CalPERS Trust Level Review

Investment Review

Period Ending June 30, 2019

Yu Ben Meng, Chief Investment Officer
Dan Bienvenue, Interim Chief Operating Investment Officer
Eric Baggesen, Managing Investment Director

Investment Committee

August 19, 2019

CalPERS | Investment Office

Executive Summary

- Performance
  - PERF Fiscal Year 2019 net return was 6.7%. This brings 5 and 10 year returns to 5.8% and 9.1% respectively.
    - Public Equity returned +6.1%, contributing +3.0% of total fund return
    - Income returned +9.6%, contributing +2.7% of total fund return
    - Private Equity returned +7.7% and Real Assets returned +3.7% for a combined contribution to total fund of +1.0%
    - Allocation changes during the year contributed an estimated +70 bps to fund performance (~$2.5 billion)
  - PERF Fiscal Year 2019 excess return was -42 bps
    - Real Assets contributed -34 bps
    - Allocation effects contributed -23 bps (includes impact of underweights to private assets relative to policy weight)
    - Private Equity contributed +26 bps due to strong performance relative to its lagged public equity benchmark
  - Affiliate Investment Program returns for FY2019 were in line with their respective asset allocations and closely tracked their benchmarks
- Risk
  - The plan's risk is dominated by growth assets, with performance closely tied to the equity market
  - The current Barra risk model estimate for total plan volatility is 7.7%
    - This is a short term estimate indicative of behavior given the current environment. The bigger risk for PERF remains that of a severe and/or sustained drawdown in global equity markets which would not be predicted by the model
  - Current active volatility estimate is 0.5%, within the 1.5% limit
- Economic Update
  - There has been a slowing of economic momentum here and abroad, concentrated in goods related industries, less so in services
  - Policy shifts have promoted strong asset class performance into this slowing growth environment but their marginal effectiveness may wane

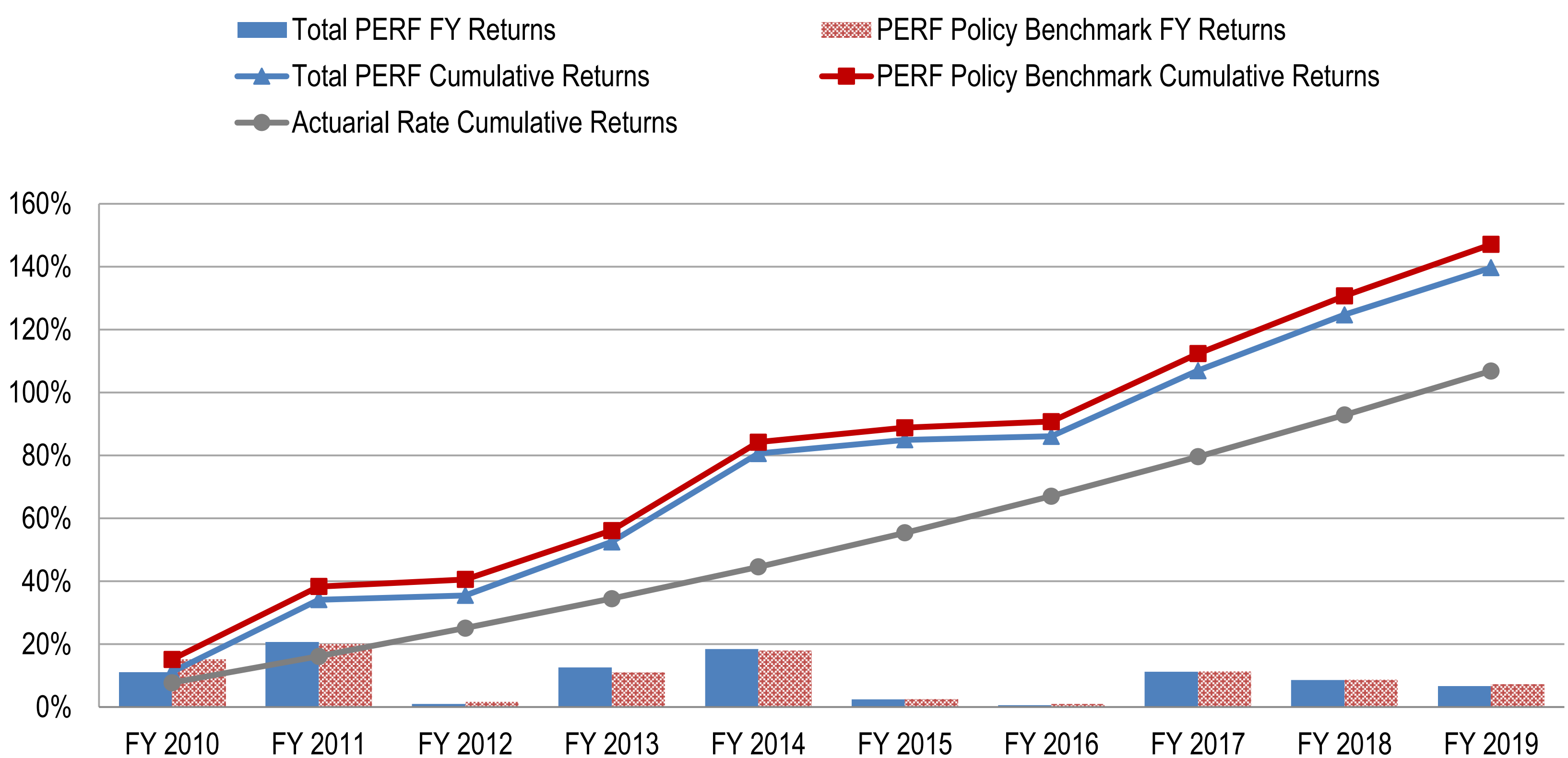
Performance

Performance Summary (as of June 30, 2019)

As of June 30, 2019		10 Yr		5 Yr		3 Yr		1 Yr	
Funds Managed	Ending Market Value (MM)	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Public Employees' Retirement Fund	370,287	9.1%	(33)	5.8%	(23)	8.8%	(21)	6.7%	(42)
Judges' Retirement Fund	16	0.6%	8	1.0%	14	1.5%	16	2.4%	10
Judges' Retirement System II Fund	1,696	9.4%	32	5.0%	25	8.0%	36	6.7%	33
Legislators' Retirement System Fund	114	7.7%	50	4.1%	24	5.5%	32	7.3%	22
CERBT Strategy 1	7,877	9.4%	33	5.0%	38	8.2%	39	6.2%	18
CERBT Strategy 2	1,299	-	-	4.6%	35	6.8%	39	7.0%	11
CERBT Strategy 3	625	-	-	4.0%	33	5.3%	34	7.2%	10
CalPERS Health Care Bond Fund	478	4.5%	59	3.1%	16	2.3%	3	7.9%	(0)
Long-Term Care Fund	4,770	7.0%	30	3.4%	11	4.2%	1	7.1%	(8)
Terminated Agency Pool	168	-	-	3.7%	-	2.4%	-	7.0%	-

PERF Absolute Returns: 10-Yr Cumulative

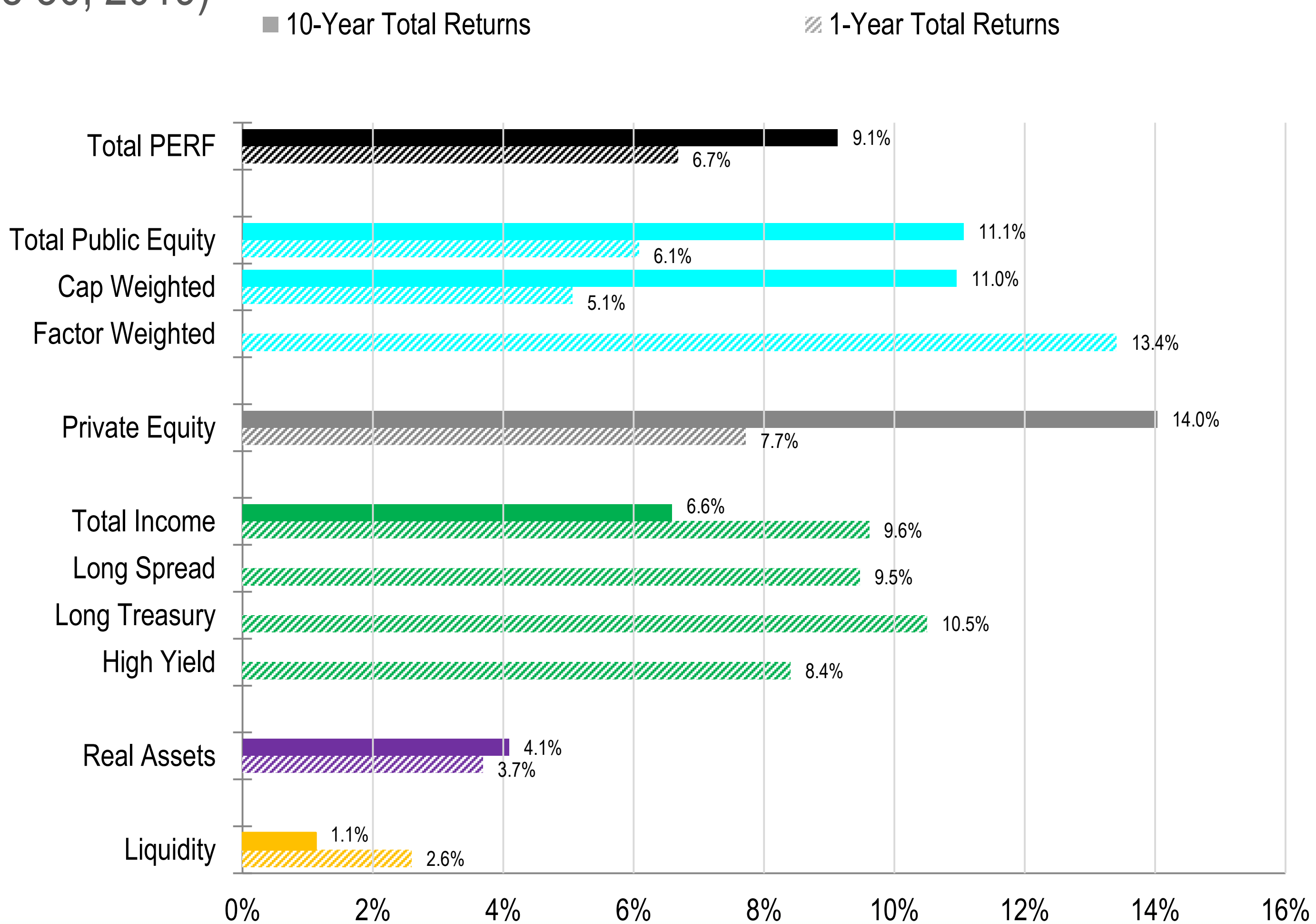
(as of June 30, 2019)



Note: Actuarial Rate of Return was 7.75% for FYs 2007/8-12/13, 7.5% for FYs 2013/14-16/17, 7.375% for FY 2017/18, and 7.25% for FY 2018/19.

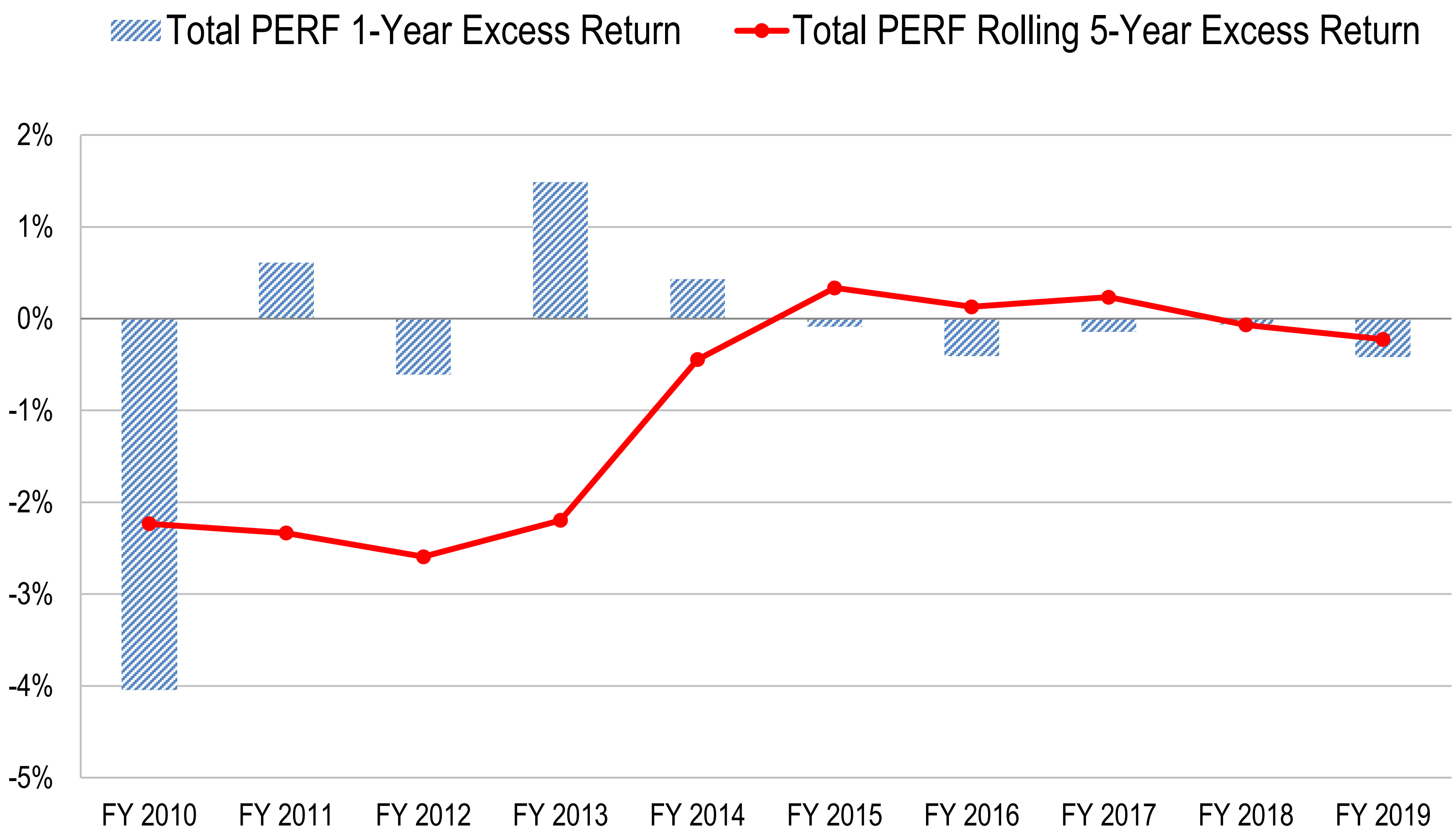
PERF Absolute Returns: 10-Yr vs. 1-Yr

(as of June 30, 2019)



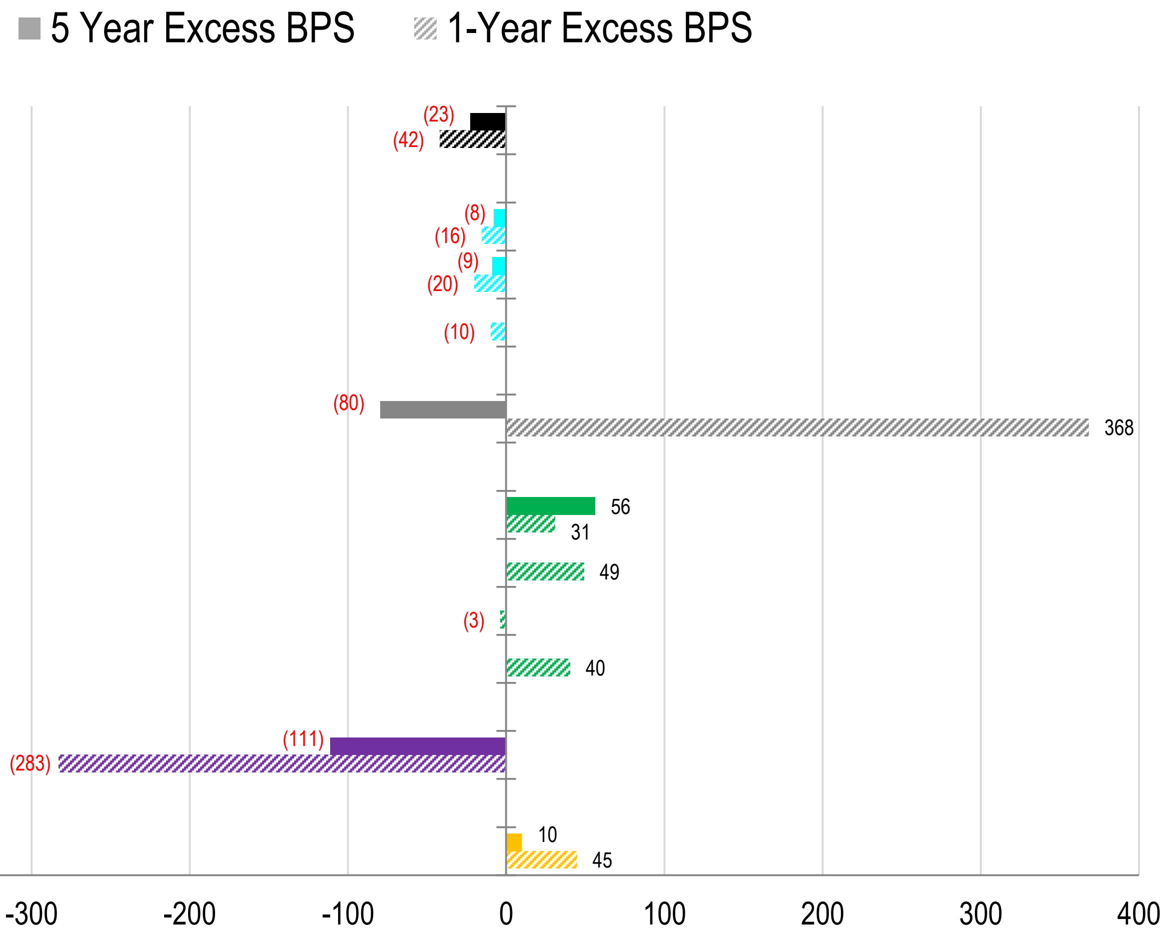
PERF Excess Returns: Rolling 5-Yr

(as of June 30, 2019)



PERF Excess Returns: 5-Yr and 1-Yr

(as of June 30, 2019)



PERF Excess Return Drivers

(as of June 30, 2019)

5 Year (-23 bps annualized excess return)

- \- Negative contribution from private assets
- \- Negative contribution from underweights to private assets requiring proxying with publics
- \+ Positive contribution from public assets, predominantly Income

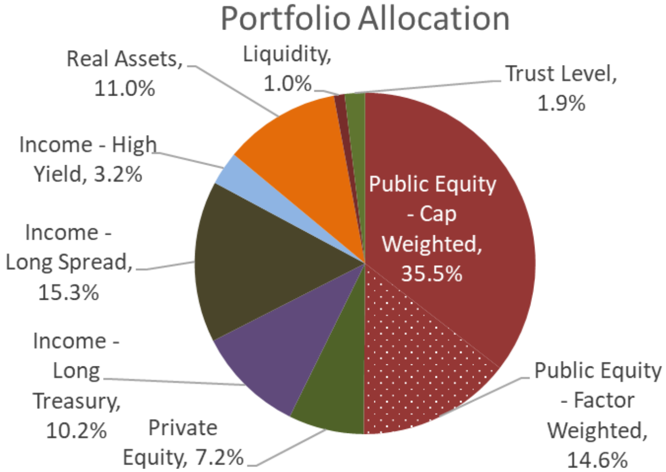
1 Year (-42 bps excess return)

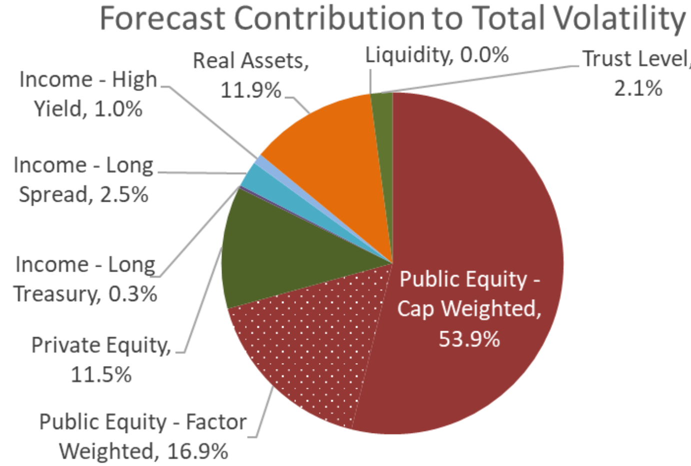
- \- Negative contribution from Real Assets, Public Equity, Trust Level and from Allocation Management
- \+ Positive contribution from Private Equity & Income

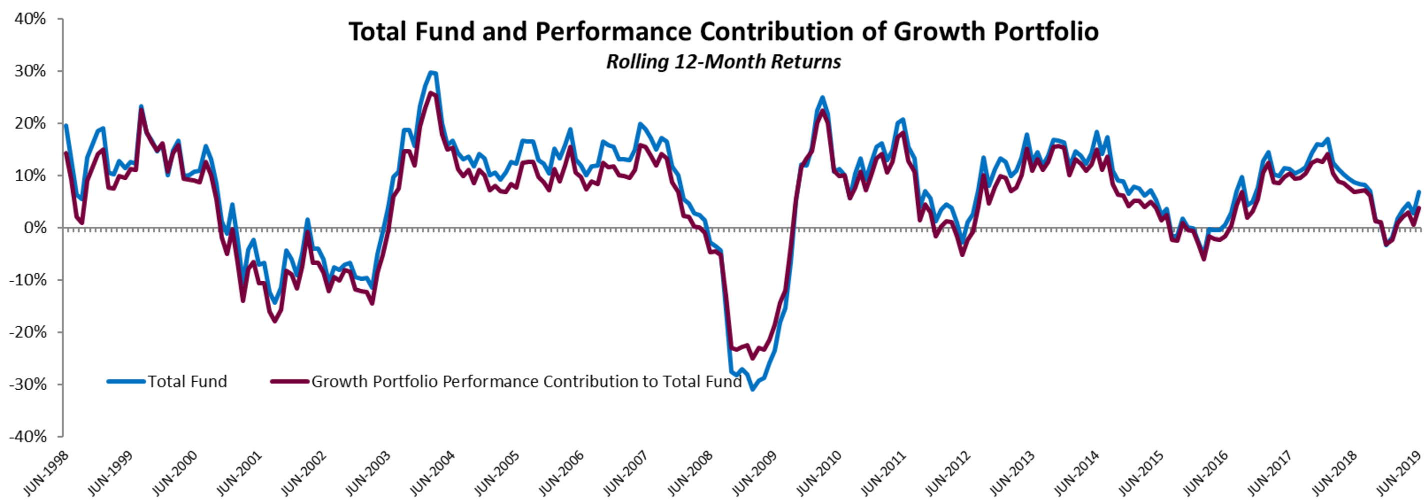
Risk

Growth Assets Dominate Risk

As of June 30, 2019

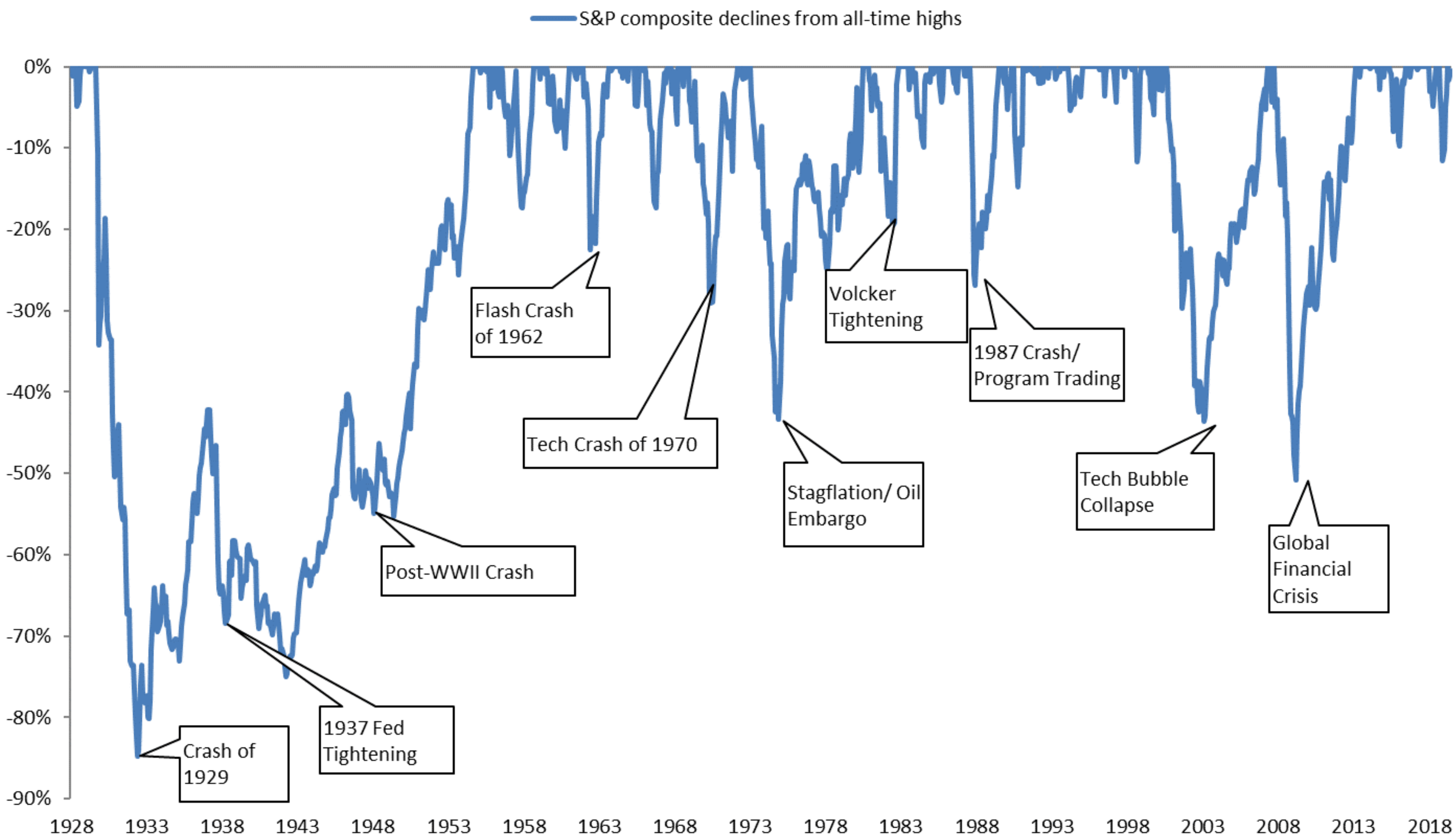






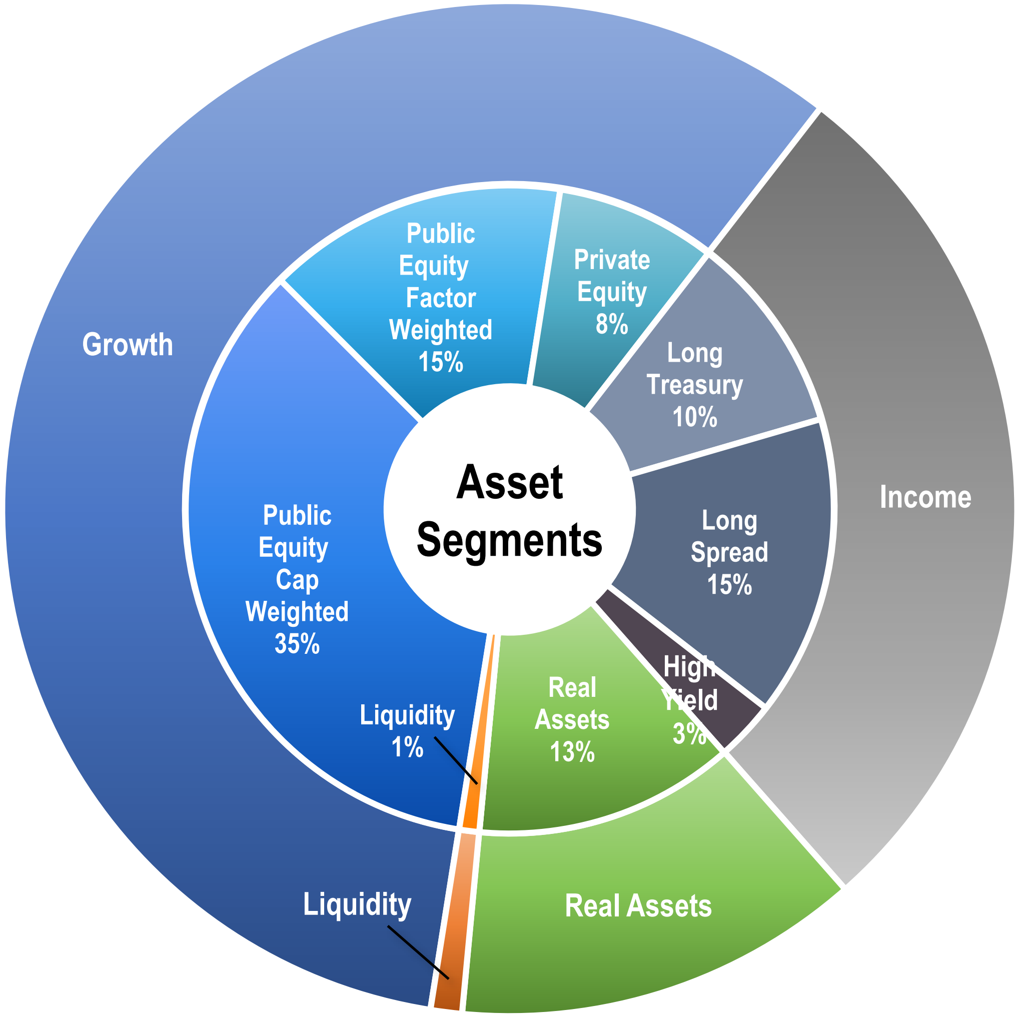
Source: BarraOne, State Street Bank

Historical Equity Market Drawdowns

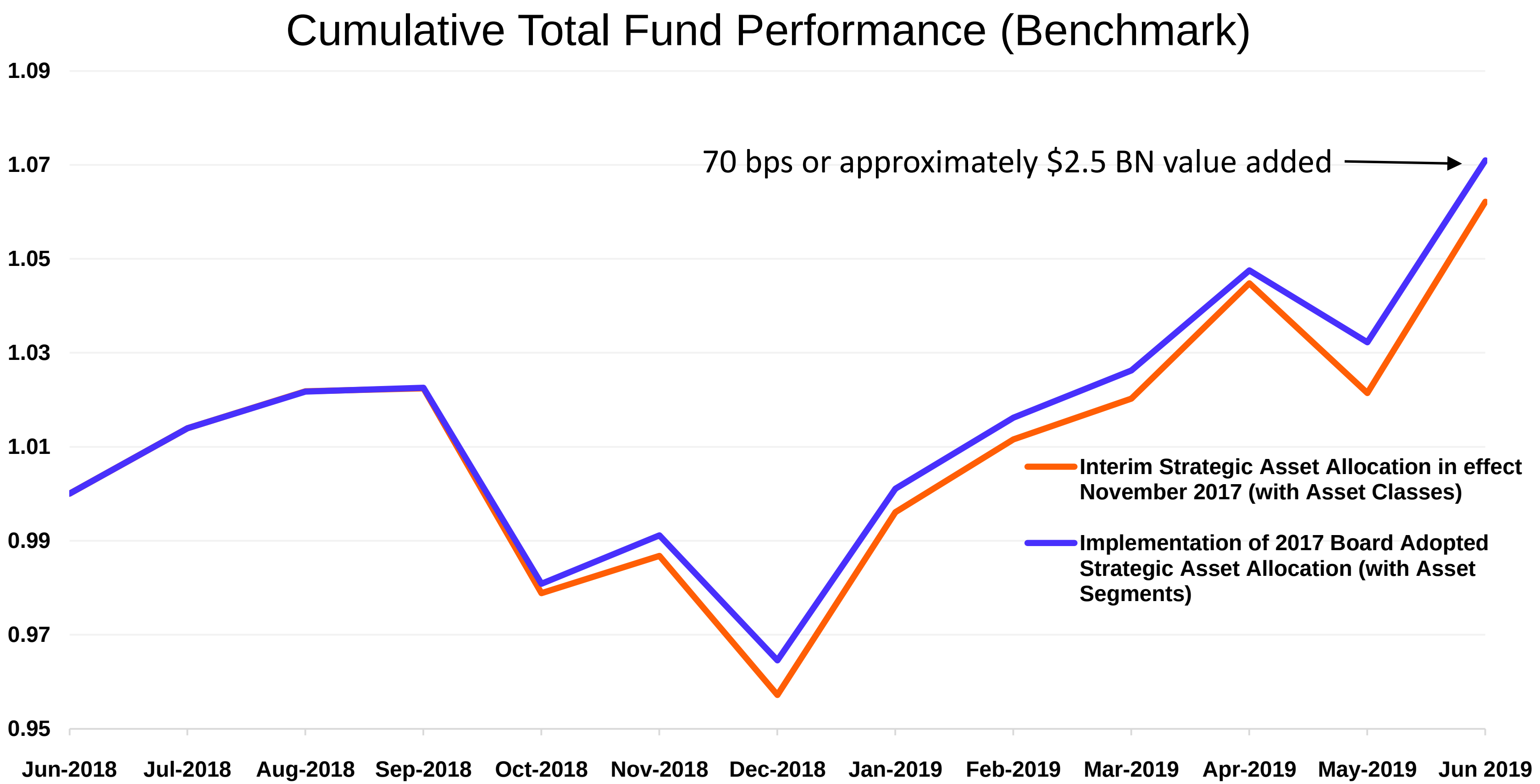


Source: Robert Shiller, Bloomberg, J.P. Morgan Asset Management, BarraOne
As of 6/30/19

Strategic Asset Allocation Policy Targets



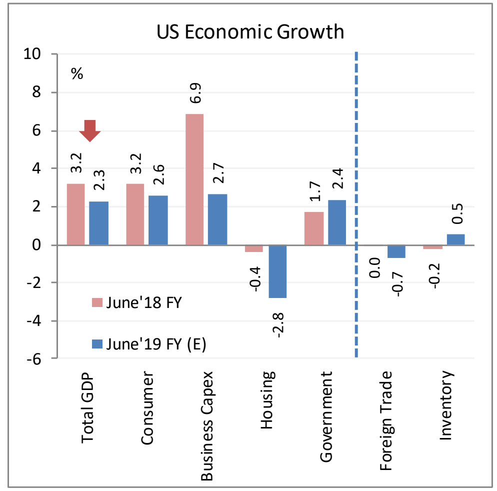
Impact of Adopted Strategic Asset Allocation

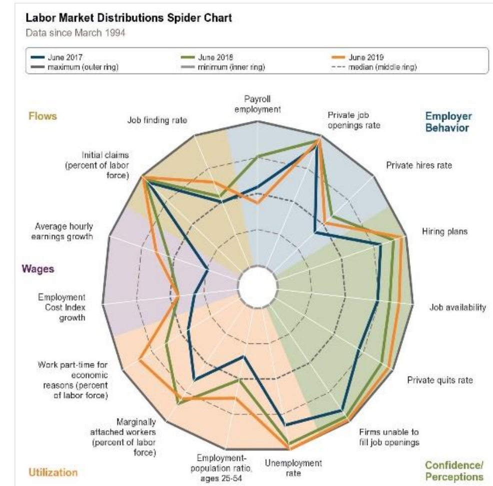


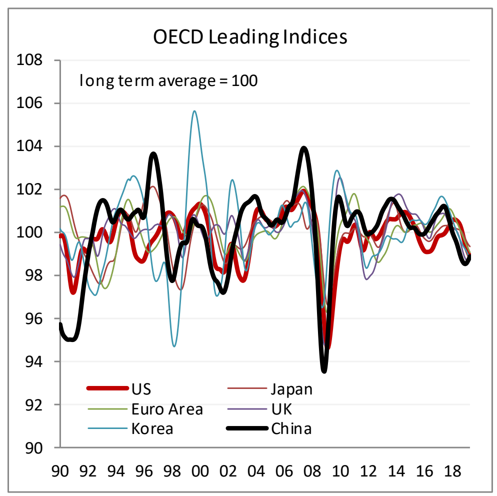
Economic Update

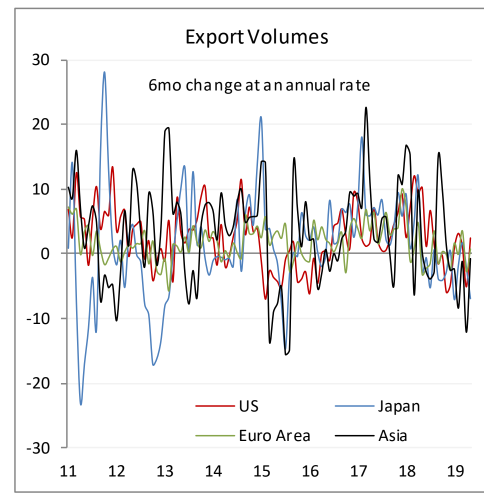
Review: fragile macro environment here and abroad

- US and global activity have slowed, and recession risk indicators have crept higher.
- “Trade wars” and the unwind of the US fiscal stimulus have been key factors.
- To date, weakness has been concentrated in capex and goods producing industries.
- The US consumer – and jobs market - have held up well … so far.
- Asset market returns have been prolonged by US corporate tax cuts, central bank “pivots” and China stimulus.









Outlook – risks and opportunities

- It is not clear that the easing of financial conditions here and abroad will deliver improved growth.
- Optimists say that a China trade deal would unlock pent-up activity, supplemented by a US budget deal.
  - But any incremental trade 'truce' is unlikely to fully allay concerns that have inhibited investment.
  - Investment is crucial, since long business cycles have depleted supplies of skilled labor.
- Thus, whilst economic growth and risk market returns are not highly correlated, this does not seem to be a promising environment for aggregate returns in the period ahead.
- The Fed has started to cut interest rates, history shows that subsequent asset price performance depends on whether that action proactively prolongs the expansion OR is too late to prevent a recession.