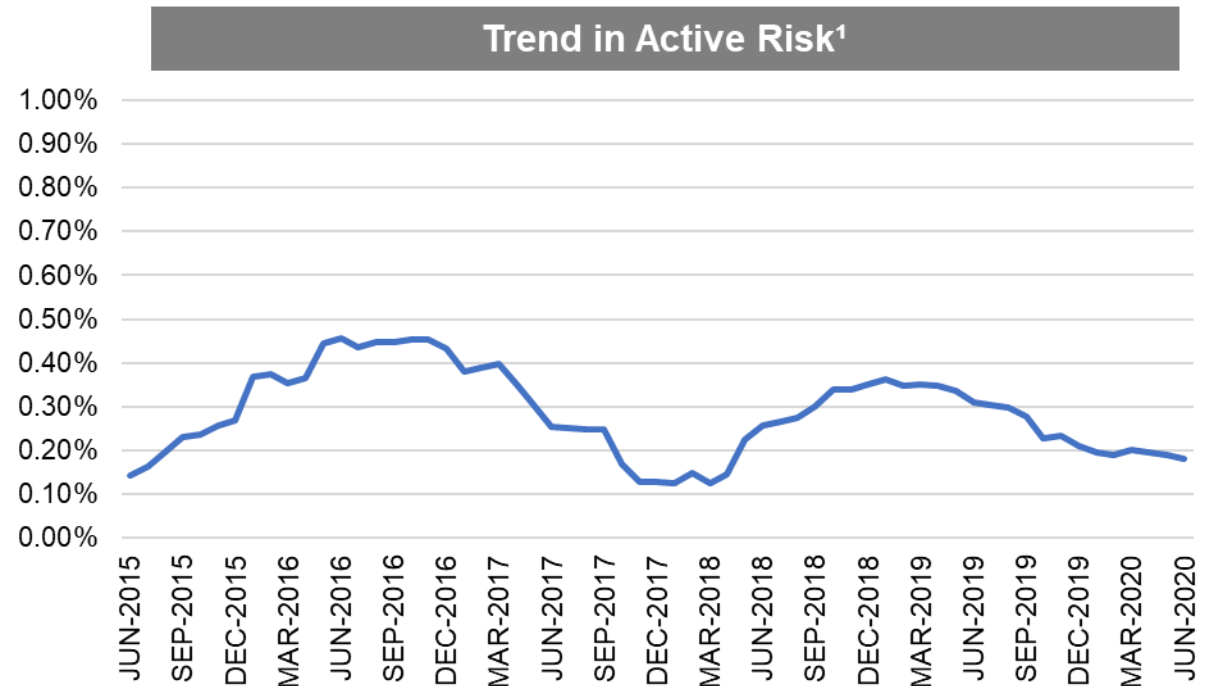
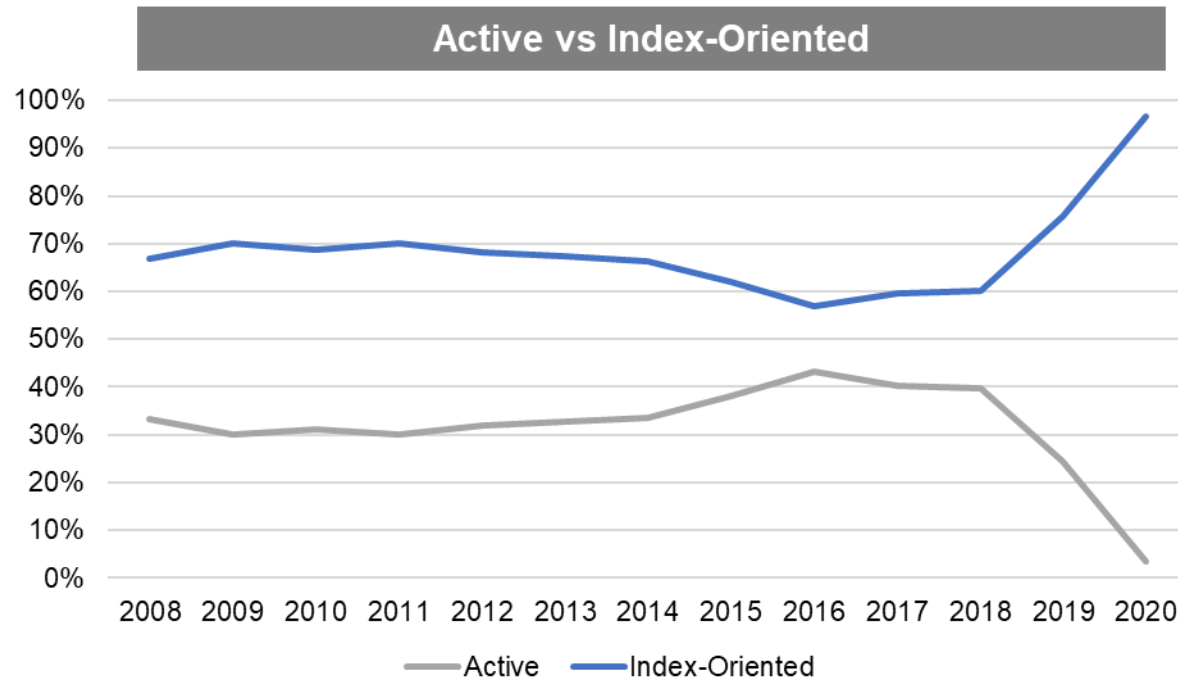
Total Fund Role

- The role of equities is “total return oriented and to capture the equity risk premium (ERP), defined as the excess return over risk-free government bonds, by means of ownership risk in companies and exposure to corporate earnings growth. The major driver is appreciation, with some cash yield (growth and liquidity)”
- Drivers of total performance
 - Price appreciation
 - Cash yield
- Risks
 - Economic: High sensitivity to global economic growth variability
 - Liquidity: Portfolio expected to remain highly liquid

¹ Overweight vs. policy target exists in part to proxy underweights in illiquid private asset classes (Private Equity and Real Assets)

Global Equity | Characteristics & Positioning

- Index-oriented portfolio implementation has continued to trend upward
 - As of 6/30/2020, 97% of assets are categorized as index-oriented
 - Active risk has trended downward



¹ Figure uses realized tracking error (trailing 1-year) since June 2015

Global Equity | Integration of Governance & Sustainability Examples

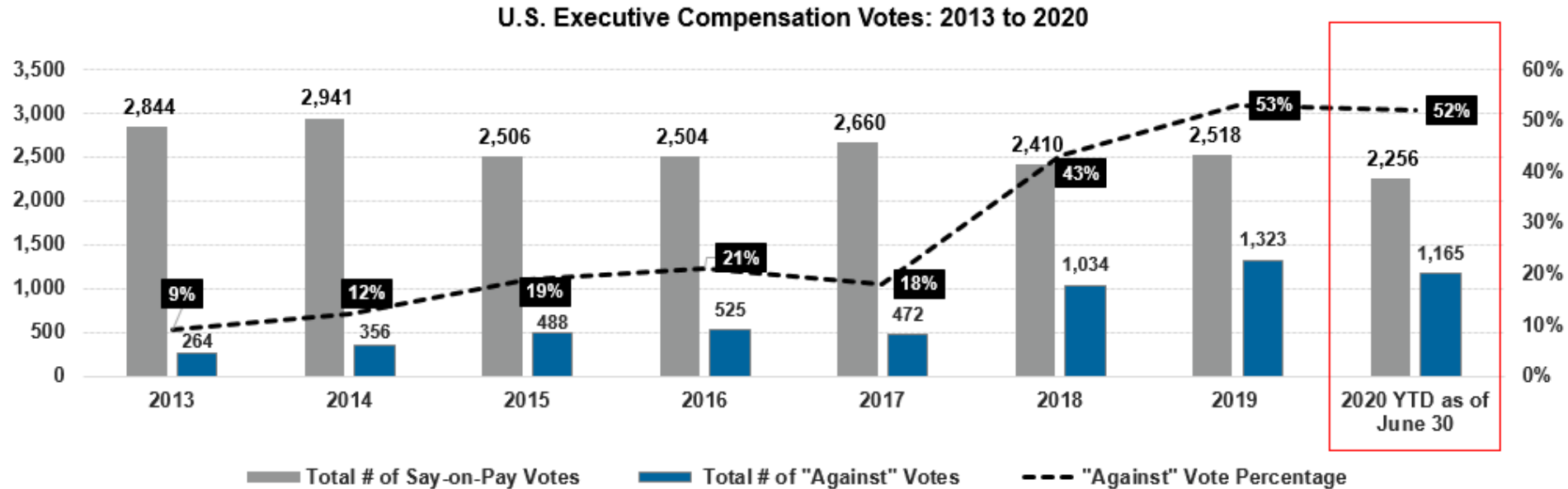
Global Equity integrates CalPERS Governance & Sustainability Strategy in various ways, which include but are not limited to:

- Proxy Voting
 - Votes all public company proxies (11,000+ company meetings, 100,000+ resolutions) in a manner consistent with CalPERS' Governance & Sustainability Principles and Investment Beliefs
- Engagement
 - Actively engages portfolio companies on climate change, corporate board diversity, executive compensation and other Governance & Sustainability considerations to promote long-term value creation
- Partnerships
 - Leverages external and internal partnerships to actively engage global asset owners and managers, companies, data providers, regulators, and standards-setting bodies on material Governance & Sustainability factors
- Research
 - Continuous research, development and integration of best practices, proxy voting enhancements, and evolution of Governance & Sustainability

Governance & Sustainability | 2020 Proxy Season Outcomes

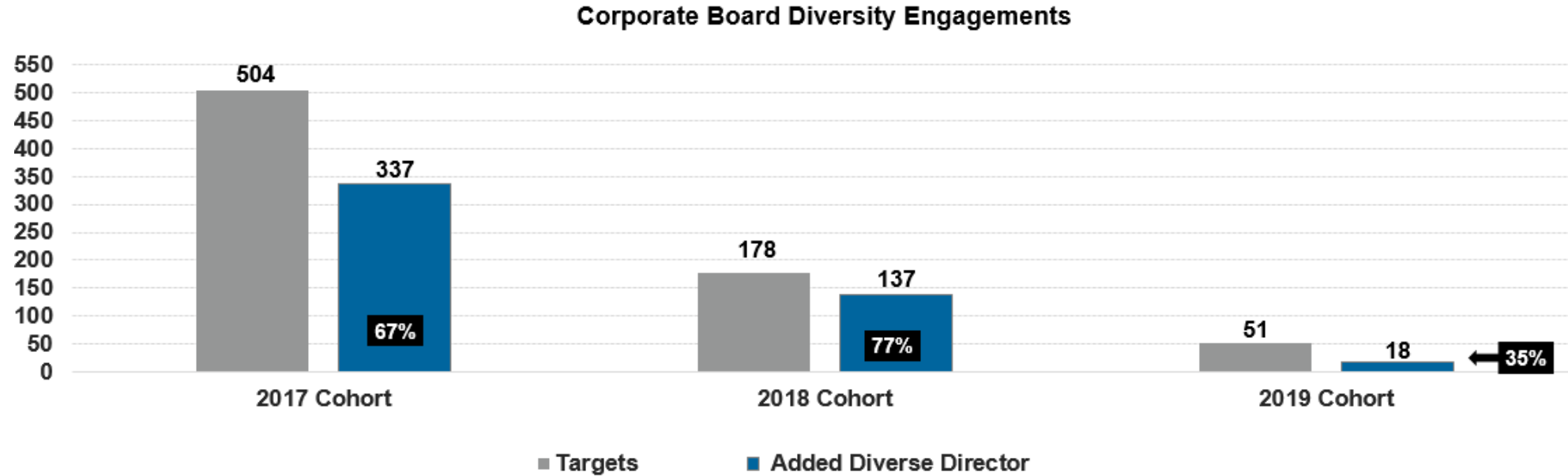
- **Enhanced executive compensation analysis and accountability**
 - Voted “against” 52% of executive compensation proposals for poor pay-for-performance alignment
 - Voted “against” 2,716 Compensation Committee members, holding them accountable for poor pay-for-performance alignment
 - Wrote letters to Chairs of Compensation Committees and/or Boards at 1,165 companies requesting engagement meetings to discuss our “against” votes for poor pay-for-performance alignment. The response rate as of end of July was 25%
- **Improved corporate board diversity**
 - 67% of companies engaged since July 2017 have added a diverse director to their boards (492 of 733 companies)
 - Voted “against” 164 directors at companies where diversity engagements did not result in constructive outcomes (by comparison voted against 314 directors in 2019 and 468 directors in 2018)
 - Staff is in the process of identifying the 2020 target list of diversity companies
 - Partnered with CalSTRS and LACERA on the California Board Diversity Initiative to improve board diversity at CA headquartered companies
- **Engaged Climate Action 100+ companies**
 - CalPERS is leading engagements at 22 companies including 6 Japanese companies
 - Staff is currently evaluating engagement “next steps” for 2021 proxy season, including filing shareowner proposals
 - Ran proxy solicitations at 12 companies at which climate-related proposals were flagged by the CA 100+
 - The 12 proposals averaged 36% shareowner support, and one proposal passed with 54% support
 - Results and progress of collaborative engagements are detailed in the Climate Action 100+ 2019 Progress Report (<http://www.climateaction100.org/>)

Governance & Sustainability | U.S. Executive Compensation Votes: 2013 to 2020



- 2017: Performed extensive research on executive compensation and pay-for-performance (P4P)
- 2018 proxy season: Implemented enhanced voting practices on executive compensation (“Say on Pay”) proposals in the United States. Voted “against” 43% of SOP proposals
- 2019 proxy season: Developed and implemented a new proprietary 5-year quantitative model as part of the enhancement of the CalPERS Executive Compensation Analysis Framework to review SOP proposals. Voted “against” 53% of SOP proposals
- 2020 proxy season: Applied further enhancements to the executive compensation framework analysis
 - Implemented the CalPERS P4P Scorecard developed in August 2019
 - Voted “against” Compensation Committee members (2,716 directors) when voting “against” compensation plans (52% “against”)

Governance & Sustainability | Corporate Board Diversity Cohorts: 2017, 2018, 2019



- 67% of the 2017 corporate board diversity cohort have since added a diverse director to their boards following staff’s engagements (337 of 504 companies). Engagements started in July 2017
- 77% of the 2018 corporate board diversity cohort have since added a diverse director to their boards following staff’s engagements (137 of 178 companies). Engagements started in October 2018
- 35% of the 2019 corporate board diversity cohort have since added a diverse director to their boards following staff’s engagements (18 of 51 companies). Engagements started in July 2019

Governance & Sustainability | Climate Action 100+



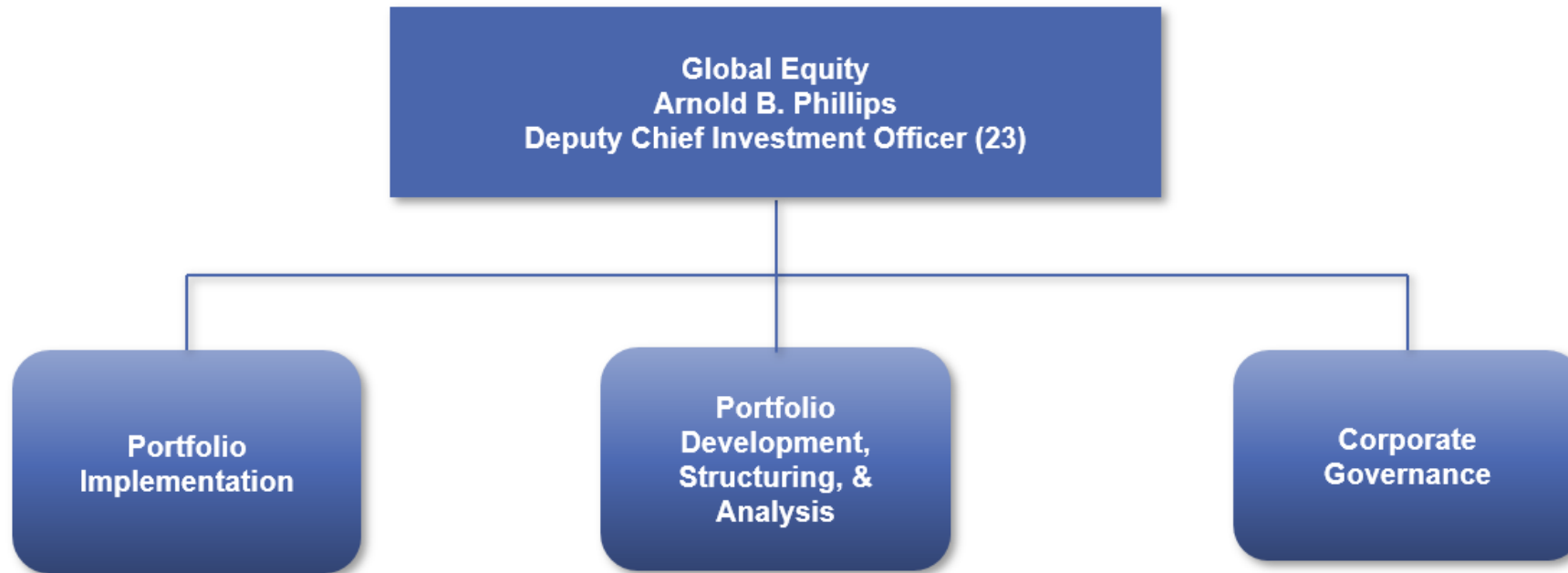
CalPERS is playing a leading role in both strategy and implementation

- CalPERS convened the initiative following the carbon footprint of our global equity portfolio in 2015
 - Inaugural Chair of the initiative
 - Initiative now has over 450 signatories with over \$40 trillion in assets under management
 - Signatories are engaging the 100 companies with the largest GHG emissions
- Member of the Steering Committee of the initiative and Chair of the Asia Advisory Group
 - CalPERS staff are also participating on multiple working committees
 - CA100+ notable successes at: Shell, Glencore, Xcel Energy, Maersk, Rio Tinto, HeidelbergCement, Duke Energy, Nestle, VW, and AES, PetroChina and PTT Public Company Limited

Climate Action 100+ Engagement Goals

- Investors signed on to Climate Action 100+ are requesting the boards and senior management of companies to:
 - Improve the governance of climate-related risks and opportunities
 - Curb greenhouse gas (GHG) emissions across the value chain to be consistent with net-zero by 2050, and
 - Strengthen climate-related financial disclosures in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)

Global Equity | Functional Org Chart



Global Equity | Program Costs

	FY 2019-20			FY 2018-19		
	Avg AUM (\$millions)	Fees Paid (\$millions)	Fees Paid ³ (BPS)	Avg AUM (\$millions)	Fees Paid (\$millions)	Fees Paid ³ (BPS)
Internal Management ¹	\$ 185,826	\$ 10.2	1	\$ 146,310	\$ 20.9	1
External Management ²	\$ 9,223	\$ 48.2	52	\$ 28,897	\$ 119.1	41
Consultants Expense	N/A	\$.9	0	N/A	\$ 1.2	0
Technology & Operating Expense	N/A	\$ 15.5	1	N/A	\$ 15.9	1
Total Program	\$ 195,050	\$ 74.9	4	\$ 175,207	\$ 157.1	9



¹ Includes internal model provider fees

² Includes base and performance fees

³ BPS calculated on fee type AUM. Consultants and Technology & Operating Expense BPS calculated on Total Program Avg AUM

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Global Fixed Income | Role in the Total Fund

Percentage of the PERF

	Target Allocation	Actual Allocation as of 6/30/20
Total Income	28%, with a range of +/- 6%	28.2%
Long Spread	15%	16.5%
Long Treasury	10%	8.9%
High Yield	3%	2.9%

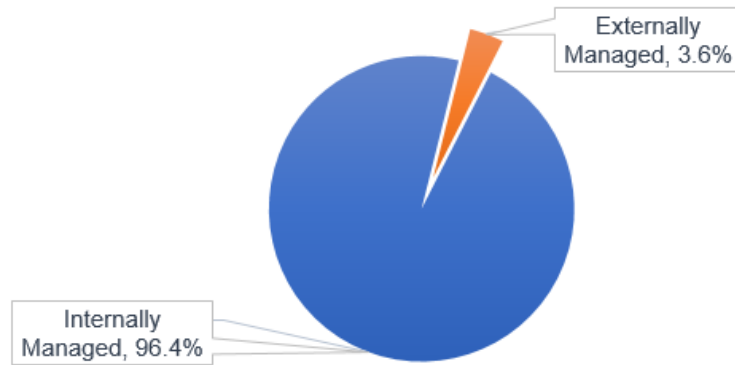
Total Fund Role

- Serve as an economic diversifier to equity risk and be a reliable source of income and liquidity

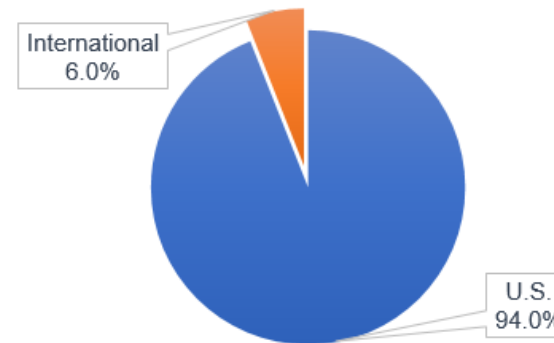
Global Fixed Income | Characteristics & Positioning

For Period Ending June 30, 2020

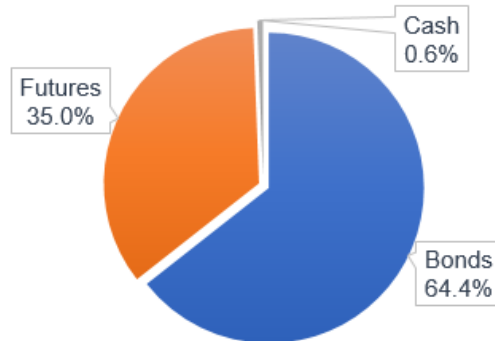
Income Is More Than 96% Internally Managed



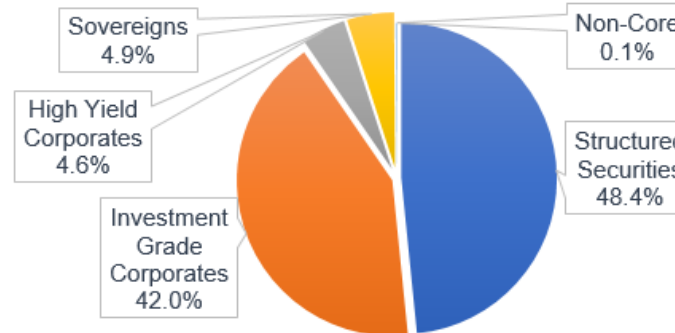
Income U.S. vs International



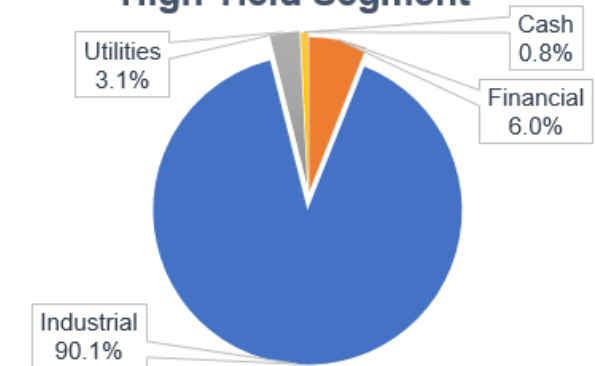
U.S. Treasury Segment



Spread Segment



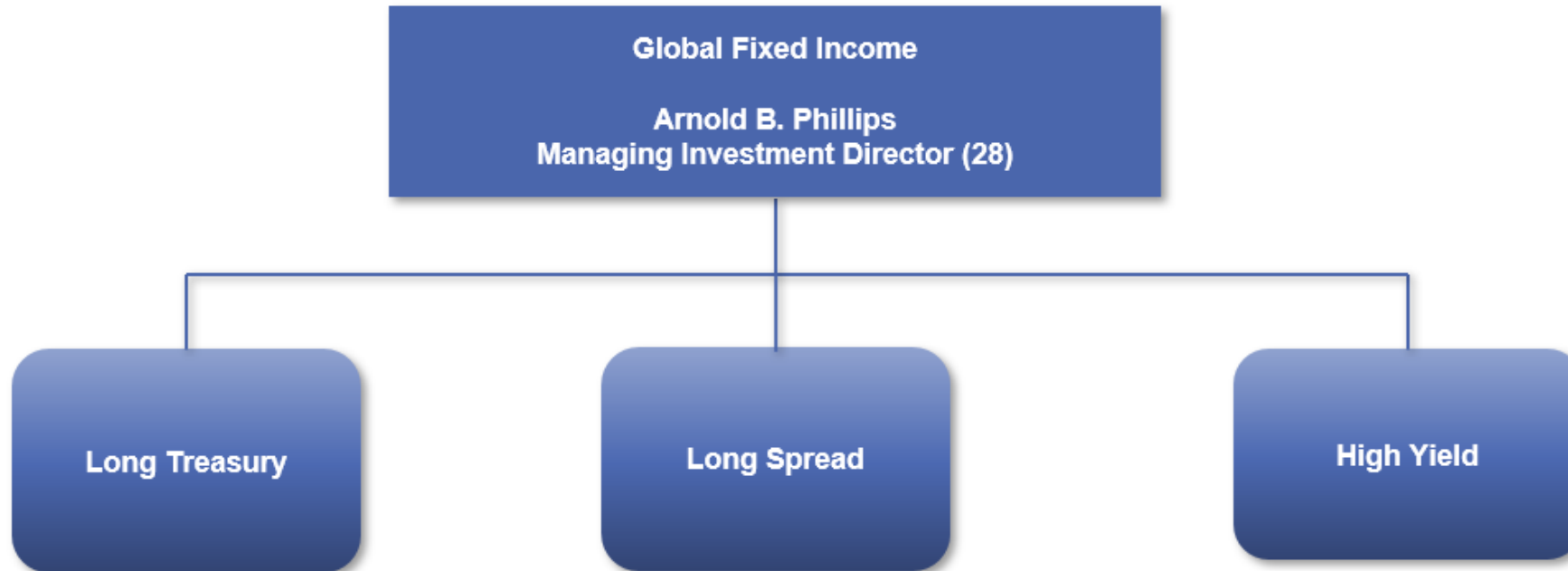
High Yield Segment



Global Fixed Income | Integration of Governance & Sustainability Examples

- Completed annual UNPRI for GFI and the quarterly ESG risk factor assessments for Corporate portfolio using MSCI ESG scores
- Reduced exposure to industries (Metals/Mining and diversified manufacturers) with growing ESG issues
- Collaborated with Corporate Governance on proxy voting and corporate access
- Collaborated with Sustainability Investment team on:
 - Applications of Wellington/Woods-Hole partnership geo-mapping data to fixed income portfolio management
 - Feedback to CFTC subcommittee on their draft report examining the impact of climate change the U.S. financial system
 - Interview with Freddie Mac's Director of Corporate Sustainability on organizational priorities in sustainability issues

Global Fixed Income | Functional Org Chart



Global Fixed Income | Program Costs

	2019-20			2018-19		
	Avg AUM (\$millions)	Fees Paid (\$millions)	Fees Paid ² (BPS)	Avg AUM (\$millions)	Fees Paid (\$millions)	Fees Paid ² (BPS)
Internal Management	\$ 107,940	\$ 8.4	1	\$ 88,869	\$ 10.1	1
External Management ¹	\$ 2,629	\$ 15.1	57	\$ 4,254	\$ 14.0	33
Consultants Expense	N/A	-\$.2	0	N/A	\$ 1.1	0
Technology & Operating Expense	N/A	\$ 13.0	1	N/A	\$ 14.4	2
Total Program	\$ 110,570	\$ 36.3	3	\$ 93,123	\$ 39.6	4



¹ Includes base and performance fees

² BPS calculated on fee type AUM. Consultants and Technology & Operating Expense BPS calculated on Total Program Avg AUM

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Opportunistic Strategies

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Real Assets

Opportunistic Strategies | Role in the Total Fund

Deliver added value to the Total Fund, by implementing investment strategies across the entire capital structure that do not fit into existing asset classes.

- Invest up to total allowable size of 5% of the total PERF NAV
- Invest in strategies that are not in the benchmark of other asset classes
- Enhance beta through LLER to add value to the Total Fund
- Work closely with Trust Level Portfolio Management & Implementation and other asset classes to ensure adequate liquidity

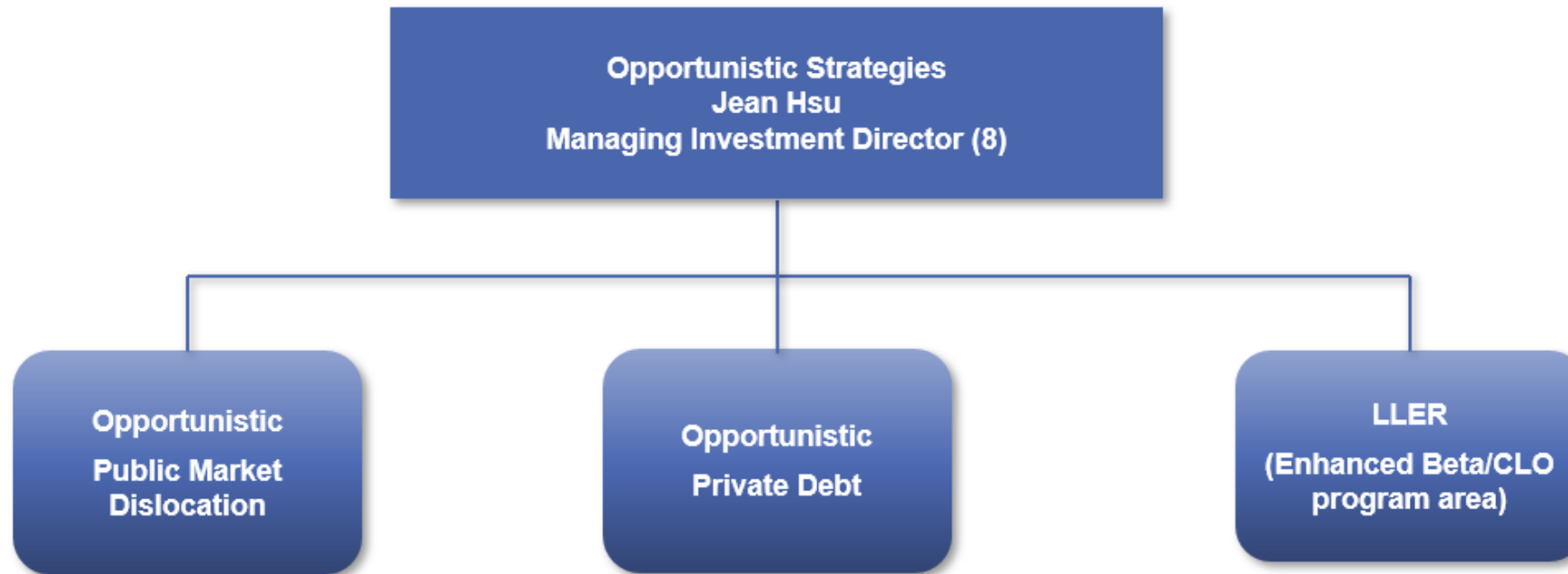
Opportunistic Strategies | Characteristics & Positioning

Strategy	Range*
Bank Loans and CLO	0% - 40%
Public Market Dislocation	0% - 50%
Middle Market Direct Lending	0% - 80%
Specialty Lending	0% - 40%
Liquidity Financing	0% - 40%
Real Estate Financing	0% - 40%
Structured Products and Whole Loans	0% - 20%

* Evolving market opportunities preclude specifying target percentages

- As of 6/30/2020, \$1B capital committed

Opportunistic Strategies | Functional Org Chart



Opportunistic Strategies | Program Costs

	2019-20		
	AUM ² (\$millions)	Fees Paid (\$millions)	Fees Paid ³ (BPS)
Internal Management	\$ 10,749	\$ 1.4	1
External Management ¹	\$ 141	\$.5	36
Consultants Expense	N/A	\$.2	0
Technology & Operating Expense	N/A	\$ 1.2	1
Total Program	\$ 10,890	\$ 3.3	3



¹ Includes base and performance fees

² OS currently manages unitized and non-unitized funds. For informational purposes, the AUM balances include these unitized funds since they are managed by OS, even though they are already reported separately in the AUM of the Program Area that owns those shares.

³ BPS calculated on fee type AUM. Internal Management, Consultants and Technology & Operating Expense BPS calculated on Total Program AUM

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Private Equity | Role in the Total Fund

Percentage of PERF

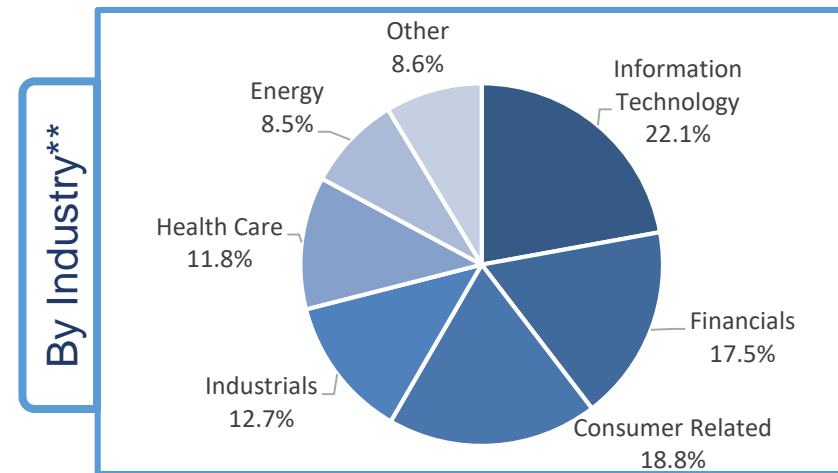
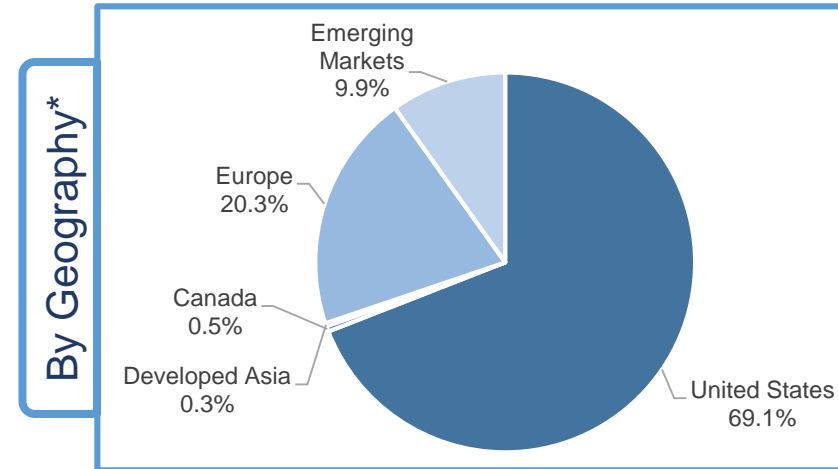
- Policy Target: 8.0%, +/- 4%
- Actual allocation as of June 30, 2020: 6.3%

Role in the Total Fund

- Private equity allocations are a means of enhancing equity returns through an active, value-added approach. The major driver for returns is appreciation, aided by leverage, with negligible cash yield.
- Growth

Private Equity | Characteristics & Positioning

Investment Type	Net Asset Value (NAV)*	% of NAV
Funds	\$17.3	70%
Fund-of-Funds	\$1.7	7%
Co-Investments/ Direct Investments	\$1.0	4%
Separate Accounts	\$4.5	19%
TOTAL	\$24.5	100%



Private Equity | Additional Information

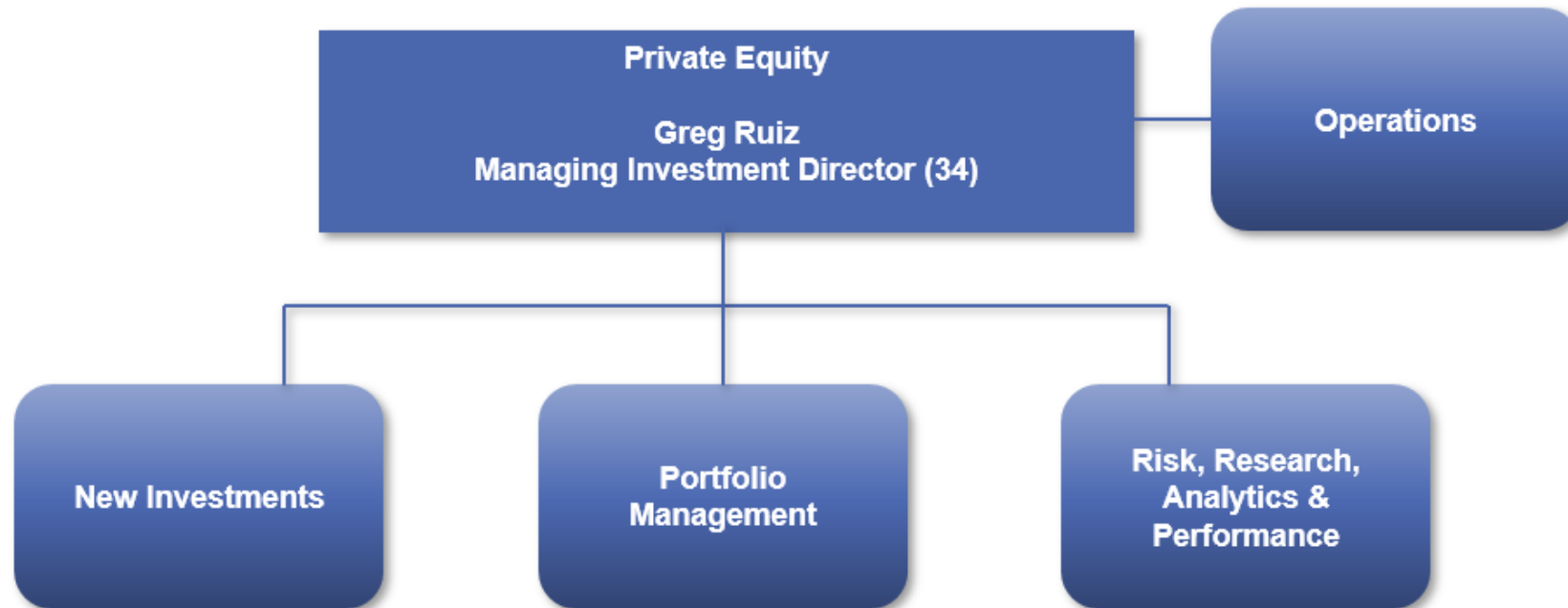
- Restricting Private Equity Investments in Public Sector Outsourcers Policy:
 - To the best of CalPERS knowledge, the Policy has been effective in limiting our General Partners investments in public sector outsourcers, as CalPERS has not received any waiver requests in the last 12 months and all of our GPs have agreed to make good faith efforts to comply with the Policy.
 - This Policy has had no negative impact on PE Program investment opportunities.
- Status of Absolute Return Strategies (ARS) winddown/composition:
 - ARS legacy portfolio NAV of \$232.7M as of 6/30/2020, across 7 remaining positions.
 - Staff continues to actively seek monetization opportunities in the underlying portfolio with the respective managers.

Private Equity | Integration of Governance & Sustainability Examples

How PE integrates environmental, social, and governance (ESG) considerations:

- Reviews how GPs incorporate ESG into their investment process through the ILPA DDQ that includes a UNPRI-developed ESG questionnaire.
- Discusses ESG practices and issues at the Limited Partner Advisory Committee (LPAC) meetings.

Private Equity | Functional Org Chart



Private Equity | Program Costs

	FY 2019-20			FY 2018-19		
	AUM (\$millions)	Fees & Profit Sharing Paid (\$millions)	Fees & Profit Sharing Paid ² (BPS)	AUM (\$millions)	Fees & Profit Sharing Paid (\$millions)	Fees & Profit Sharing Paid ² (BPS)
Internal Management	\$0	\$ 7.2	3	\$	\$ 5.2	2
External Management ¹	\$ 24,553	\$ 550.9	224	\$ 26,470	\$ 798.1	302
Consultants Expense	N/A	\$ 2.1	1	N/A	\$.9	0
Technology & Operating Expense	N/A	\$ 8.7	4	N/A	\$ 9.1	3
Total Program	\$ 24,553	\$ 568.9	232	\$ 26,470	\$ 813.3	307

¹ Includes base and performance fees

² All BPS fees paid figures are calculated on Total Program AUM

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Real Assets | Role in the Total Fund

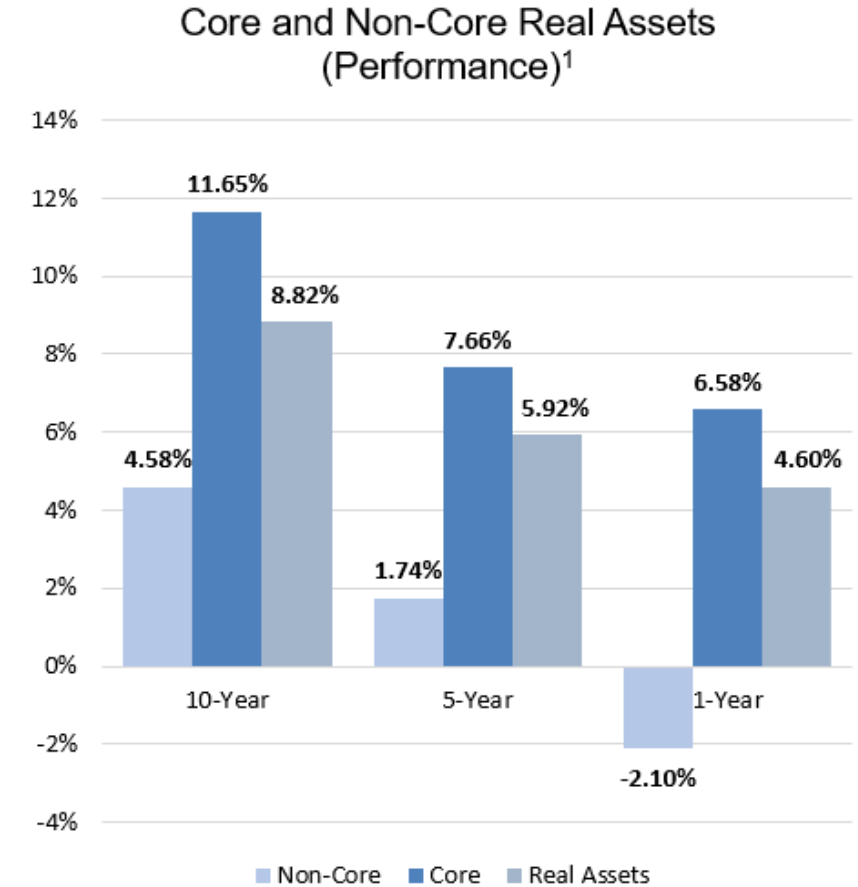
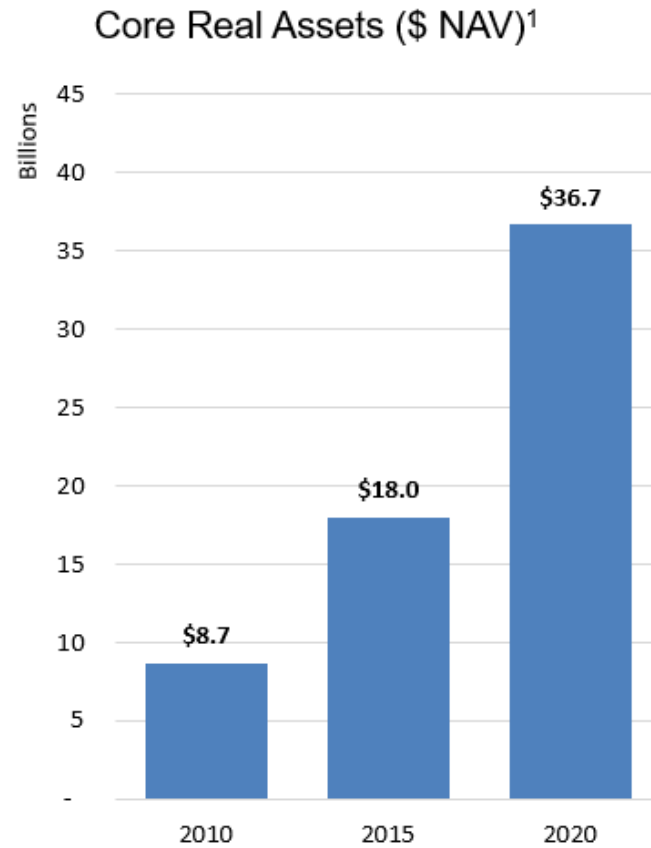
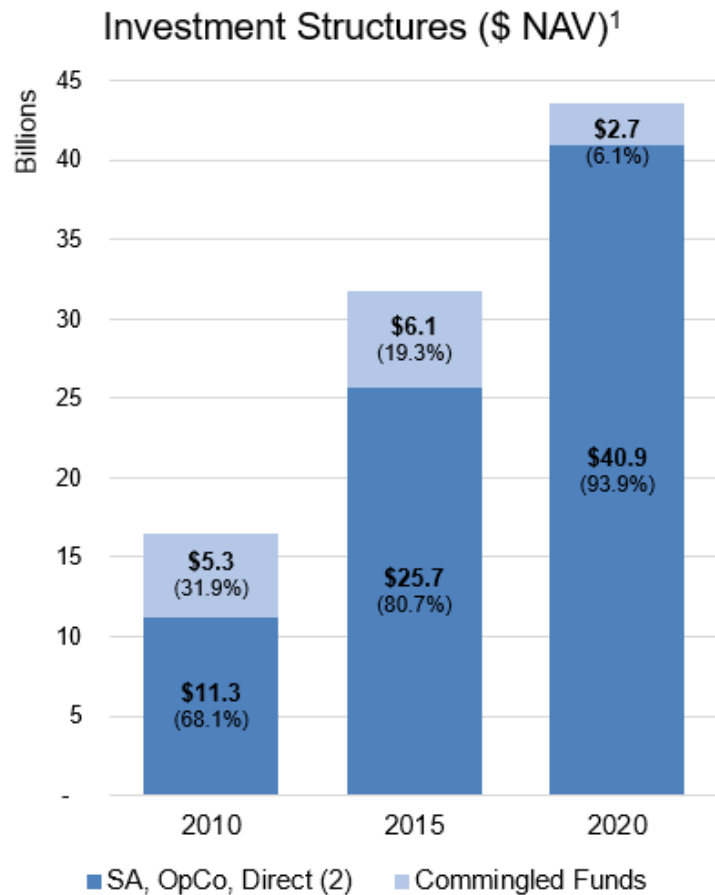
Percentage of PERF

- Policy Target: 13%, +/- 5%
- Actual allocation as of June 30, 2020: 11.3%

Total Fund Role

- The role of Real Assets is to own real assets with stable cash yield and act as an economic diversifier to equity risk.
 - Diversification
 - Income
 - Inflation

Real Assets | Characteristics & Positioning

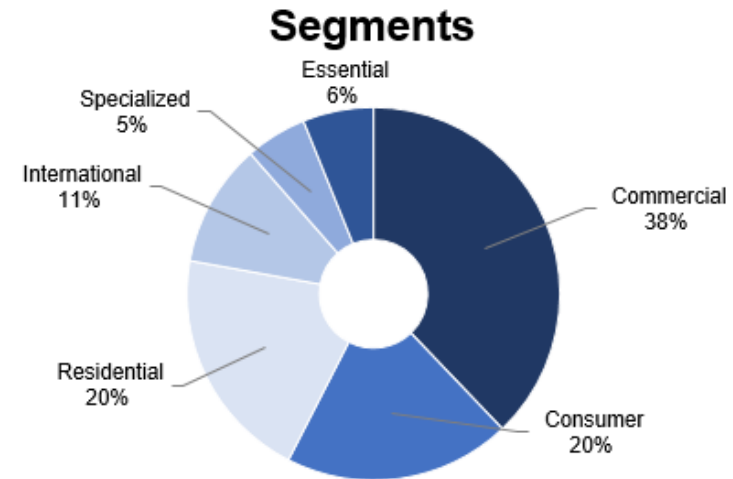
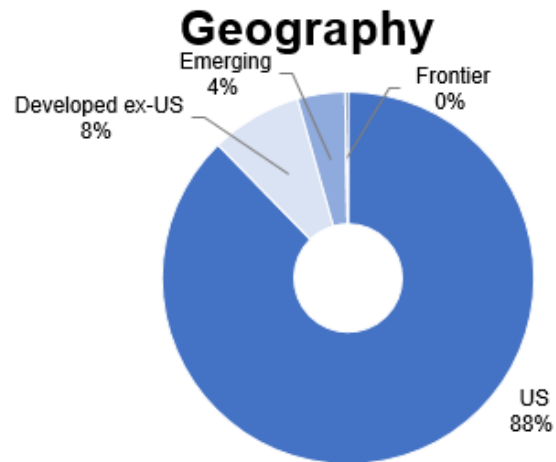
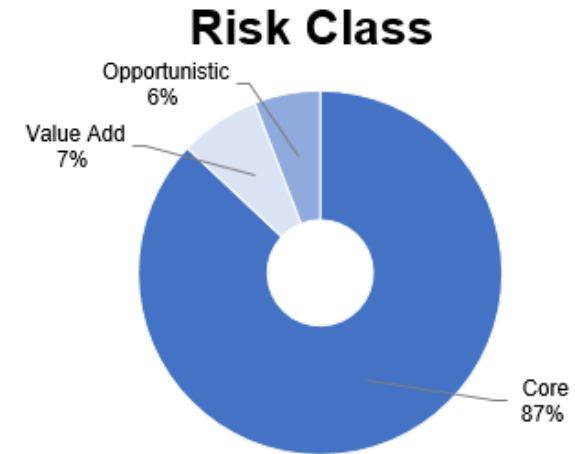
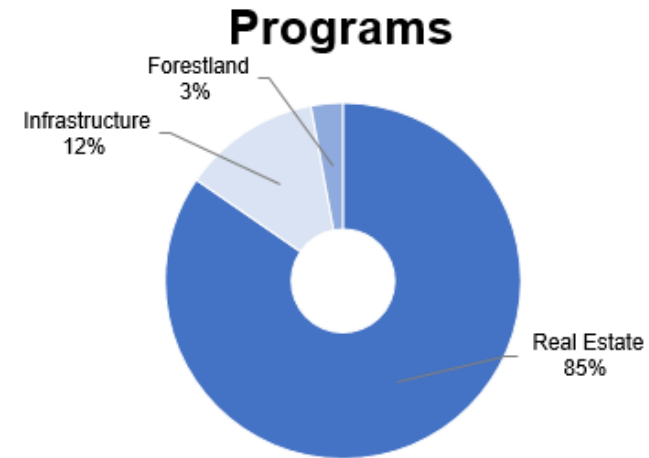


¹ Investment Structure, Core and Non-Core Real Assets at partnership level

² Separate Account, Operating Company, Direct Investments

Note: RA total performance is based on SSB, all other returns and NAVs are based on data from AREIS.

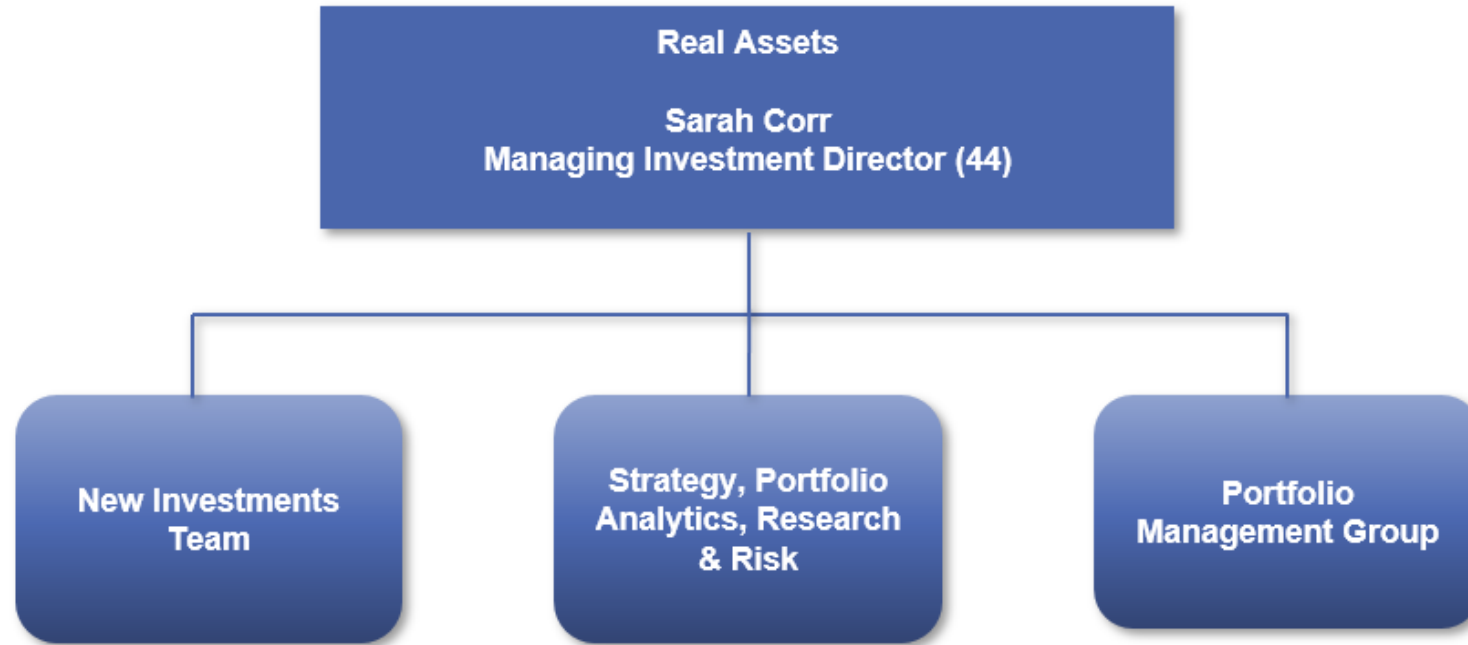
Real Assets | Characteristics & Positioning



Real Assets | Integration of Governance & Sustainability Examples

Activities	Description / Status
Real Assets Sustainable Investment Practice Guidelines (SIPG)	<ul style="list-style-type: none"> Real Assets SIPG demonstrate integration of CalPERS Investment Beliefs and consideration of ESG factors throughout the investment decision making process
Global Real Estate Sustainability Benchmark (GRESB)	<ul style="list-style-type: none"> Real Assets represented on both the infrastructure and real estate advisory boards of GRESB 86% of the portfolio submitted into GRESB, up from 80% in the prior year
ESG Consideration Matrix	<ul style="list-style-type: none"> Continue to refine framework for assessing ESG risks and opportunities for all acquisitions through separate accounts
Energy Optimization (EO) Initiative	<ul style="list-style-type: none"> Formalized the EO Initiative for Real Estate on July 1, 2019, implementing a systematic approach for identifying economically attractive energy opportunities Over the past four years, 220 EO opportunities have been identified
Climate Risk Review & Carbon Footprint	<ul style="list-style-type: none"> Incorporated in CalPERS' Strategic Governance & Sustainability Initiatives and Real Assets Strategic Plan Completed carbon footprint assessment, included results in CalPERS' Investment Strategy on Climate Change report
Responsible Contractor Program (RCP)	<ul style="list-style-type: none"> CalPERS Separate Account operating agreements include provisions requiring compliance with the RCP Policy
Other	<ul style="list-style-type: none"> Continue to contribute to Total Fund research initiatives, working collaboratively with RSG Member of the G7 Infrastructure Fellowship Participation on the Governance and Sustainability Subcommittee

Real Assets | Functional Org Chart



Real Assets | Program Costs

	FY 2019-20			FY 2018-19		
	AUM (\$millions)	Fees Paid (\$millions)	Fees Paid ² (BPS)	AUM (\$millions)	Fees Paid (\$millions)	Fees Paid ² (BPS)
Internal Management	\$0	\$ 10.1	2	\$0	\$ 11.1	3
External Management ¹	\$ 44,080	\$ 345.1	78	\$ 40,866	\$ 313.7	77
Consultants Expense	N/A	\$ 2.2	0	N/A	\$ 3.1	1
Technology & Operating Expense	N/A	\$ 16.4	4	N/A	\$ 7.8	2
Total Program	\$ 44,080	\$ 373.8	85	\$ 40,866	\$ 335.6	82

¹ Includes base and performance fees

² All BPS fees paid figures are calculated on Total Program AUM