



Endowment

Investment Review as of September 30, 2019

UC INVESTMENTS

UC Endowment

1. Asset Allocation
2. Performance
3. Asset Classes
4. Risk

INVESTMENT OBJECTIVES

- Maximize real, long-term total returns (income plus capital appreciation adjusted for inflation), while assuming the appropriate levels of risk.
- Maintain the liquidity necessary to meet the investment goals of the Endowment, which are to provide a stable and continuously growing stream of income, all while preserving the real (inflation-adjusted) purchasing power of assets.

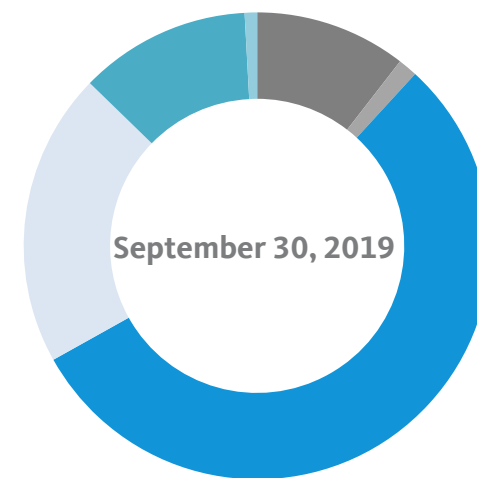
UC Investments

MISSION: Growing Portfolios. Building Partnerships. Delivering value through values.

INVESTMENT PRODUCTS

- Investing Endowment assets since 1933 (87 years)
- Investing Blue & Gold assets since 2019 (1 years)
- Investing Pension assets since 1961 (59 years)
- Investing Retirement Savings assets since 1967 (52 years)
- Investing Working Capital since 1976 (44 years)
- Investing Fiat Lux Insurance assets since 2016 (3 years)

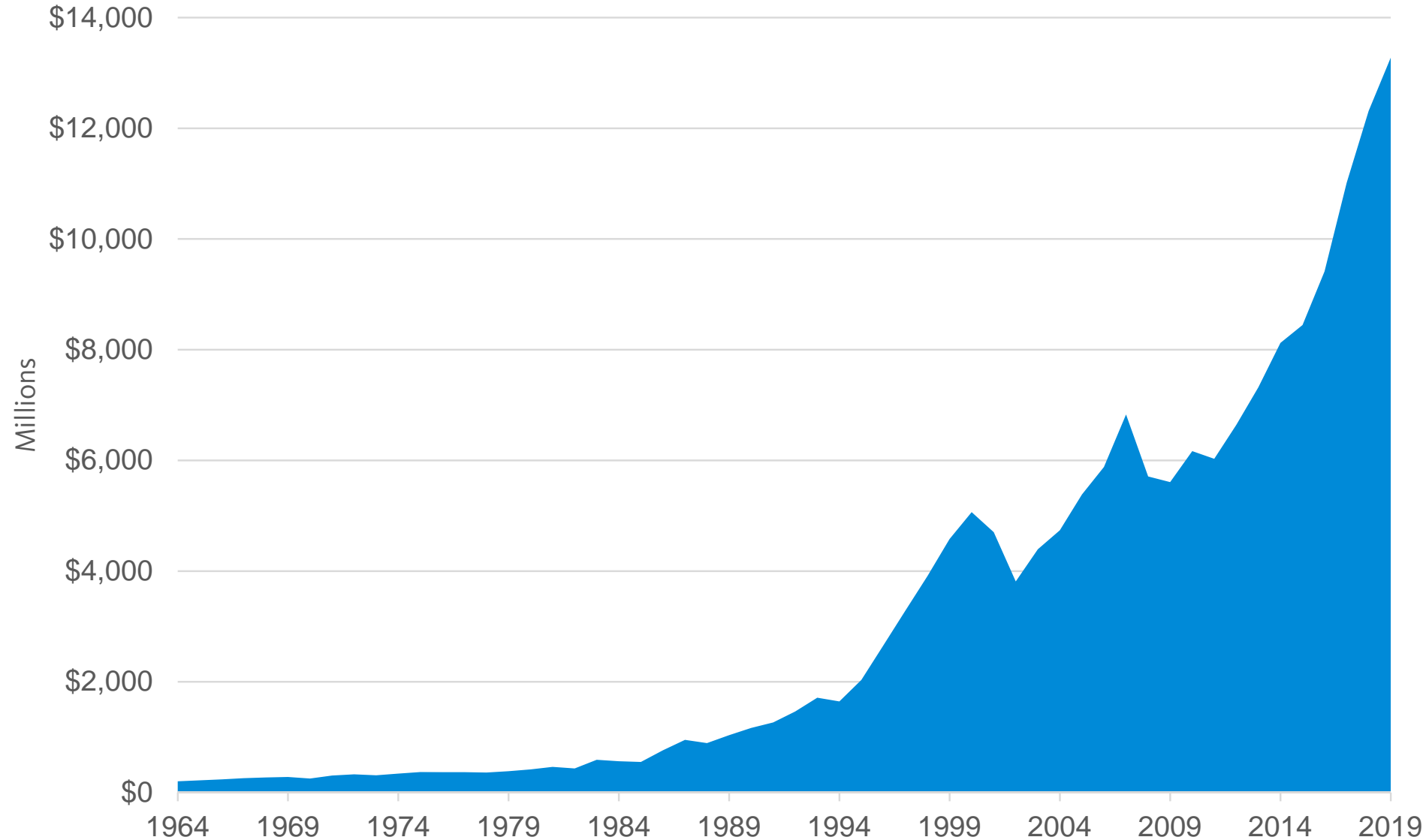
\$126.6 BILLION ACROSS 7 PRODUCTS



● Endowment:.....	\$13.3B (10%)
● Blue & Gold:.....	\$1.7B, (1%)
● Pension:.....	\$69.7B, (55%)
● Retirement Savings:.....	\$25.8B, (20%)
● Working Capital:.....	\$15.0B, (12%)
<i>Total Return:.....\$9.0B</i>	
<i>Short Term:.....\$6.0B</i>	
● Fiat Lux Insurance:.....	\$1.1B, (1%)

Endowment Asset Growth

Endowment ASSETS 1963 – 2019



5 YEAR GROWTH

September 30, 2019

Today \$13.3 billion	△ Change
1 Year Ago \$12.3 billion	+\$1 billion
5 Years Ago \$8.1 billion	+\$5.2 billion

Assets Under Management

	Market Value (\$B)
June 30, 2019	13.4
Market Gains	0.0
Value Added	0.0
Net Cash Flow	(0.2)
September 30, 2019	13.3

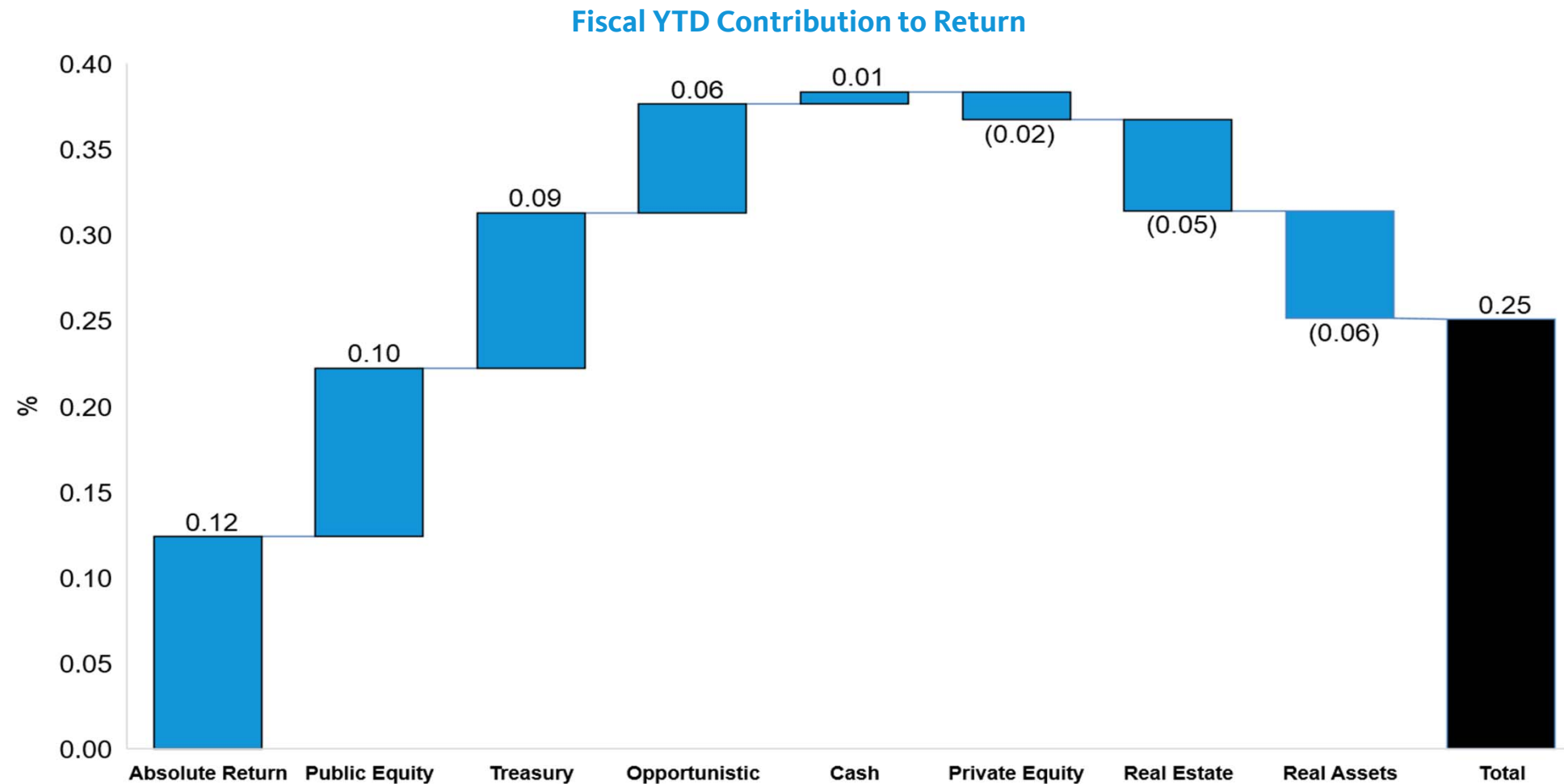
Endowment Asset Allocation

As of September 30, 2019	Market Value (\$B)	Weight (%)	Over/Underweight to Interim Policy (%)	Interim Policy (%)	Long-Term Target (%)
Public Equity	4.4	33.1	(5.9)	39.0	30
Fixed Income	1.4	10.4	1.7	8.7	10
Other Investments	6.5	49.0	(0.0)	49.0	60
Absolute Return	3.0	22.7	(0.6)	23.3	25
Private Equity	1.9	14.6	0.1	14.5	23
Real Estate	0.9	7.1	(0.9)	8.0	9
Real Assets	0.6	4.6	1.4	3.2	4
Cash	6.0	45.2	41.9	3.3	3
Total	\$13.3B	100.0%		100.0%	100%

Endowment Performance

As of September 30, 2019 Net Returns (%)	Market Value (\$B)	Weight (%)	Annualized Returns					
			Fiscal YTD	1 Year	3 Year	5 Year	10 Year	20 Year
UC Endowment	13.3	100	0.3	6.6	9.2	6.9	8.4	6.6
Policy Benchmark*			0.1	3.0	7.6	5.7	6.8	5.7
<i>Value Added</i>			0.1	3.6	1.6	1.3	1.6	0.9

*The UC Endowment Benchmark is a weighted average of investment policy targets.



Endowment Attribution – Fiscal Year to Date

As of September 30, 2019	Portfolio Return	Benchmark Return	Allocation Attribution	Selection Attribution	Total Attribution
Public Equity	0.4	(0.2)	(0.0)	0.2	0.2
Liquidity	1.4	2.3	0.1	(0.1)	(0.0)
Other Investments	-	-	(0.0)	0.0	0.0
Absolute Return	0.6	(1.1)	0.0	0.4	0.4
Private Equity	(0.1)	1.7	(0.0)	(0.2)	(0.3)
Real Estate (Real Assets)	(0.8)	0.8	(0.0)	(0.1)	(0.1)
Non-Real Estate (Real Assets)	(1.5)	(1.5)	(0.0)	0.0	(0.0)
Cash	0.6	0.6	(0.0)	(0.0)	(0.0)
Total	0.3	0.1	0.1	0.1	0.2

Endowment Policy Benchmark

Asset Class	Policy Benchmark Component	Target	Allowable Ranges	
			Min	Max
Total Public Equity	MSCI All Country World Index Net IMI Tobacco Free	39.0%	26.7%	60.0%
Liquidity (Income)	Barclays US Aggregate Bond Index	8.7%	0.0%	17.5%
Total Other Investments				
Absolute Return	HFRI Fund of Funds Composite	23.3%	13.3%	30.3%
Private Equity	Russell 3000 + 2%	14.5%	2.0%	24.5%
Real Estate	NCREIF ODCE Index	11.2%	1.7%	16.2%
Real Assets	Actual Real Assets Portfolio Return			
Cash		3.3%	-	-

Public Equity

As of September 30, 2019

Net Returns (%)	Market Value (\$B)	Weight (%)	Fiscal YTD	Annualized Returns				
				1 Year	3 Year	5 Year	10 Year	20 Year
Public Equity	4.4	100	0.5	2.4	10.6	6.8	8.9	5.2
Policy Benchmark*			-0.2	0.6	9.7	6.7	8.6	5.8
<i>Value Added</i>			0.7	1.8	0.9	0.1	0.3	-0.6

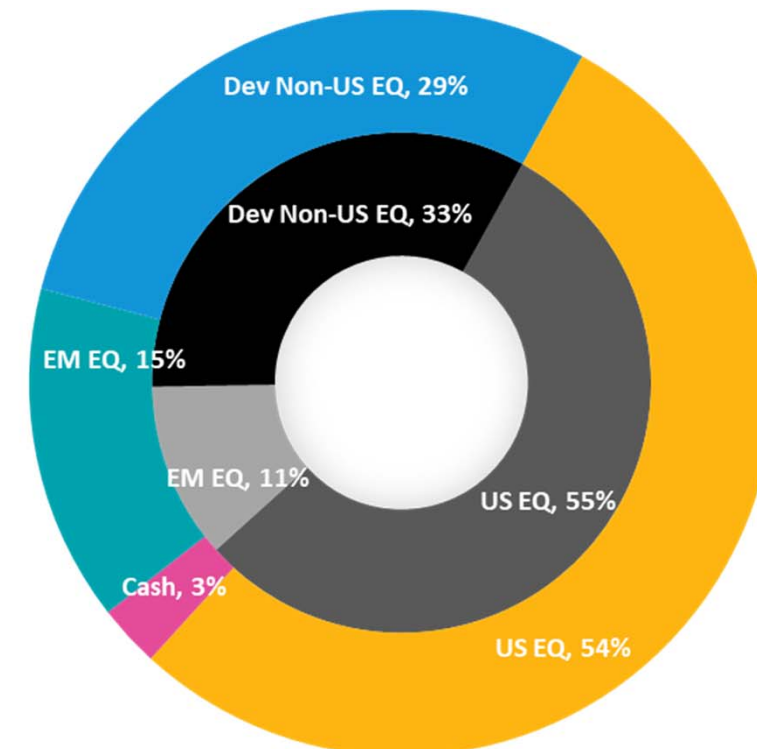
*Total public equity benchmark is an aggregate of benchmarks for equity portfolios in the pool prior to Jul 1, 2017; thereafter MSCI ACWI IMI Tobacco Free.

Active Managers	# of funds	Weight
Global Generalist	2	14.2%
USA	1	8.2%
Developed Non-USA	2	14.5%
Global Sector Specialist	1	2.0%
Emerging Markets	2	14.6%
	8	53.5%

Passive Index Exposure	Strategy	Weight
S&P 500 Tobacco Free	US Passive	22.5%
MSCI ACWI IMI Tobacco Free	Global Passive	24.0%

Regional Lookthrough Exposure

Endowment ■ ■ ■ ■
 Benchmark ■ ■ ■



Public Equity (cont.)

Attribution:

GEP outperformance FYTD 2019/20 driven by positive returns for several of largest funds, with only modest detractions from underperforming funds.

Top 3 Contributors FYTD	FYTD return	Weight
1. US Generalist Manager	1.5%	7.5%
2. Global Generalist Manager	1.0%	0.0%
3. European Small Cap Manager	1.2%	5.8%

Top 3 Detractors FYTD	FYTD return	Weight
1. China Large Cap Manager	-3.6%	5.9%
2. Global Healthcare Manager	-7.5%	0.0%
3. European Large Cap Manager	-2.0%	7.5%

Geographic Exposures	Portfolio	Benchmark
US Equity	53.7%	55.3%
Developed Non-US Equity	29.0%	33.3%
Emerging Market Equity	14.6%	11.4%
Cash	2.7%	0.0%

Liquidity (Income)

As of September 30, 2019

Net Returns (%)	Market Value (\$B)	Weight (%)	Fiscal YTD	Annualized Returns				
				1 Year	3 Year	5 Year	10 Year	20 Year
Liquidity (Income)	1.4	100	1.4	7.9	3.7	3.5	4.7	6.0
Policy Benchmark*			2.3	10.3	2.5	3.0	3.6	5.3
<i>Value Added</i>			-0.9	-2.4	1.2	0.5	1.1	0.7

* Starting July 1, 2017, the benchmark is the Barclay's US Aggregate Bond Index.

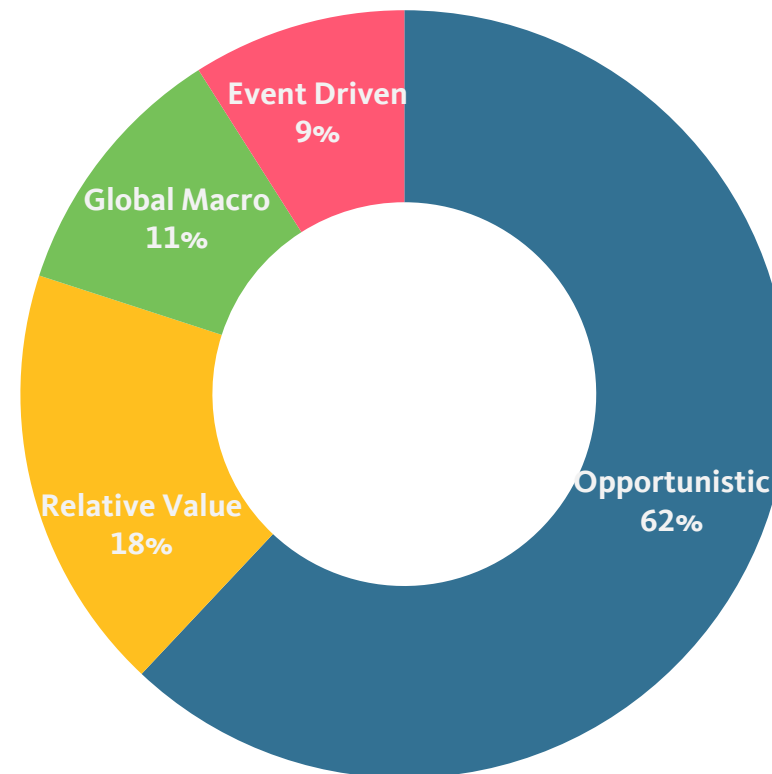
Policy benchmark for Liquidity (Income) prior to July 1, 2017 was a weighted average composite of the historical policy benchmarks and targets.

Absolute Return

As of September 30, 2019

Net Returns (%)	Market Value (\$B)	Weight (%)	Fiscal YTD	Annualized Returns				
				1 Year	3 Year	5 Year	10 Year	20 Year
Absolute Return	3.0	100	0.6	6.1	5.6	4.0	5.7	-
Policy Benchmark*			-1.1	0.0	2.1	-0.2	0.6	-
<i>Value Added</i>			1.7	6.1	3.5	4.2	5.1	-
Opportunistic	1.8	62	1.8	8.1	8.9	7.8	0.0	-
Relative Value	0.6	18	-0.7	3.9	7.3	7.3	7.5	-
Global Macro	0.3	11	-3.5	3.2	-0.5	0.6	-0.1	-
Event Driven	0.3	9	0.9	3.9	8.7	4.1	6.9	-
Fund of Funds	0.0	0	0.4	3.2	3.9	1.9	0.0	-

* From April 1, 2003 to March 1, 2009, the portfolio benchmark was 1 Month T-Bill+4.5%; thereafter the benchmark changed to 50% HFRX Absolute Return/50% HFRX Market Directional until February 2016 when it became HFRX Absolute Return. As of July 1, 2017, the benchmark is HFRI Fund of Funds Composite.

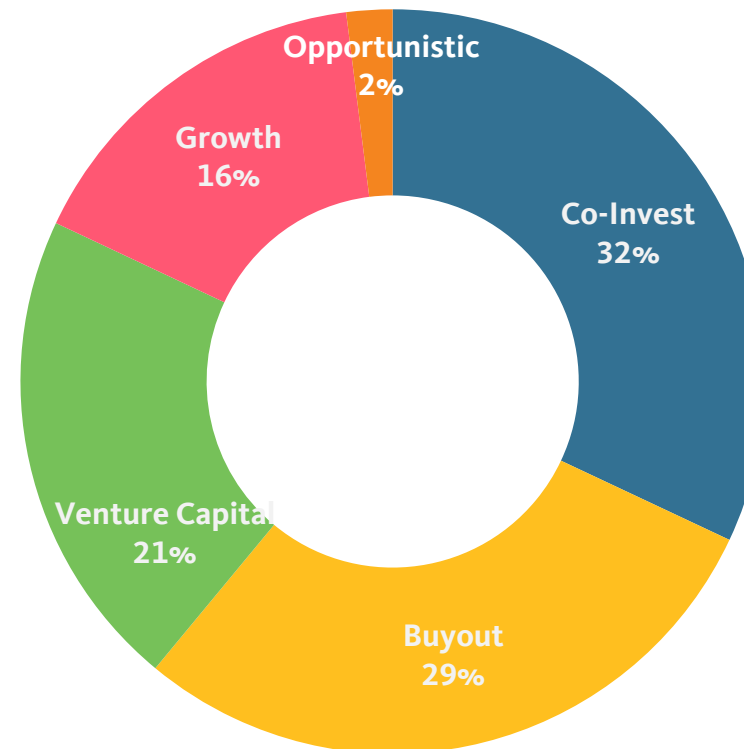


Private Equity

As of September 30, 2019

Net Returns (%)	Market Value (\$B)	Weight (%)	Fiscal YTD	Annualized Returns				
				1 Year	3 Year	5 Year	10 Year	20 Year
Private Equity	1.9	100	-0.1	26.0	21.6	20.1	18.9	14.9
Policy Benchmark*			1.7	4.5	14.6	15.9	16.8	9.4
<i>Value Added</i>			-1.8	21.5	7.0	4.2	2.1	5.5
Co-Invest	0.6	32	-1.5	38.9	27.2	25.5	0.0	
Buyout	0.6	29	-1.5	10.4	19.4	20.9	17.5	
Venture Capital	0.4	21	-1.0	31.5	23.3	16.8	16.3	
Growth	0.3	16	6.3	24.5	11.8	8.2	15.4	
Opportunistic	0.0	2	10.2	50.5	17.6	10.8	20.2	

* As of July 1, 2019, the Private Equity policy benchmark is the Russell 3000 +2.0%. From July 1, 2017 to June 30, 2019, the Private Equity policy benchmark is the Russell 3000 +1.5%. From March 2005 to June 2017, the Private Equity benchmark was the actual private equity return. From January 2001 to February 2005, the Private Equity benchmark was Russell 3000 + 3% lagged one quarter. Prior to that, it was the S&P 500 + 5% lagged by a quarter.



Real Estate

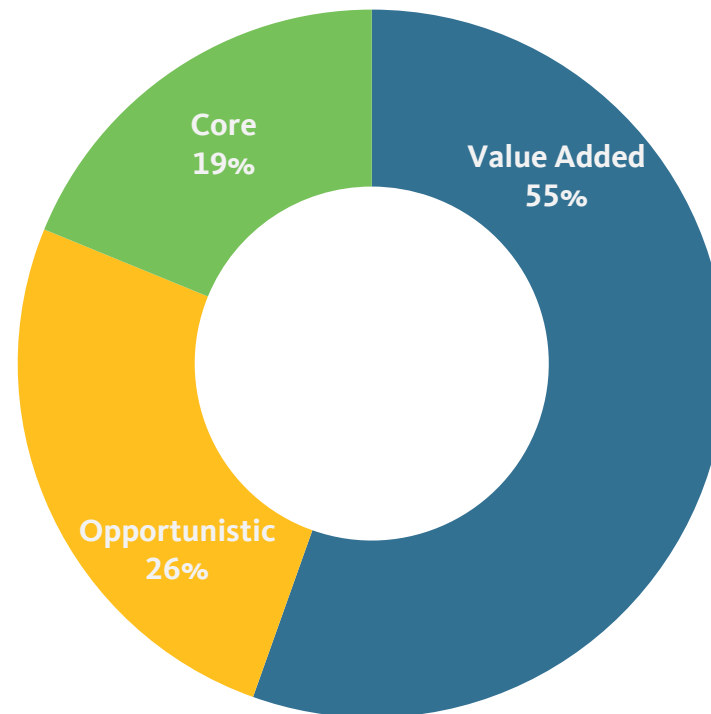
As of September 30, 2019 Net Returns (%)	Market Value (\$B)	Weight (%)	Annualized Returns					
			Fiscal YTD	1 Year	3 Year	5 Year	10 Year	20 Year
Real Estate	0.9	100	-0.8	6.1	8.9	9.9	9.1	-
Policy Benchmark			0.8	5.5	6.6	8.9	8.6	-
<i>Value Added</i>			-1.6	0.6	2.3	1.0	0.5	-
Value Added	0.5	55	-1.2	5.7	6.9	8.7	6.9	-
Opportunistic	0.2	26	1.3	5.3	6.6	8.0	9.7	-
Core	0.2	19	-2.3	9.9	8.8	9.9	13.1	-

* One quarter lagged for Private Real Estate Investments.

** Policy Weighted Benchmark is composed of the NFI-ODCE and the UCRP closed-end portfolio return, weighted in proportion to UC's Open End and Closed End components of UCRP's portfolio.

*** Effective April 1, 2011, the benchmark for evaluating the Program's investment performance was changed to NFI-ODCE.

*** Real Estate Public Securities - Performance -Non Lagged Public Benchmark is a blend of 50% EPRA/NAREIT US and 50% EPRA/NAREIT Global ex-US.

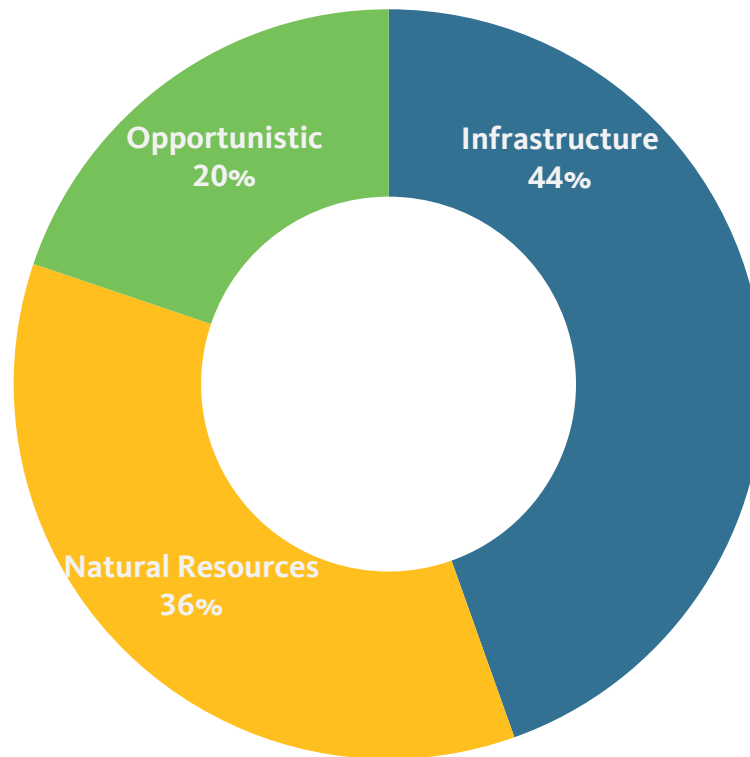


Real Assets

As of September 30, 2019

Net Returns (%)	Market Value (\$B)	Weight (%)	Fiscal YTD	Annualized Returns				
				1 Year	3 Year	5 Year	10 Year	20 Year
Real Assets	0.6	100	-1.5	4.7	4.7	-2.5	0.0	-
Infrastructure	0.3	44	-0.8	10.7	9.5	9.1	0.0	-
Natural Resources	0.2	36	-2.3	0.3	1.3	-9.2	0.0	-
Opportunistic	0.1	20	-1.3	1.7	5.1	4.4	0.0	-

* Inception date for Real Assets is April 1, 2010.



Risk 1.0 : Risk Measurement

Portfolio volatility and tracking error : no material changes. Private Equity dominates tracking error contribution.

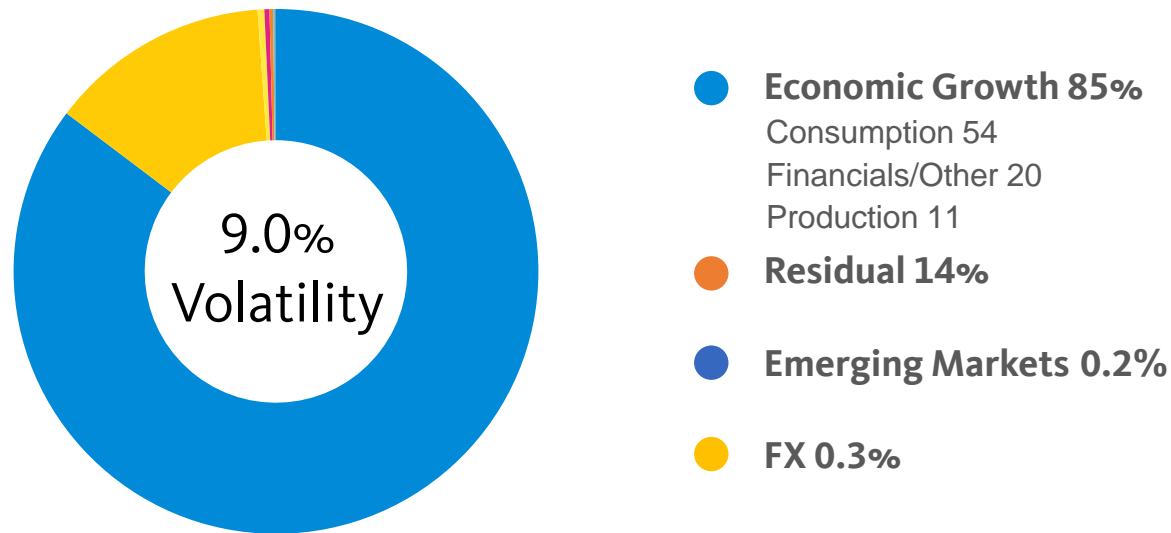
Portfolio	Benchmark	Weight (%)	Portfolio Risk (%)		Benchmark Risk (%)		Active Risk (%)	
			Standalone Volatility	QoQ Change	Standalone Volatility	QoQ Change	Tracking Error	QoQ Change
Endowment	Policy (Blend)	100	9.0	0.2	8.1	0.2	2.0	(0.2)
Public Equity	MSCI ACWI ex Tobacco	33	12.9	0.4	12.7	0.5	1.8	(0.5)
Liquidity	Barclays Aggregate	10	3.0	1.2	3.5	0.9	2.7	0.0
Absolute Return	HFRI FOF	23	4.6	1.4	2.4	(0.2)	3.5	1.3
Private Equity	Russell 3000	15	20.4	(0.3)	14.4	0.3	9.7	(1.9)
Real Estate	NFI-ODCE	7	11.6	(1.4)	10.0	(0.3)	7.8	(0.9)
Real Assets	Real Assets	5	17.1	6.0	17.1	6.0	0.0	0.0
Cash	Cash	8	0.1	0.1	0.1	0	0	(0.1)

Macroeconomic Risk Factors

Portfolio systematic risk generally dominated by “Economic Growth” risk. Within Economic Growth, “Consumption” dominates.

Endowment

Portfolio Standalone Risk Factor Decomposition



Factor Name	Factor Description
Economic Growth	Proxied by broad, developed market equity index returns
Real Rates	Inflation-linked bond returns
Inflation	Return of long nominal bonds, short inflation-linked bonds portfolio
Credit	Return of long corporate bonds, short nominal bonds portfolio
Commodity	Weighted GSCI Commodity index returns
Emerging Markets (EM)	Equally weighted basket of EM Assets

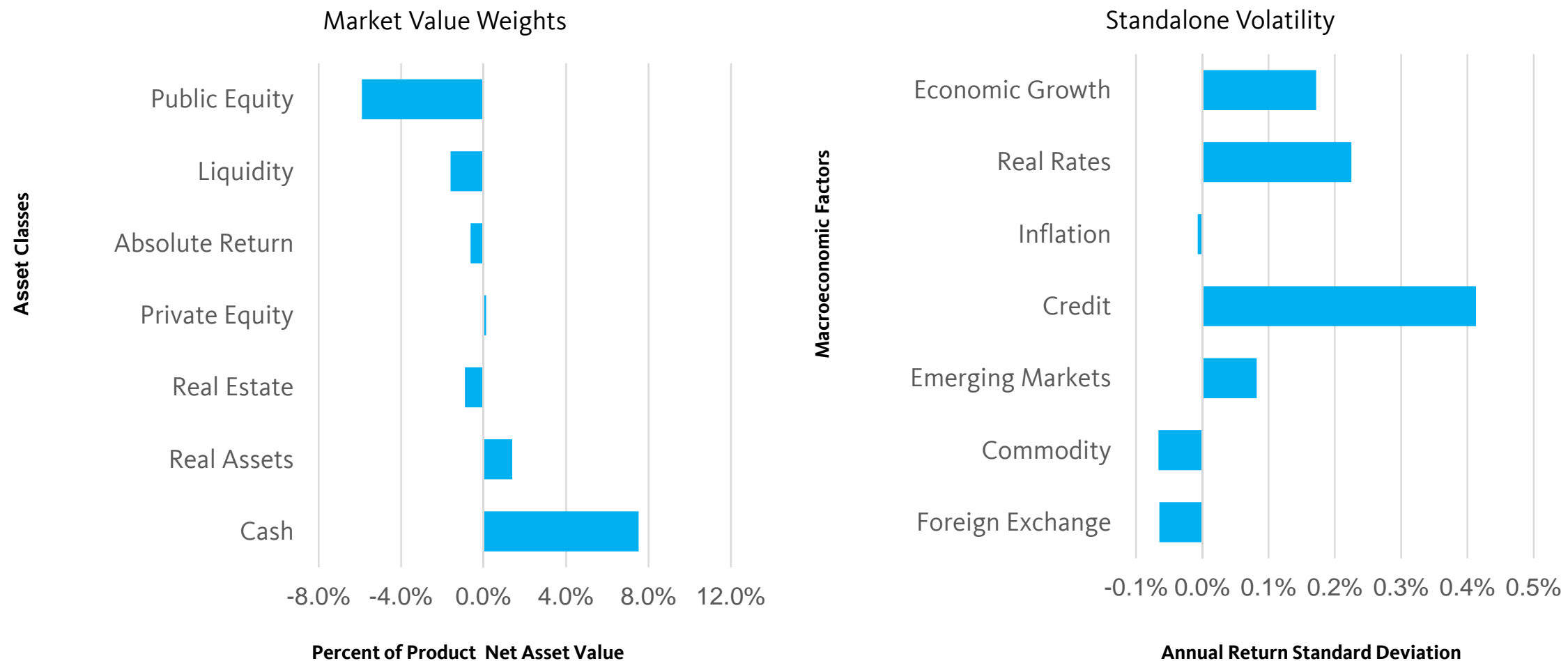
Risk 1.0: Two Views of Risk

Asset Classes versus Macroeconomic Factors

Asset allocation underweight Public Equities versus Cash. From a factor perspective, portfolio is overweight Economic Growth, Credit and underweight Real Rates duration.

Endowment Active Exposures

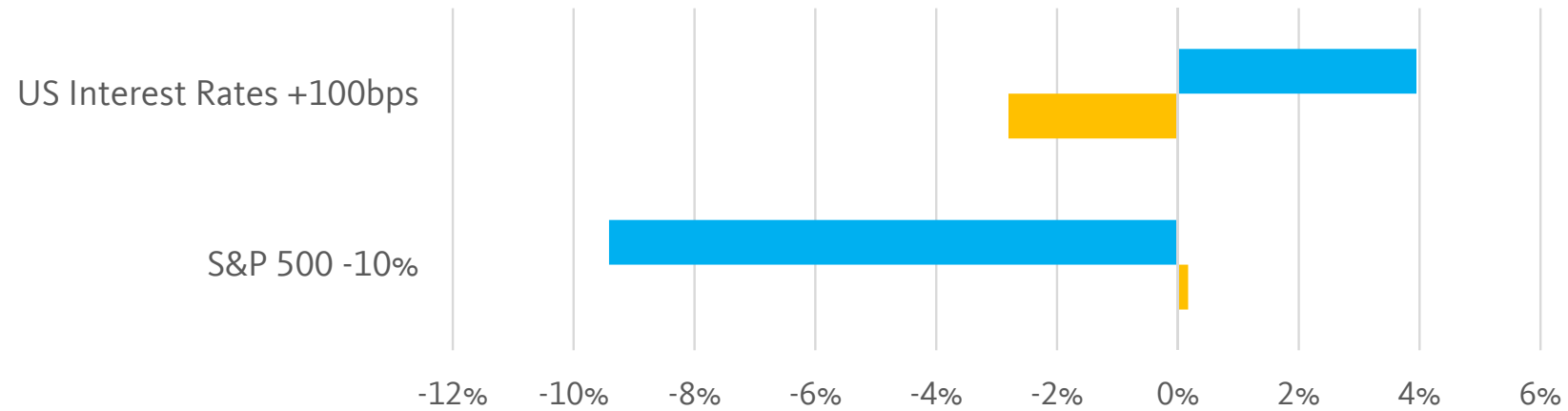
Reference scale: active risk (tracking error) : 2.0%



Risk 2.0: Stress Tests

Indicative stressed P&L for public markets investments

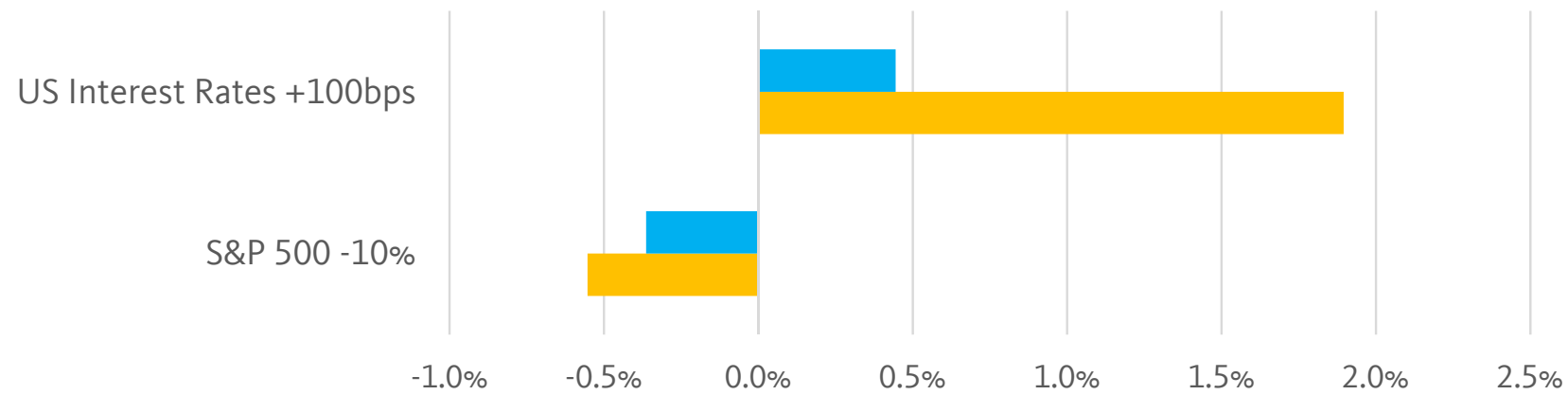
PORTFOLIO



● Public Equity

● Liquidity

ACTIVE



Risk 3.0: Scenario Analysis

US Scenarios

Federal Reserve Rate Regimes
Fiscal Policy Stance
Tax Reform

European Scenarios

Brexit Negotiations
Europe Fragmentation/Breakup
Eurozone Populist Elections

Emerging Markets /Asia Scenarios

US-China Trade Relations
Abenomics- Helicopter Money
North Korea Tensions

Global Scenarios

Central Bank Policy
Peak Oil
Gulf Tensions

Interest Rate Scenarios

US Rates Paradigm Shift
Reflation – Deflation
Rising Inflation – Global Rate Hikes

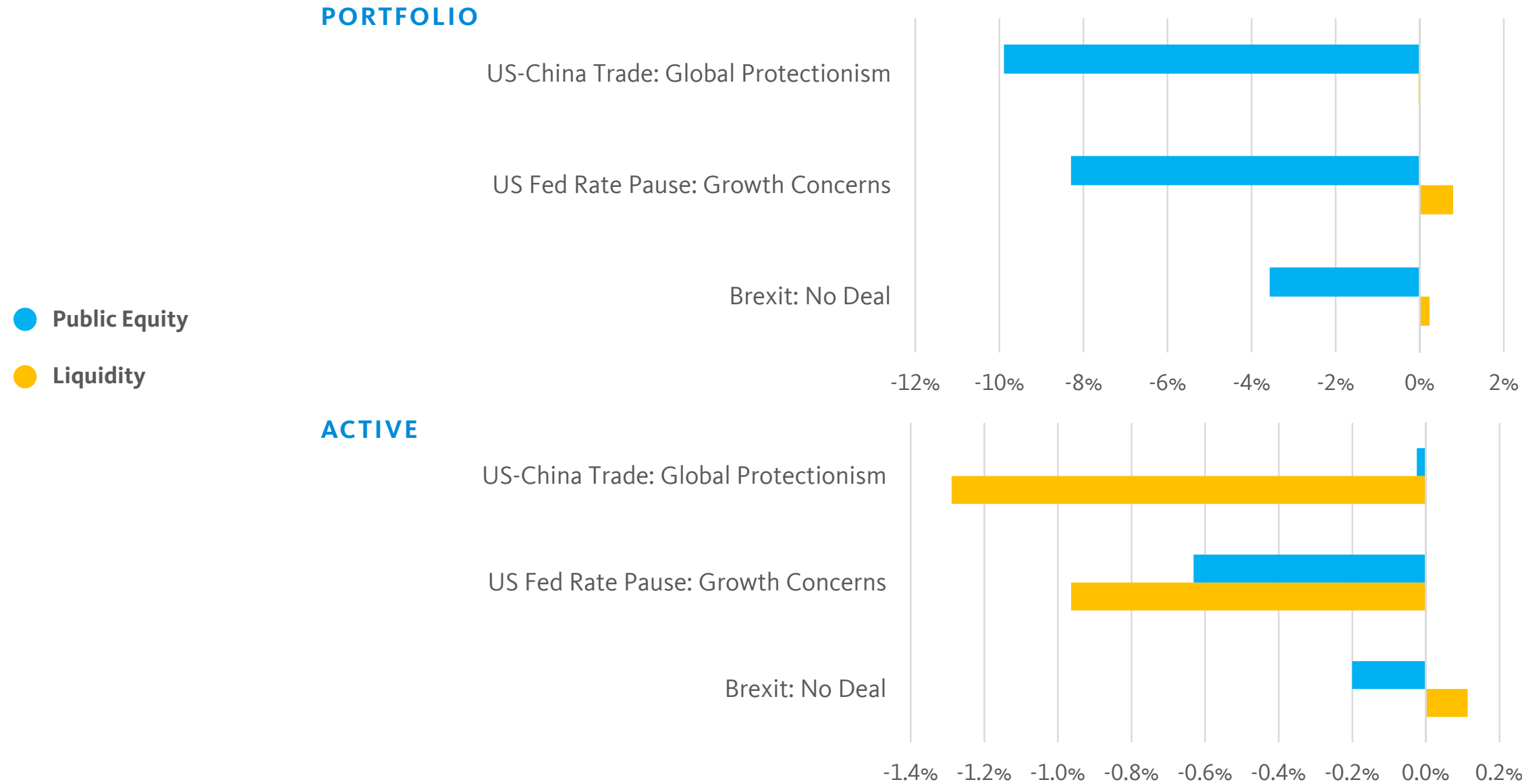
Market Technical Scenarios

Volatility Regime Change
Tech Calamity
Value Reversal

Source: BlackRock

Risk 3.0: Scenario Analysis

Indicative stressed P&L for public markets investments



As of September, 2019 Reference scale: volatility = 9.0%, tracking error 2.0%