



UNIVERSITY OF CALIFORNIA

Office of the Chief Investment Officer

UC Working Capital

Investment Review as of June 30, 2019

Growing Portfolios. Building Partnerships.

UC Investments



UC Working Capital

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

Investment Objective

Total Return Investment Pool

- Generate a rate of return, after all costs and fees, in excess of the policy benchmark, and consistent with liquidity, cash flow requirements, and risk budget

Short Term Investment Pool

- Maximize returns consistent with safety of principal, liquidity, and cash-flow requirements



UC Investments

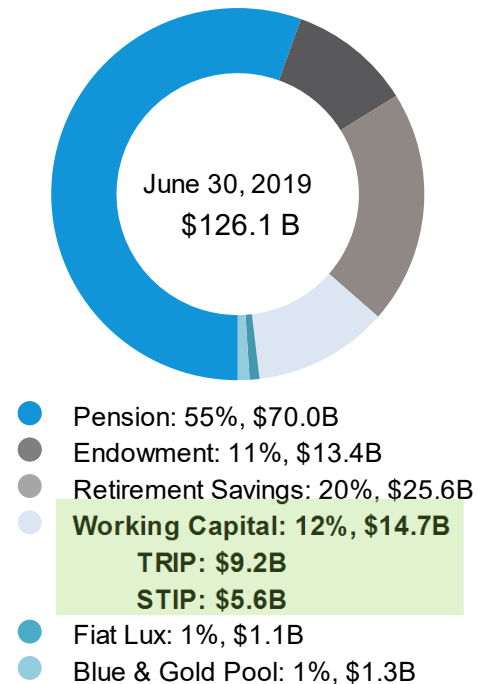
Mission

Growing Portfolios. Building Partnerships.
Delivering value through values.

Investment Products

- ▶ Working Capital assets: \$14.7 billion (as of 6/30/19)
- ▶ Investing **Endowment** assets since 1933 (87 years)
- ▶ Investing **Pension** assets since 1961 (59 years)
- ▶ Investing **Retirement Savings** assets since 1967 (53 years)
- ▶ Investing Working Capital since 1976 (44 years)
- ▶ Investing **Captive Insurance** assets since 2017 (3 years)
- ▶ Investing in **Blue & Gold** assets since 2019 (0 Years)

\$126.1 billion across 7 products

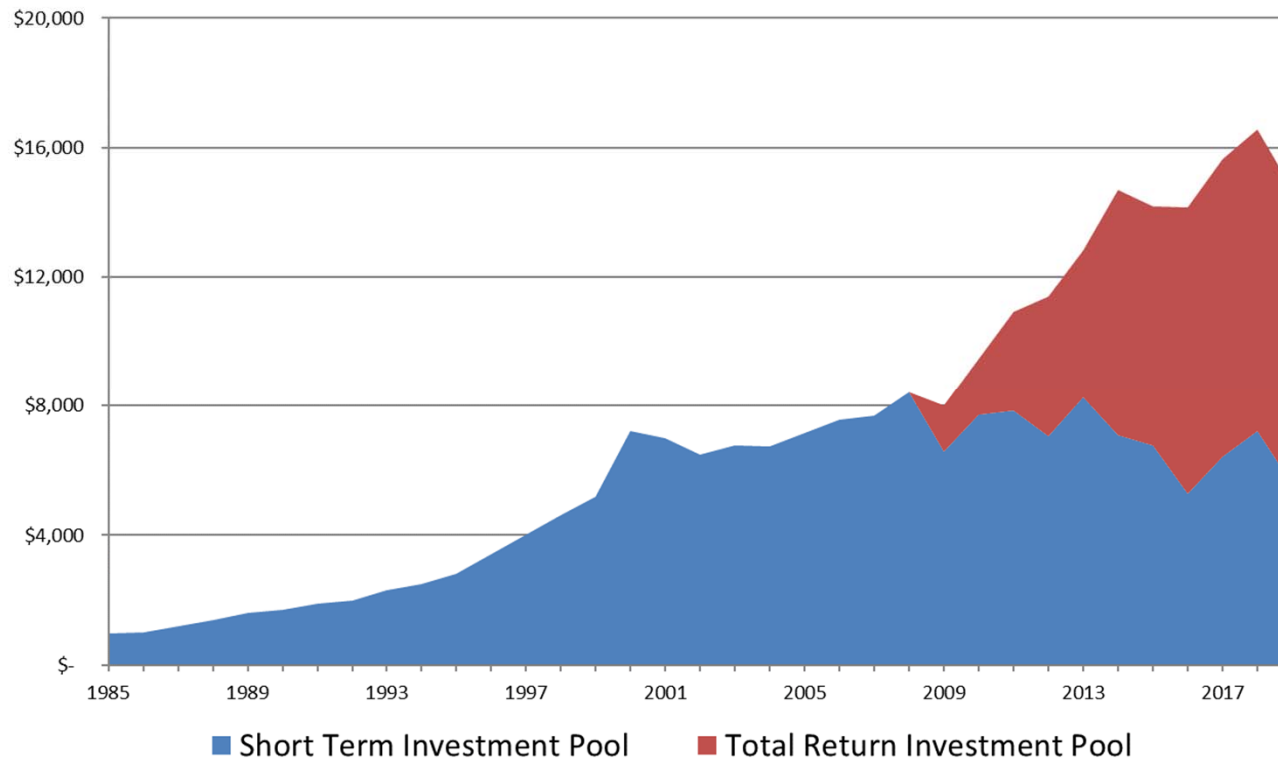




Working Capital Growth: 62% Total Return and 38% Short Term

Working Capital Assets 1985 - 2019

5 Year Growth



June 30, 2019
\$14.7 billion

1 Year ago
\$15.5 billion

5 Years ago
\$14.7 billion



Assets Under Management

	Total Return	Short Term	Total
June 30, 2018	\$9.3 billion	\$6.2 billion	\$15.5 billion
Market Gains	\$0.5 billion	\$0.2 billion	\$0.5 billion
Value Added	\$0.0 billion	\$0.0 billion	\$0.0 billion
Net Cash Flow	(\$0.6 billion)	(\$0.8 billion)	(\$1.4 billion)
June 30, 2019	\$9.2 billion	\$5.6 billion	\$14.8 billion



Total Return Investment Pool







Total Return: Assets Under Management

June 30, 2018	\$9.3 billion
Market Gains	\$0.5 billion
Value Added	\$0.0 billion
Net Cash Flow	(\$0.6 billion)
June 30, 2019	\$9.2 billion



Total Return: Asset Allocation

Relative Weight

	As of June 30, 2019	Market Value in \$ Billions	Percentage	Over/Underweight Relative to Policy	Policy Weight
	Growth	3.3	35.8%	0.8%	35.0%
	Public Growth	3.2	34.7%		
	Private Growth	0.1	1.1%		
	Income	4.6	49.9%	(0.1%)	50.0%
	Public Income	4.2	45.7%		
	Private Income	0.4	4.2%		
	Absolute Return	1.2	13.2%	(1.8%)	15.0%
	Cash	0.1	1.1%	1.1%	0.0%
	Total	9.2	100.0%	0.0%	100.0%



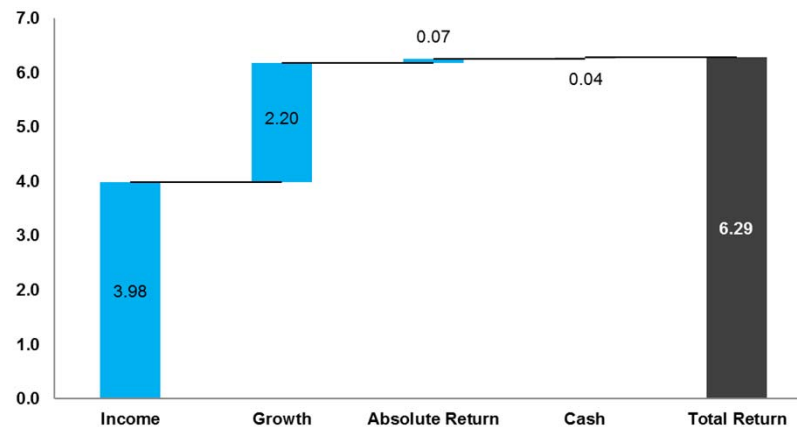
Total Return: Performance

Net Returns (%) As of June 30, 2019	Market Value (\$ Million)	% Allocation	Annualized Returns				
			3 Month	1 Year	3 Year	5 Year	10 Year
Total Return	9,165	100%	2.8	6.3	6.1	4.2	7.5
Total Return Policy Benchmark *			3.0	5.9	5.6	3.8	7.3
<i>Value Added</i>			<i>(0.2)</i>	<i>0.4</i>	<i>0.6</i>	<i>0.4</i>	<i>0.3</i>

Net Returns (%) As of June 30, 2019	One Year Returns									
	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total Return	6.3	4.5	7.6	0.3	2.7	14.6	8.3	6.7	11.3	14.0
Total Return Policy Benchmark *	5.9	4.3	6.5	1.4	1.2	14.5	8.0	5.8	11.4	14.6
<i>Value Added</i>	<i>0.4</i>	<i>0.2</i>	<i>1.1</i>	<i>(1.1)</i>	<i>1.5</i>	<i>0.1</i>	<i>0.3</i>	<i>0.9</i>	<i>(0.1)</i>	<i>(0.6)</i>

* Policy benchmark as of July 1, 2015 is 50% Barclays US Aggregate Index + 35% MSCI All Country World Investible Markets Index + 15% HFRX Absolute Return Index. Prior is a weighted average composite of the historical policy benchmarks and targets.

Fiscal Contribution to Return





Total Return: Attribution – FY 2018/2019

As of June 30, 2019

	Average Weight	Average Active Weight	Allocation Attribution	Selection Attribution	Total Attribution
Equity	36.1	1.1	2.6	0.0	2.6
Income	50.1	0.1	(1.1)	0.0	(1.1)
Absolute Return	12.3	-2.7	(1.0)	0.0	(1.0)
Cash	1.5	1.5	(0.1)	0.0	(0.1)
Total	100%	0.0%	0.4%	0.0%	0.4%



Total Return: Policy Benchmark

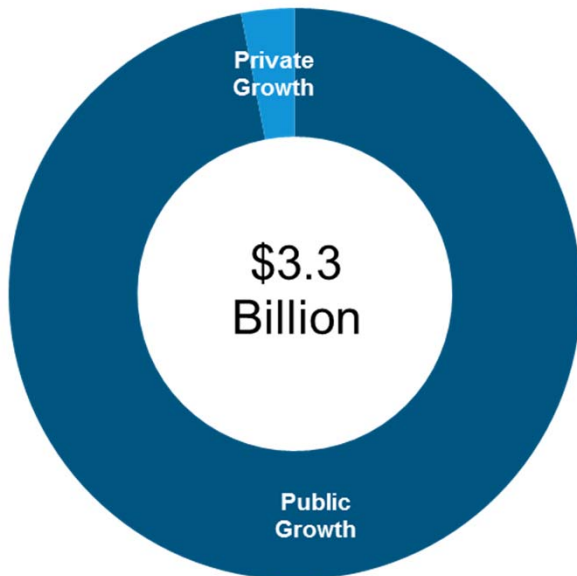
Asset Class	Benchmark Component	Target	Allowable Ranges	
			Min	Max
Total Equity (Growth)	MSCI All Country World Index Net IMI Tobacco Free	35.0%	30.0%	40.0%
Total Income	Barclays U.S. Aggregate Bond Index	50.0%	45.0%	55.0%
Absolute Return	HFRX Absolute Return Index	15.0%	5.0%	25.0%



Total Return: Growth

Net Returns (%) As of June 30, 2019	Market Value (\$ Million)	% Allocation	Annualized Returns				
			3 Month	1 Year	3 Year	5 Year	10 Year
Growth	3,278	100%	3.8	6.0	12.3	6.7	11.3
Total Return Policy Benchmark *			3.5	4.7	11.7	8.5	11.1
<i>Value Added</i>			0.3	1.3	0.6	(1.8)	0.2
Public Growth	3,179	97%	3.7	5.3	11.5	6.3	11.2
Private Growth	99	3%	7.1	32.4	26.8	-	-

* Policy benchmark as of July 1, 2015 is MCSI ACWI IMI TF. Prior to that, policy would be a weighted average composite of the historical policy benchmarks and targets. Inception date for Public Growth is August 1, 2008; inception date for Private Growth November 1, 2015.



● **Public Growth: 97%**
\$3.2B

● **Private Growth: 3%**
\$0.1B



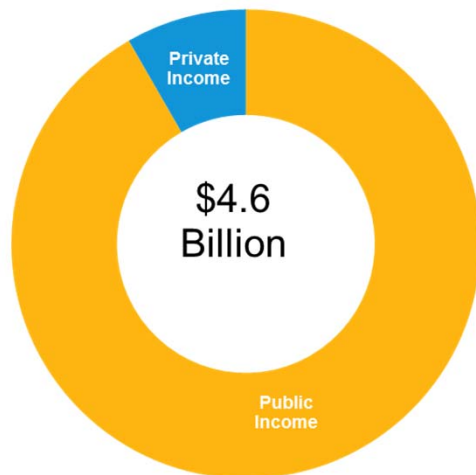
Total Return: Income and Cash

Net Returns (%) As of June 30, 2019	Market Value (\$ Million)	% Allocation	Annualized Returns				
			3 Month	1 Year	3 Year	5 Year	10 Year
Income	4,573	100%	3.0	8.1	3.5	3.3	5.7
Total Return Policy Benchmark *			3.1	7.9	2.3	2.9	3.9
Value Added			(0.1)	0.2	1.2	0.4	1.8
Public Income	4,189	92%	3.0	8.0	3.2	3.3	5.6
Private Income	385	8%	2.2	9.3	6.2	-	-

* Policy benchmark as of July 1, 2015 is Barclays U.S. Aggregate Index and is shown for all periods. There was no total TRIP income performance composite and total income policy benchmark did not exist prior to July 1, 2015. Inception date is August 1, 2008 for Public Income, and November 1, 2015 for Private Income.

Net Returns (%) As of June 30, 2019	Market Value (\$ Million)	% Allocation	Annualized Returns				
			3 Month	1 Year	3 Year	5 Year	10 Year
Cash *	105	100%	0.6	2.3	1.8	1.6	1.9

* Does not include income received from participation in securities lending.



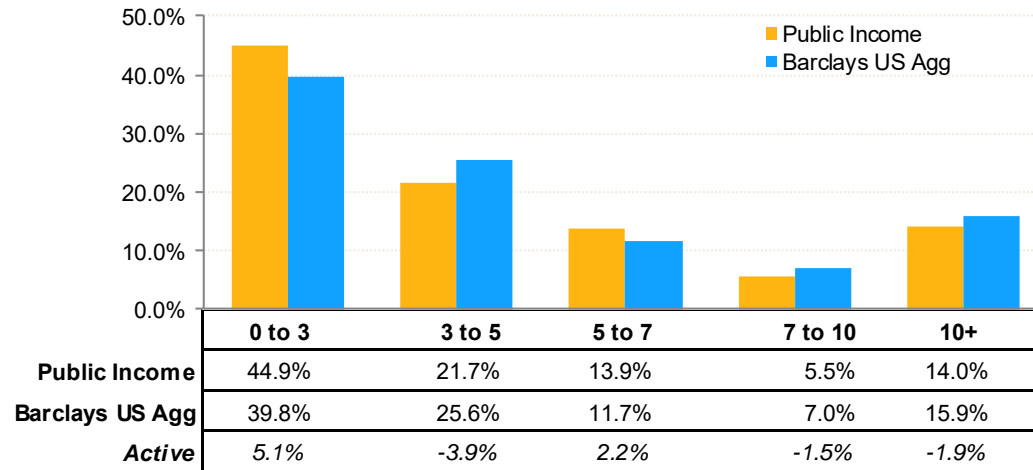
● **Public Income: 92%**
\$4.2B

● **Private Income: 8%**
\$0.4B

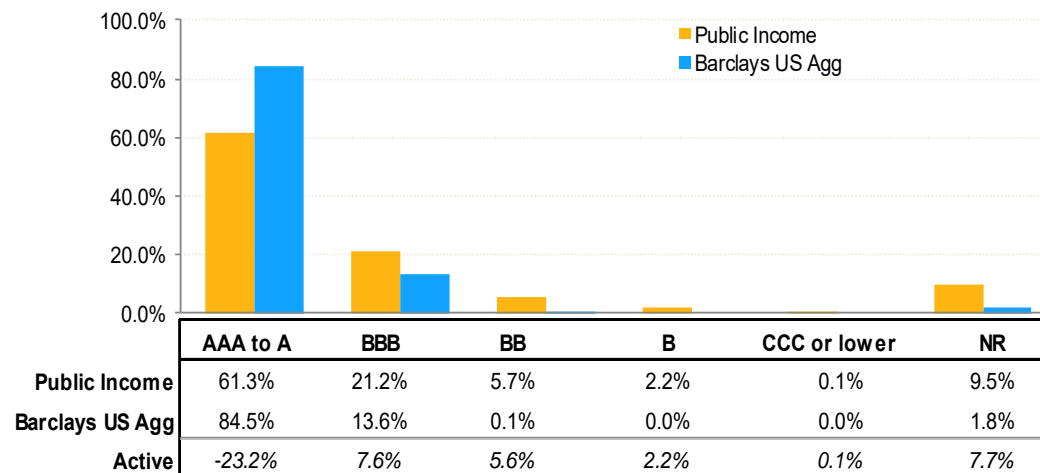


Total Return: Public Income Composition

Maturity Profile



Rating Distribution

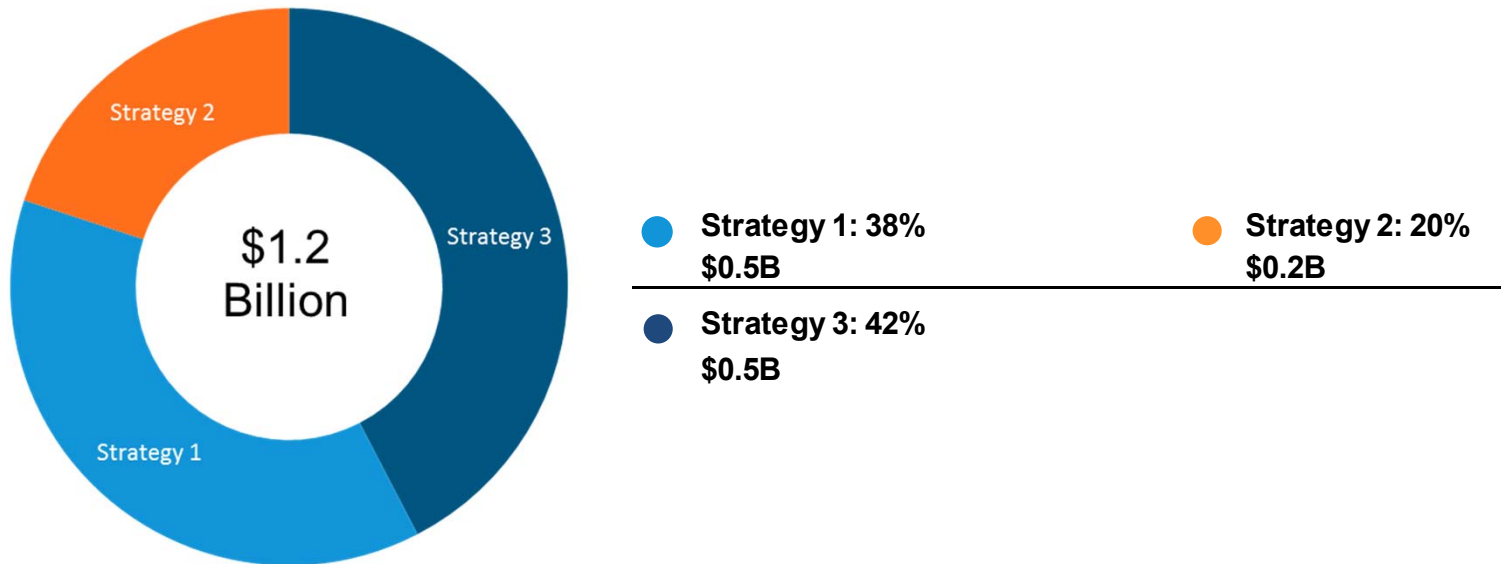




Total Return: Absolute Return

Net Returns (%) As of June 30, 2019	Market Value		Annualized Returns				
	(\$ Million)	% Allocation	3 Month	1 Year	3 Year	5 Year	Since Incept
Absolute Return	1,210	100%	0.0	0.5	1.1	0.3	1.5
Total Return Policy Benchmark *			1.1	0.1	1.7	1.6	2.3
<i>Value Added</i>			<i>(1.1)</i>	<i>0.4</i>	<i>(0.6)</i>	<i>(1.3)</i>	<i>(0.8)</i>

* Prior to July 1, 2015, the portfolio benchmark was 50% HFRX Absolute Return + 50% HFRX Market Directional. Thereafter the benchmark has been the HFRX Absolute Return. Since inception date of Absolute Return is August 2013.



Risk 1.0 : Risk Measurement

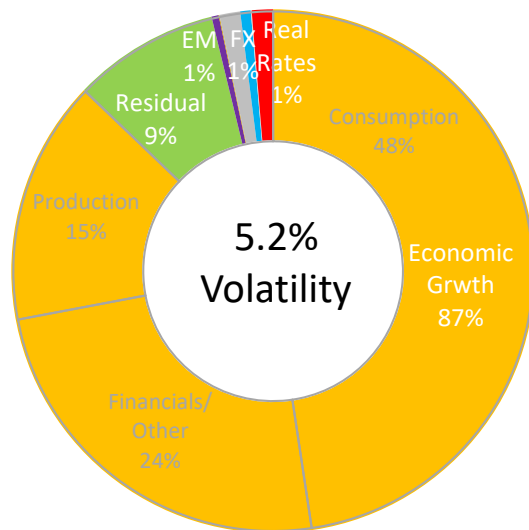
Portfolio volatility drops slightly for the second straight quarter, after a large spike in Q4 2018. Tracking error increases slightly.

		Weight (%)	Portfolio Risk (%)		Benchmark Risk (%)		Active Risk (%)	
			Standalone Volatility	QoQ Change	Standalone Volatility	QoQ Change	Tracking Error	QoQ Change
Total Return	Policy (Blend)	100	5.2	(0.1)	4.4	(0.3)	1.1	0.3
Income	Barclay's Aggregate	50	2.4	0.1	2.6	(0.0)	1.0	(0.1)
Growth	MSCI ACWI ex Tobacco	36	12.4	(0.8)	12.2	(0.9)	0.5	0.0
Absolute Return	HFRXARUCR	13	4.4	2.2	1.8	(0.1)	4.1	1.9
Cash		1	0.4	0.1	0.0	0.0	0.4	0.1

Macroeconomic Risk Factors

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

Working Capital



Portfolio Standalone
Risk Factor Decomposition

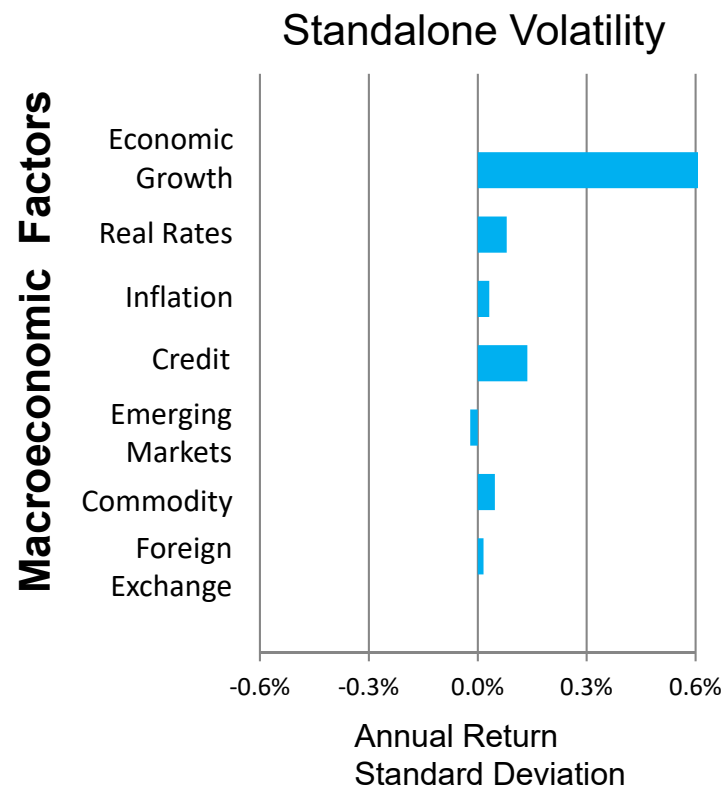
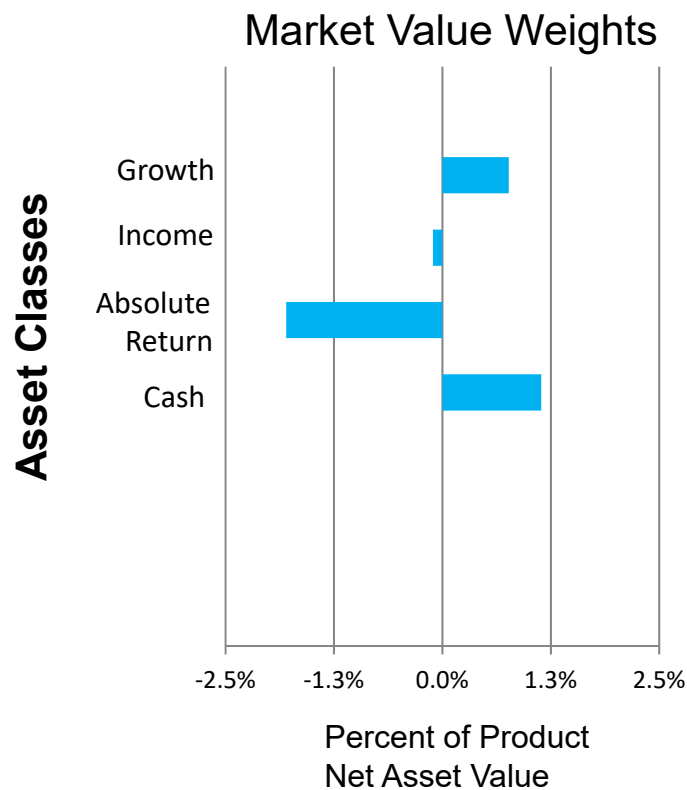
Factor Name	Factor Description
Economic Growth	Proxied by broad, developed market equity index returns
Real Rates	Inflation-linked bond returns
Inflation	Return of long nominal bonds, short inflation-linked bonds portfolio
Credit	Return of long corporate bonds, short nominal bonds portfolio
Commodity	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

Portfolio loads mainly on Economic Growth on an active basis (consistent with Asset Allocation)

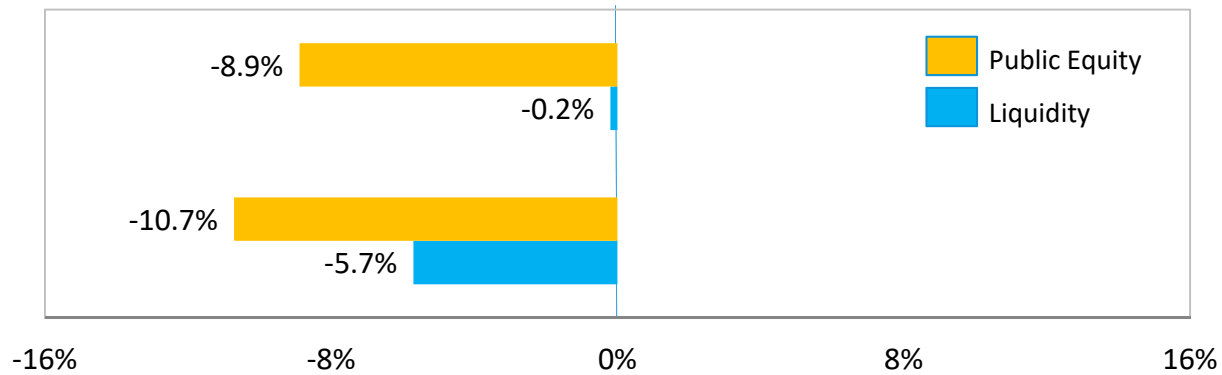
Working Capital Active Exposures



Risk 2.0 : Stress Tests

Working Capital indicative stressed P&L for public markets investments

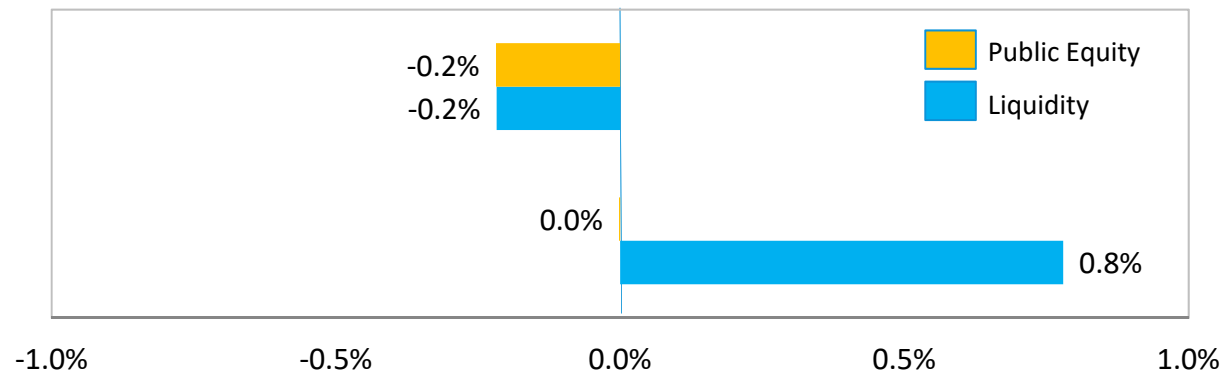
PORTFOLIO



S&P -10%

**US Interest Rates
+100bps**

ACTIVE



S&P -10%

**US Interest Rates
+100bps**

Risk 3.0 : Scenario Analysis

src : BlackRock



US Scenarios

Federal Reserve Rate Regimes
Fiscal Policy Stance
Tax Reform

Global Scenarios

Central Bank Policy
Peak Oil
Gulf Tensions

European Scenarios

Brexit Negotiations
Europe Fragmentation/Breakup
Eurozone Populist Elections

Interest Rate Scenarios

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

Emerging Markets /Asia Scenarios

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

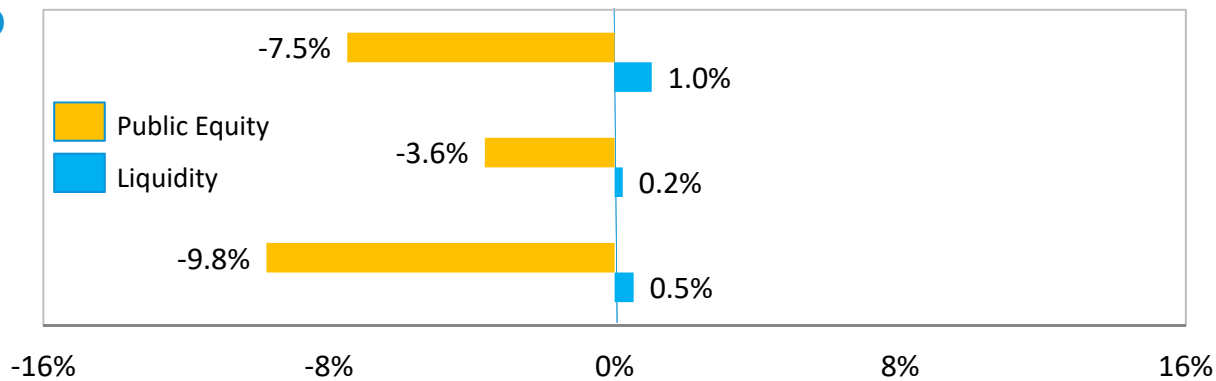
Market Technical Scenarios

Volatility Regime Change
Tech Calamity
Value Reversal

Risk 3.0 : Scenario Analysis

Working Capital indicative stressed P&L for public markets investments

PORTFOLIO

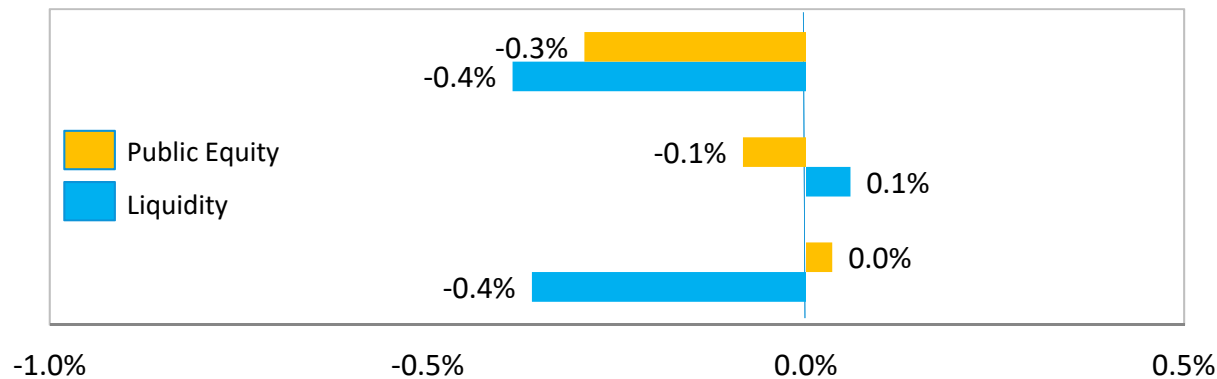


**US Fed Rate Pause :
Growth Concerns**

Brexit : No Deal

**US-China Trade :
Global Protectionism**

ACTIVE



**US Fed Rate Pause :
Growth Concerns**

Brexit : No Deal

**US-China Trade :
Global Protectionism**



Short Term Investment Pool



STIP: Assets Under Management

June 30, 2018	\$6.2 billion	Corporates	\$1.3 billion	22.9%
Market Gains	\$0.2 billion	Commercial Paper	\$2.4 billion	42.7%
Value Added	\$0.0 billion	Governments	\$1.9 billion	34.4%
Net Cash Flow	(\$0.8 billion)			
June 30, 2019	\$5.6 billion	Total*	\$5.6 billion	100.0%

*STIP Assets exclude:

- (a) approximately \$3.4 billion internal receivable from campuses and medical centers for funds transferred to the Retirement Plan,
- (b) approximately \$1.8 billion held on behalf of the Retirement Plan,
- (c) approximately \$189.9 million held on behalf of the General Endowment Pool (excludes FY2019 payout),
- (d) approximately \$334 million held on behalf of the UC Retirement Savings Program,
- (e) approximately \$766.7 million receivable from certain eligible University employees who have received loans under the University's Mortgage Origination Program, and
- (f) approximately \$14.1 million held on behalf of the Total Return Investment Pool (excludes FY2019 payout).



STIP: Performance

Net Returns (%) As of June 30, 2019	Market Value		Annualized Returns					
	(\$ Million)	% Allocation	3 Month	1 Year	3 Year	5 Year	10 Year	20 Year
Short Term	5,568	100%	0.6	2.3	1.8	1.6	1.9	3.2
Policy Benchmark *			0.6	2.5	1.6	1.1	0.8	2.2
<i>Value Added</i>			0.0	(0.2)	0.2	0.5	1.1	1.0

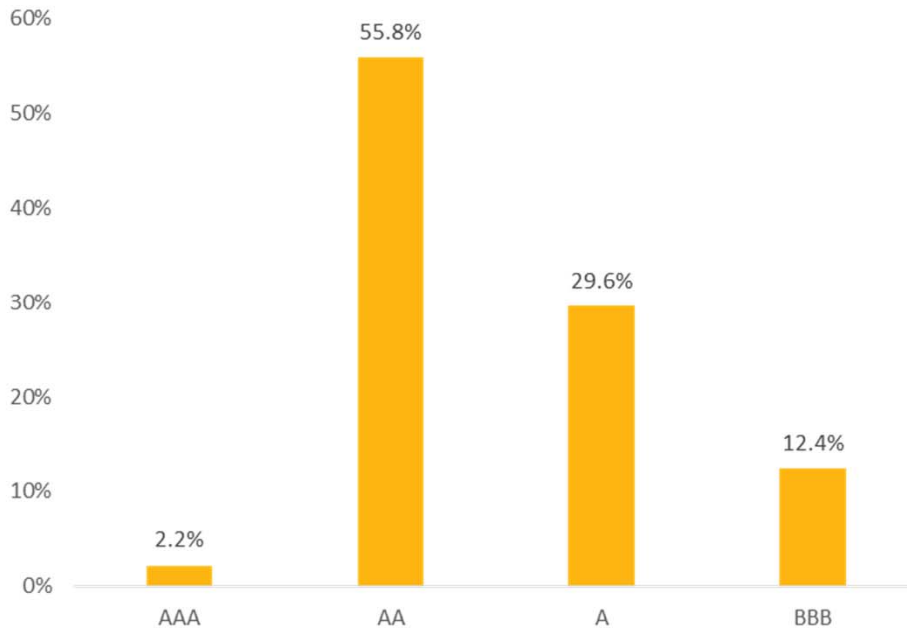
Net Returns (%) As of June 30, 2019	One Year Returns								
	2019	2018	2017	2016	2015	2013	2012	2011	2010
Short Term	2.3	1.7	1.3	1.3	1.4	2.1	2.4	2.6	2.8
Policy Benchmark *	2.5	1.6	0.7	0.6	0.4	0.2	0.2	0.5	0.8
<i>Value Added</i>	(0.2)	0.1	0.6	0.7	1.0	1.9	2.2	2.1	2.0

* STIP Policy Benchmark is based on a weighted average of the 2 Year Treasury Income Note + 30-Day Treasury Bill

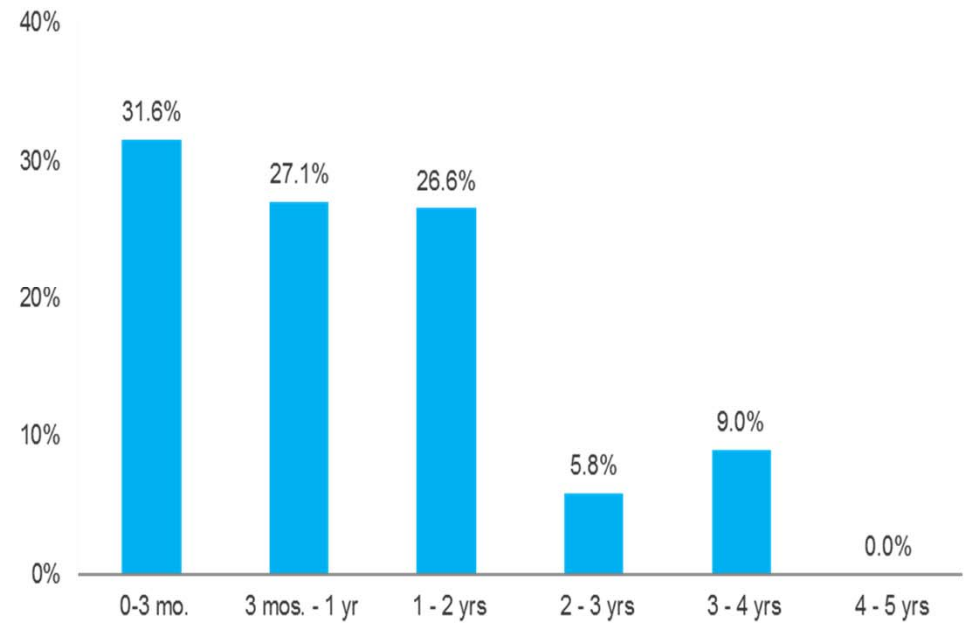


STIP: Portfolio Composition

Rating Distribution



Maturity Profile





Short Term Policy Benchmark

Short Term	Benchmark Component
Short Term	Weighted Average of Income Return on a Constant Maturity Two-Year U.S. Treasury Note and the Return on U.S. 30-Day Treasury Bills