



UNIVERSITY OF CALIFORNIA

Office of the Chief Investment Officer

Growing Portfolios Building Partnerships

Working Capital

Investment Review as of March 31, 2017

UC Investments

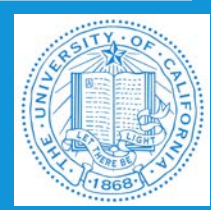


Table of Contents

Working Capital (TRIP and STIP) Executive Summary

How is TRIP Positioned?

How did TRIP Perform?

How are we managing risk in TRIP?

How is STIP Positioned?

How did STIP Perform?



Office of the Chief Investment Officer

The **investment objective** of the **Total Return Investment Pool (“TRIP”)** is to 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.

It is appropriate for longer-term investors who can accept this volatility in exchange for a higher long-term expected return than high quality, short duration fixed income products such as STIP

The **investment objective** of the **Short Term Investment Pool (“STIP”)** is to maximize returns consistent with safety of principal, liquidity, and cash-flow requirements.

Investment maturities are structured to ensure an adequate flow of funds to meet the University’s cash needs as well as to provide the liquidity needed to facilitate asset class rebalancing and other major liquidity events.



Office of the CIO at a glance

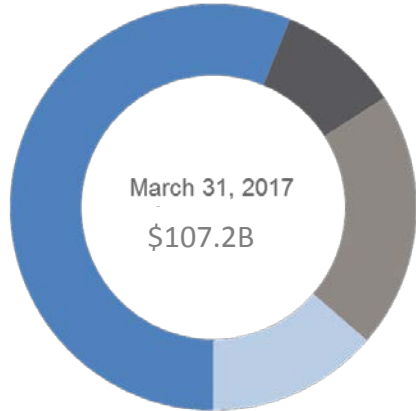
Office of the Chief Investment Officer

Growing Portfolios. Building Partnerships.
Delivering value through values.

Office of the CIO Facts

- ▶ Working Capital assets: \$14.5 billion (as of 3/31/17)
- ▶ Investing Endowment assets since 1933 (84 years)
- ▶ Investing pension assets since 1961 (56 years)
- ▶ Investing defined contribution assets since 1967 (50 years)
- ▶ Serving more than 150,000 pension members
- ▶ Serving more than 300,000 DC participants

\$107.2 billion across 6 products



- Working Capital & Fiat Lux: 13%, \$14.5B
TRIP: \$8.9B
STIP: \$5.6B
- Pension: 56%, \$59.7B
- Retirement Savings: 20%, \$21.7B
- Endowment: 10%, \$10.4B
- Fiat Lux: 1%, \$0.9B



The team managing your money

Chief Investment Officer
Jagdeep Singh Bachher

Investment Management

Risk Management

Investment Services

Fixed Income
Steve Serman

Public Equity
Scott Chan

Asset Allocation
Samuel Kunz

Absolute Return
Edmond Fong

Private Equity
John Beil*

Real Estate
Gloria Gil

Real Assets
John Ritter

Risk Management
Rick Bookstaber

Chief Operating Officer
Arthur Guimaraes

Fixed Income Team

Public Equity Team

Asset Allocation Team

Absolute Return Team

Private Equity Team

Real Estate Team

Real Assets Team

Risk Management Team

Investment Services Team

9

2

2

3

2

4

3

5

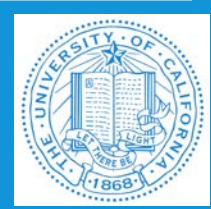
14

Note: Excludes Admin (7), Treasury (7), Advisors/Fellows (7), and 15 vacancies

*Interim



Working Capital Executive Summary



TRIP at a Glance

Global Markets

- Equities post strong performance
- International Equities meaningfully outperform US Equities over last 3 months
- High Yield spreads continue to tighten driving strong performance

Assets Under Management

- Assets of \$8.9 billion, 60% of our working capital
- \$450 million outflow driven by annual distribution and campus redemptions

Asset Allocation

- Overweight Public Equities with a 100% passive implementation
- Overweight Cash

Risk Allocation

- Close to target risk allocation

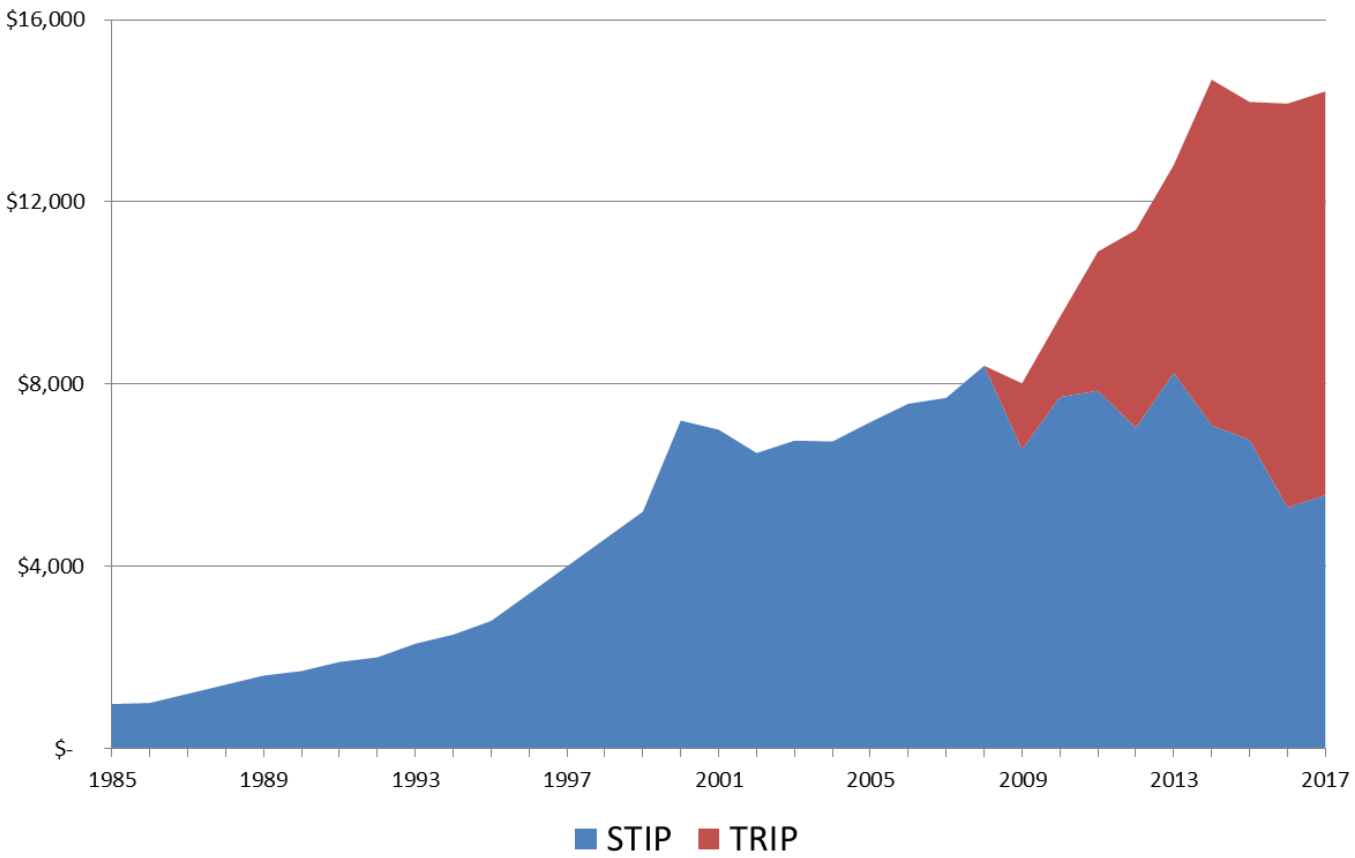
Performance

- Healthy absolute performance driven by growth assets
- TRIP “outperformed” STIP by 4.3% for Fiscal Year to Date



Working Capital: 60% TRIP, 40% STIP

Working Capital Assets 1985 - 2017



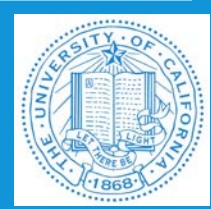
5 Year Growth

March 31, 2017
\$14.5 billion

1 Year ago
\$15.1 billion

5 Years ago
\$11.4 billion

As of March 31, 2017



Total Return Assets

Assets Under Management Attribution

Assets Under Management June 30, 2016	\$8.87 billion
--	----------------

Market Gains	\$0.36 billion
--------------	----------------

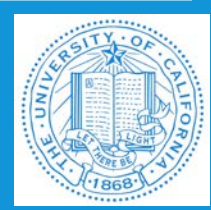
Value Added	\$0.09 billion
-------------	----------------

Net Cash Flow	(\$0.45 billion)
---------------	------------------





Assets Under Management March 31, 2017	\$8.87 billion
---	-----------------------



How is TRIP Positioned?

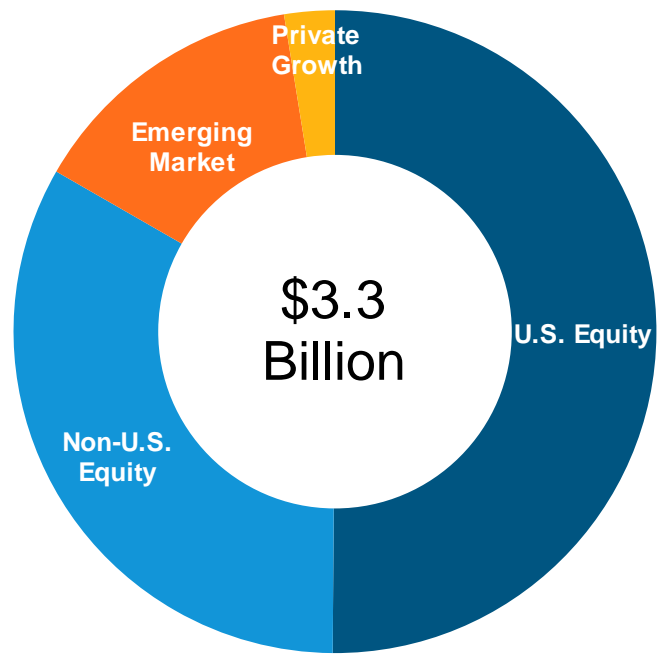


Total Return Asset Allocation

Relative Weight	As of March 31, 2017	Market Value in \$ Billions	Percentage	Over/Underweight Relative to Policy	Policy Weight
	Growth	3.3	37.0%	2.0%	35.0%
	Public Growth	3.2	36.0%		
	Private Growth	0.1	1.0%		
	Income	4.2	47.7%	-2.3%	50.0%
	Public Income	3.8	42.6%		
	Private Income	0.4	5.1%		
	Absolute Return	1.2	13.8%	-1.2%	15.0%
	Absolute Return	1.2	13.8%	-1.2%	
	Cash	0.2	1.5%	1.5%	0.0%
	Total TRIP	8.9	100.0%	0.0%	100.0%



Growth Portfolio: Public Equity 100% passive

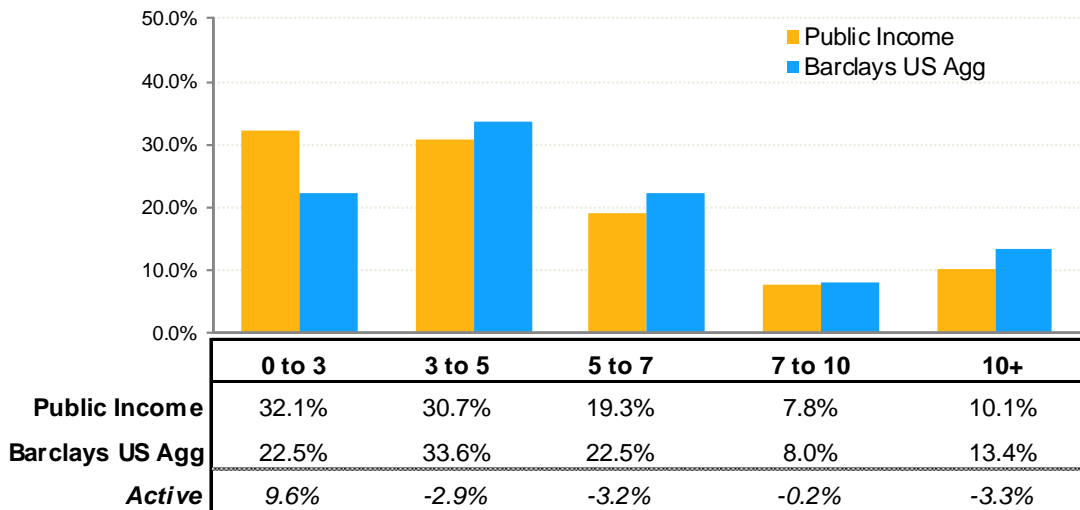


- U.S. Equity: 50%
\$1.6B
- Non-U.S. Equity: 33%
\$1.1B
- Emerging Market: 14%
\$0.5B
- Private Growth: 3%
\$0.1B

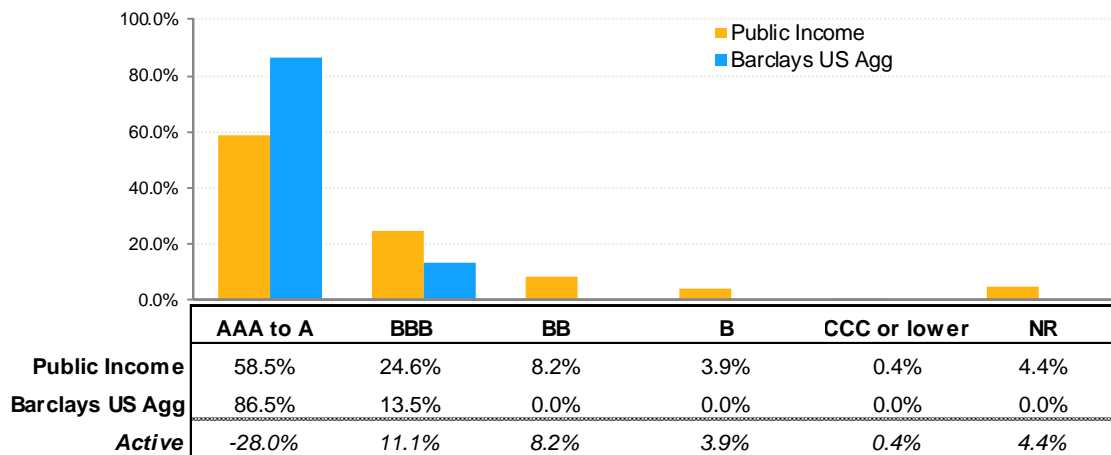


Public Income Portfolio

Maturity Profile:

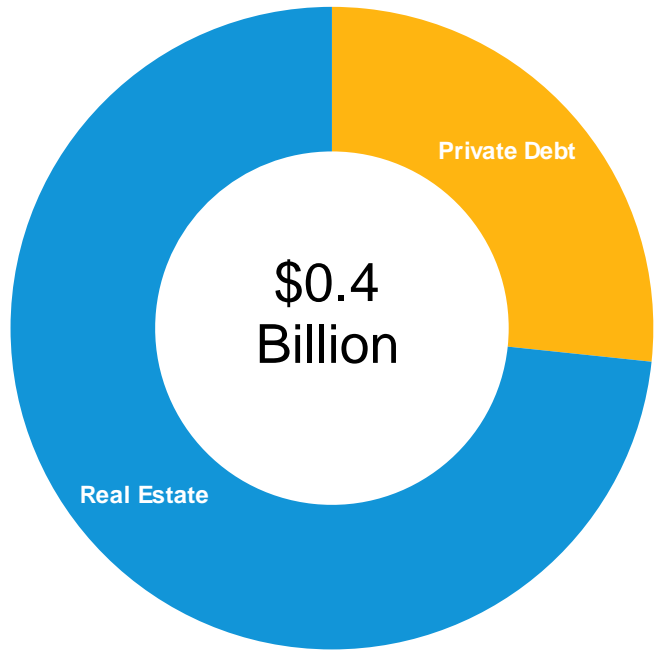


Rating Distribution





Private Income Portfolio



● Private Debt: 26%
\$0.1B

● Real Estate: 74%
\$0.3B



How did TRIP Perform?



Total Return Performance

Net Returns (%) As of March 31, 2017	Annualized Returns						Since Inception (August 2008)
	3 Month	Fiscal YTD	1 Year	3 Year	5 Year	7 Year	
Total Return	3.1	5.2	6.8	4.2	6.2	6.9	7.0
Total Return Benchmark	2.8	4.1	5.7	3.6	5.8	6.4	6.4
Value Added	0.3	1.1	1.1	0.6	0.4	0.5	0.6

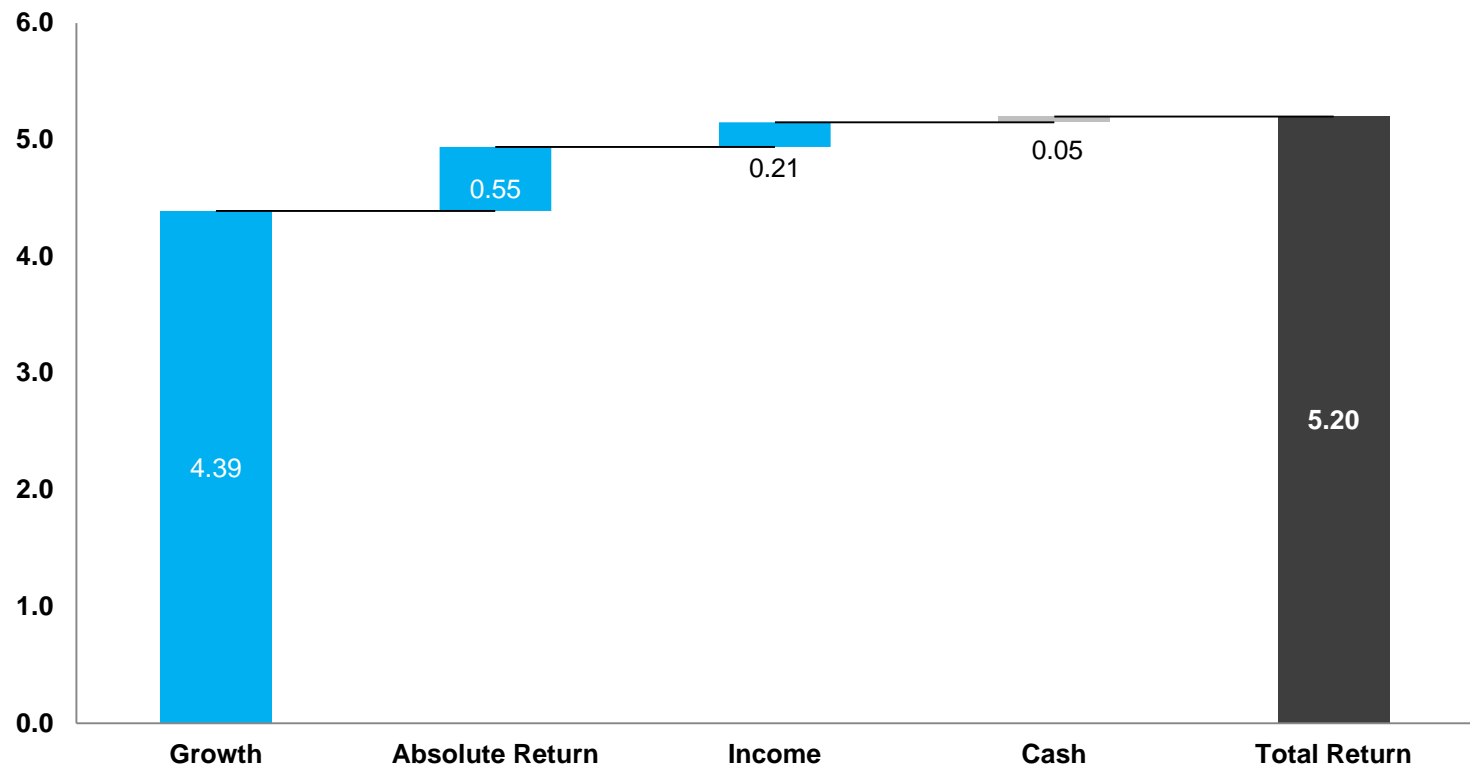
Net Returns (%) As of March 31	One Year Returns							
	2017	2016	2015	2014	2013	2012	2011	2010
Total Return	6.8	(1.5)	7.6	8.2	10.6	7.6	9.1	25.0
Total Return Benchmark	5.7	(1.1)	6.5	8.3	10.0	6.8	9.3	27.4
Value Added	1.1	(0.4)	1.1	(0.1)	0.6	0.8	(0.2)	(2.4)

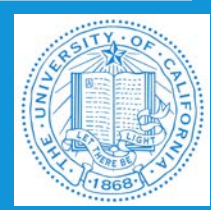
Policy benchmark as of July 1, 2015 is 50% Barclays US Aggregate Index + 35% MSCI All Country World Index + 15% HFRX Absolute Return Index. Prior is a weighted average composite of the historical policy benchmarks and targets.



Total Return Performance

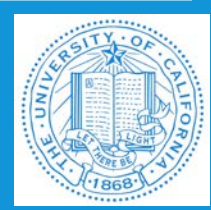
9 Months Contribution to Return - Percentage (%)





Performance Attribution – Fiscal YTD

As of March 31, 2017	Average Weight	Active Weight	Allocation Attribution	Selection Attribution	Total Attribution
Equity					
Public Growth	34.9	-0.1	+0.0	-0.6	-0.6
Private Growth	0.9	+0.9	+0.1	+0.0	+0.1
Income					
Public Income	45.2	-4.8	+0.2	+0.9	+1.1
Private Income	5.2	+5.2	+0.0	+0.0	+0.0
Absolute Return					
Absolute Return	12.7	-2.3	+0.0	+0.5	+0.5
Cash	1.1	1.1	+0.0	+0.0	+0.0
Total TRIP	100%	0%	+0.3%	+0.8%	+1.1%



Income Performance

Net Returns (%) As of March 31, 2017	Market Value		Annualized Returns				Since Inception		
	(\$ Million)	% Allocation	3 Months	Fiscal YTD	1 Year	3 Year		5 Year	7 Year
Income	4,226	100%	1.1	0.4	2.6	3.2	3.8	5.2	6.5
Barclays U.S. Aggregate Bond Index			0.8	(1.7)	0.4	2.7	2.3	3.5	4.7
<i>Value Added</i>			<i>0.3</i>	<i>2.1</i>	<i>2.2</i>	<i>0.5</i>	<i>1.5</i>	<i>1.7</i>	<i>1.8</i>
Public Income	3,776	89%	1.1	0.0	2.4	-	-	-	3.2
Private Income	450	11%	1.3	4.4	3.4	-	-	-	2.6

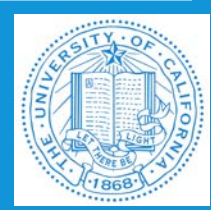
Policy benchmark as of July 1, 2015 is Barclays US Aggregate Index and is shown for all periods. There was no total TRIP income performance composite and total income policy benchmark didn't exist prior to July 1, 2015. Policy would be a weighted average composite of the historical policy benchmarks and targets. Inception date is August 1, 2008



Growth Performance

Net Returns (%) As of March 31, 2017	Market Value		Annualized Returns						
	(\$ Million)	% Allocation	3 Months	Fiscal YTD	1 Year	3 Year	5 Year	7 Year	Since Inception
Growth	3,270	100%	6.7	13.8	14.4	5.1	10.0	9.0	6.7
MSCI All Country World IMI TF Index (net dividends)			6.7	14.3	15.4	7.7	10.7	7.4	6.1
<i>Value Added</i>			0.0	-0.5	-1.0	-2.6	-0.7	1.6	0.6
Public Growth	3,186	97%	6.7	13.8	14.3	5.1	10.0	9.0	6.7
Private Growth	84	3%	3.3	14.3	14.3	-	-	-	19.3

Policy benchmark as of July 1, 2015 is MCSI ACWI IMI TF and is shown for all periods. Policy would be a weighted average composite of the historical policy benchmarks and targets. Inception date is August 1, 2008



Absolute Return Performance

Net Returns (%) As of March 31, 2017	Market Value		Annualized Returns				Since Inception
	(\$ Million)	% Allocation	3 Months	Fiscal YTD	1 Year	3 Year	
Absolute Return	1,223	100%	0.9	4.5	4.0	2.2	2.8
HFRX Absolute Return			0.7	1.2	1.5	1.7	2.6
<i>Value Added</i>			<i>0.2</i>	<i>3.3</i>	<i>2.5</i>	<i>0.5</i>	<i>0.2</i>

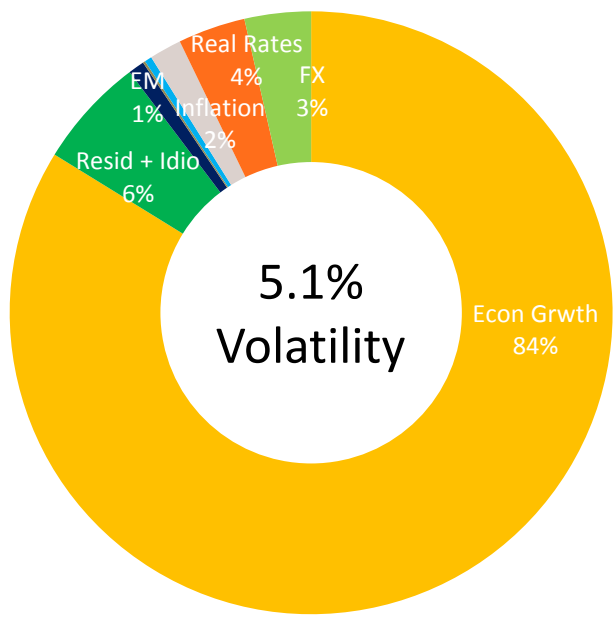
* Prior to July 1, 2015, the portfolio benchmark was 50% HFRX Absolute Return + 50% HFRX Market Directional. Thereafter the benchmark has been the HFRX Absolute Return. Since inception date of Absolute Return August 2013.



How did TRIP Perform?



High Level Macroeconomic Risk Factors



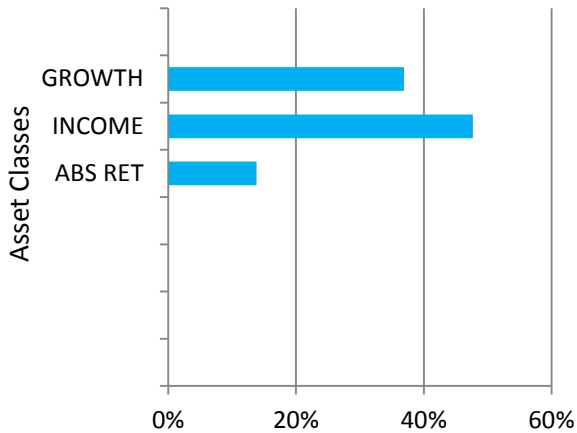
Factor Name	Factor Description
Economic Growth	Often correlated to broad-market equity index returns
Real Rates	Inflation-linked bond returns
Inflation	Return of long nominal bonds, short inflation-linked bonds portfolio
Credit	Return of long corporate bonds, short nominal bonds portfolio
Commodity	Weighted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



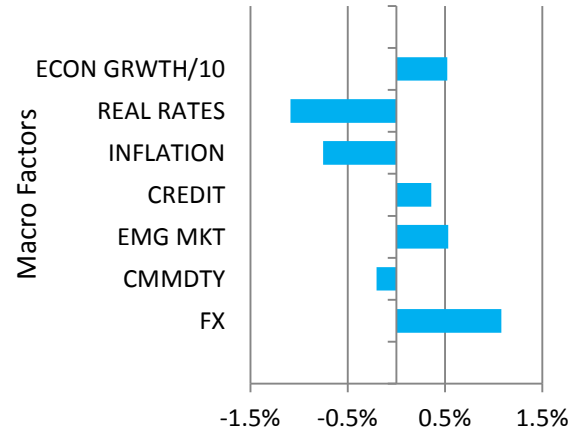
Asset Classes versus Macroeconomic Factors

PORTFOLIO

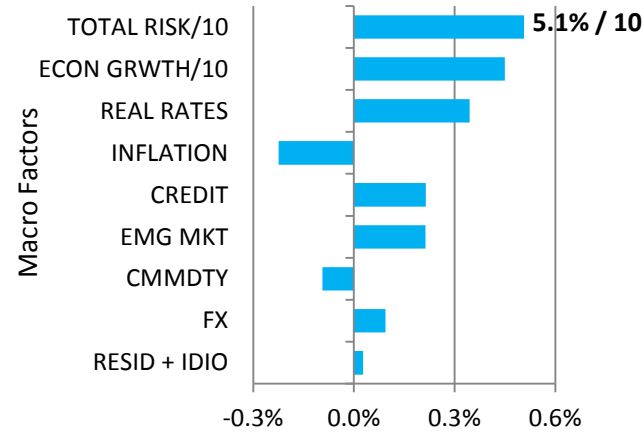
Exposures
Mkt Values



Exposures
Factor Beta * Factor Vol

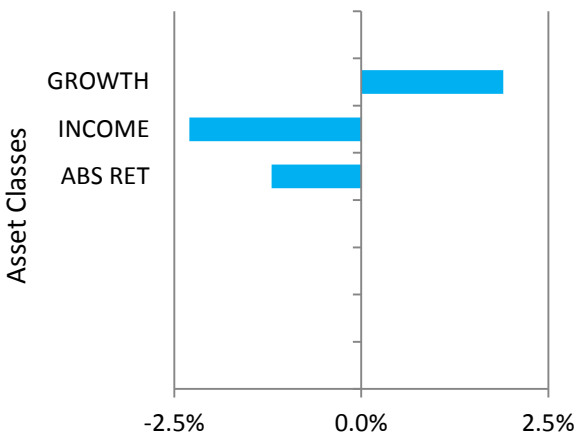


Risk Contributions
(additive to Total)

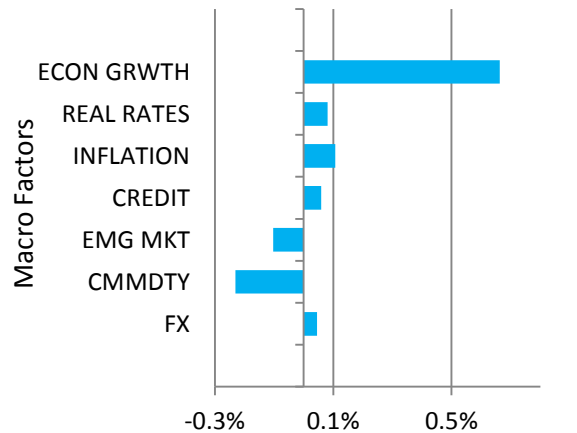


ACTIVE

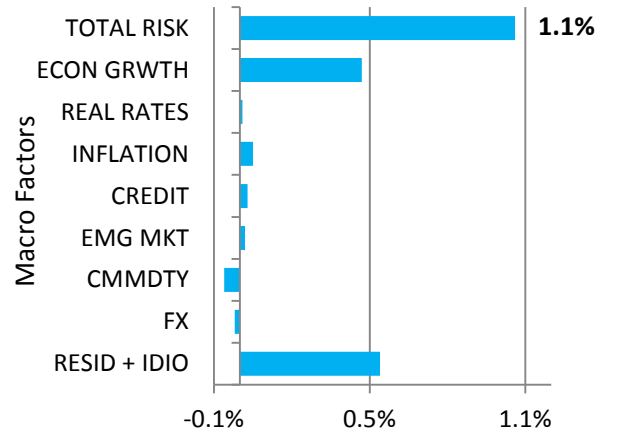
Exposures
Mkt Value



Exposures
Factor Beta * Factor Vol



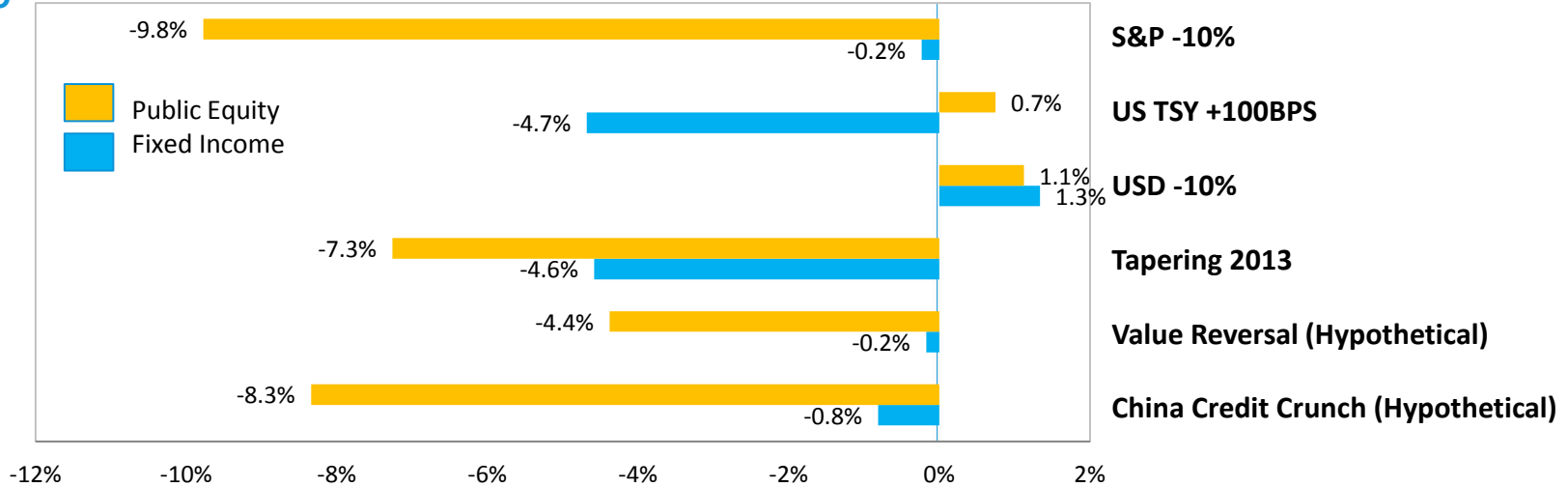
Risk Contributions
(additive to Total)



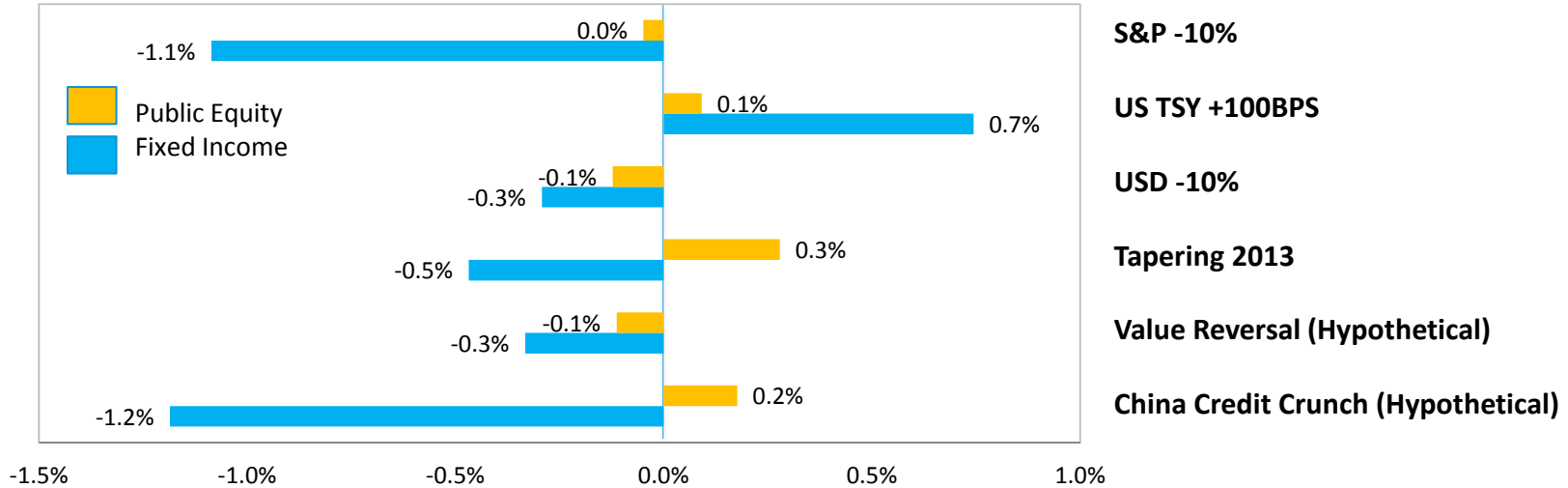


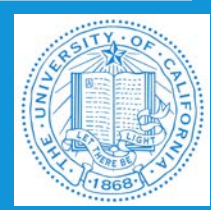
Stress Tests and Scenario Analysis

PORTFOLIO



ACTIVE



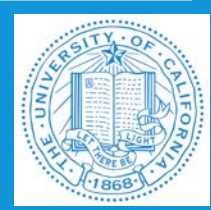


TRIP Risk Measurement

Name	Beta vs Benchmark	Portfolio Risk (%)		Benchmark Risk (%)		Active Risk (%)	
	Current	Standalone Volatility	QoQ Change	Standalone Volatility	QoQ Change	Tracking Error	QoQ Change
TRIP Total	1.02	5.1	<i>(0.2)</i>	4.5	<i>(0.4)</i>	1.1	<i>0.2</i>
Income	0.79	3.2	<i>(0.1)</i>	3.5	<i>(0.2)</i>	1.6	<i>(0.1)</i>
Growth	1.00	11.8	<i>(1.4)</i>	11.8	<i>(1.4)</i>	0.4	<i>(0.1)</i>
Absolute Return	0.57	3.3	<i>2.4</i>	1.3	<i>(0.1)</i>	3.2	<i>1.7</i>
Cash	0.00	0.4	<i>0.4</i>	0.0	<i>0.0</i>	0.4	<i>0.4</i>



How is STIP Positioned?



STIP Assets

Assets Under Management Attribution

Assets Under Management June 30, 2016	\$5.29 billion
Market Gains	\$0.02 billion
Value Added	\$0.06 billion
Net Cash Flow	\$0.19 billion
Assets Under Management March 31, 2017	\$5.56 billion

Asset Allocation

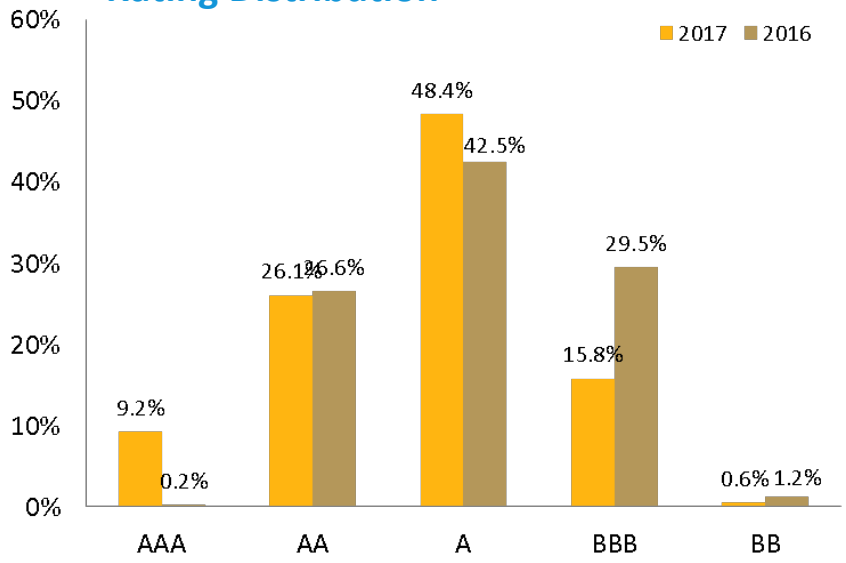
As of March 31, 2017

Corporates	\$1.76	31.7%
Commercial Paper	\$2.34	42.1%
Governments	\$1.32	23.7%
Cash	\$0.14	2.5%
Total	\$5.56 billion	100.0%

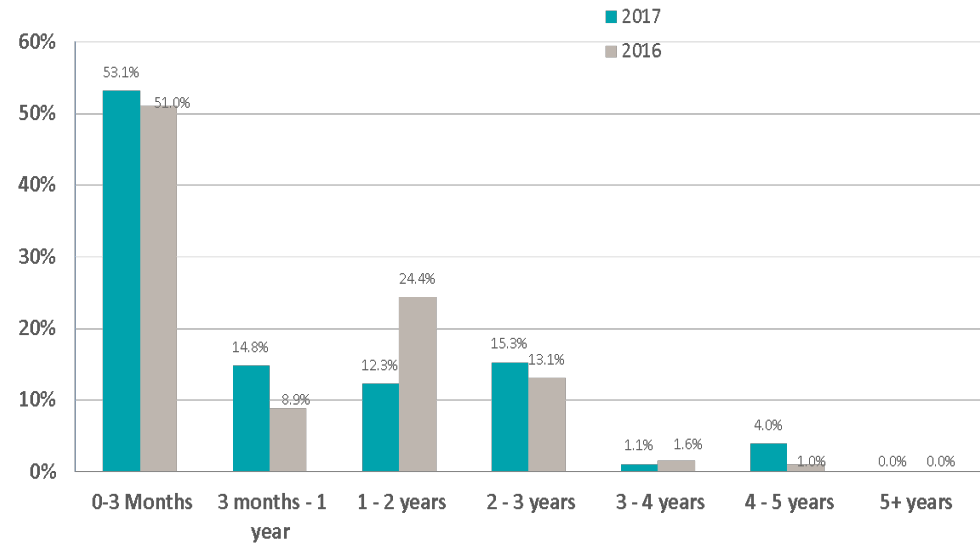


Portfolio Composition: Shorter duration, higher credit quality relative to 2016

Rating Distribution

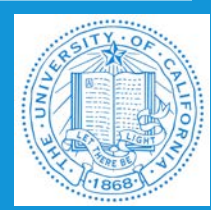


Maturity Profile





How did STIP Perform?



STIP Performance: Added value across all time horizons

Net Returns (%) As of March 31, 2017	Annualized Returns							
	3 Month	Fiscal YTD	1 Year	3 Year	5 Year	7 Year	10 Year	20 Year
Short Term	0.3	0.9	1.2	1.3	1.6	1.8	2.5	3.7
Policy Benchmark	0.2	0.4	0.6	0.5	0.4	0.4	0.9	2.6
<i>Value Added</i>	<i>0.1</i>	<i>0.5</i>	<i>0.6</i>	<i>0.8</i>	<i>1.2</i>	<i>1.4</i>	<i>1.6</i>	<i>1.1</i>

Net Returns (%) As of March 31	Annual Fiscal Year Returns									
	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Short Term	1.2	1.2	1.4	1.6	2.3	2.4	2.7	2.9	3.9	4.9
Policy Benchmark	0.6	0.5	0.4	0.2	0.2	0.3	0.6	0.8	1.9	4.0
<i>Value Added</i>	<i>0.6</i>	<i>0.7</i>	<i>1.0</i>	<i>1.4</i>	<i>2.1</i>	<i>2.2</i>	<i>2.1</i>	<i>2.0</i>	<i>2.0</i>	<i>0.9</i>

STIP Policy Benchmark is 66% 2 Year Treasury Income Note + 34% 30-Day Treasury Bill