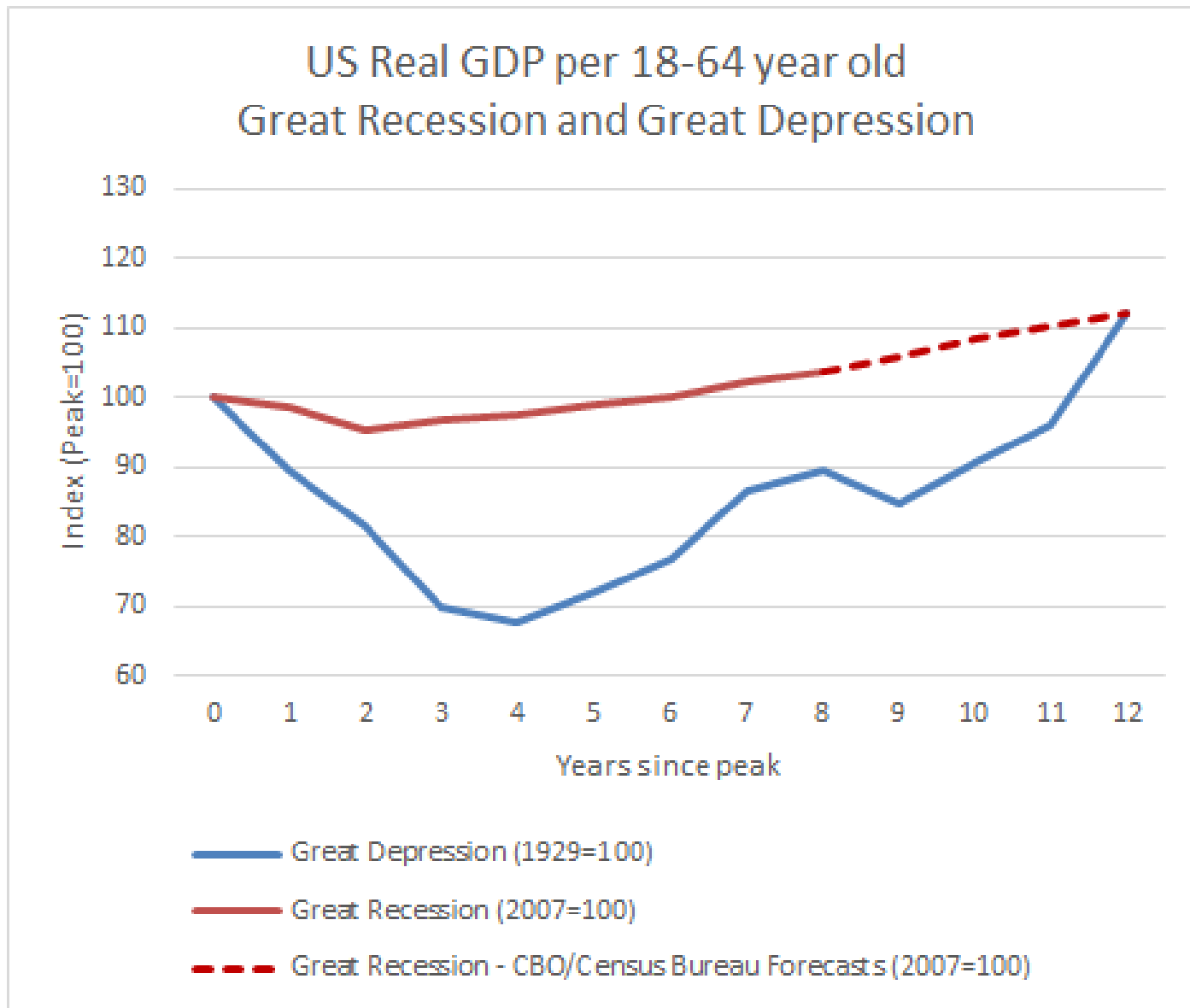


Secular Stagnation and Macroeconomic Policy

Mundell-Fleming Lecture
International Monetary Fund
November 3, 2016

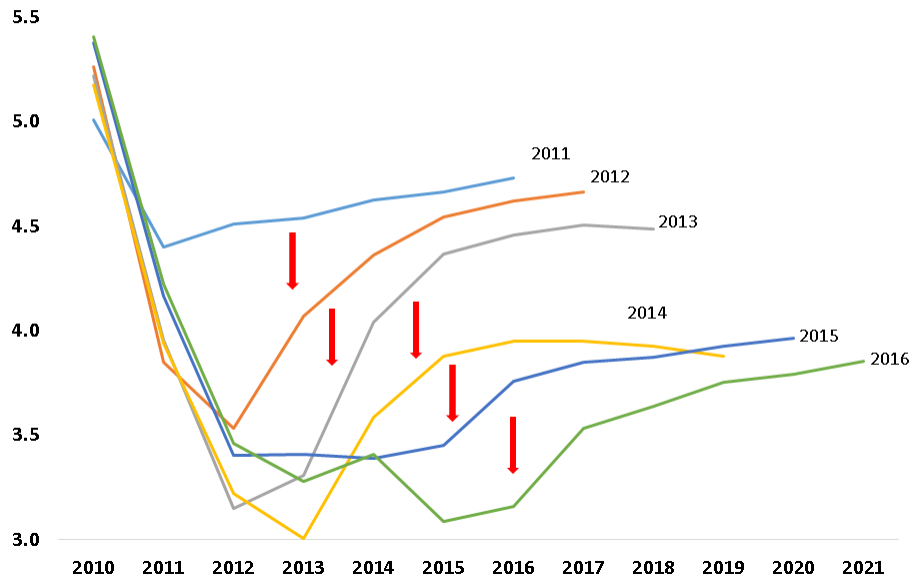
Lawrence H. Summers

Great Recession Very Damaging



Triumph of Hope Over Experience

World GDP Growth IMF Forecasts



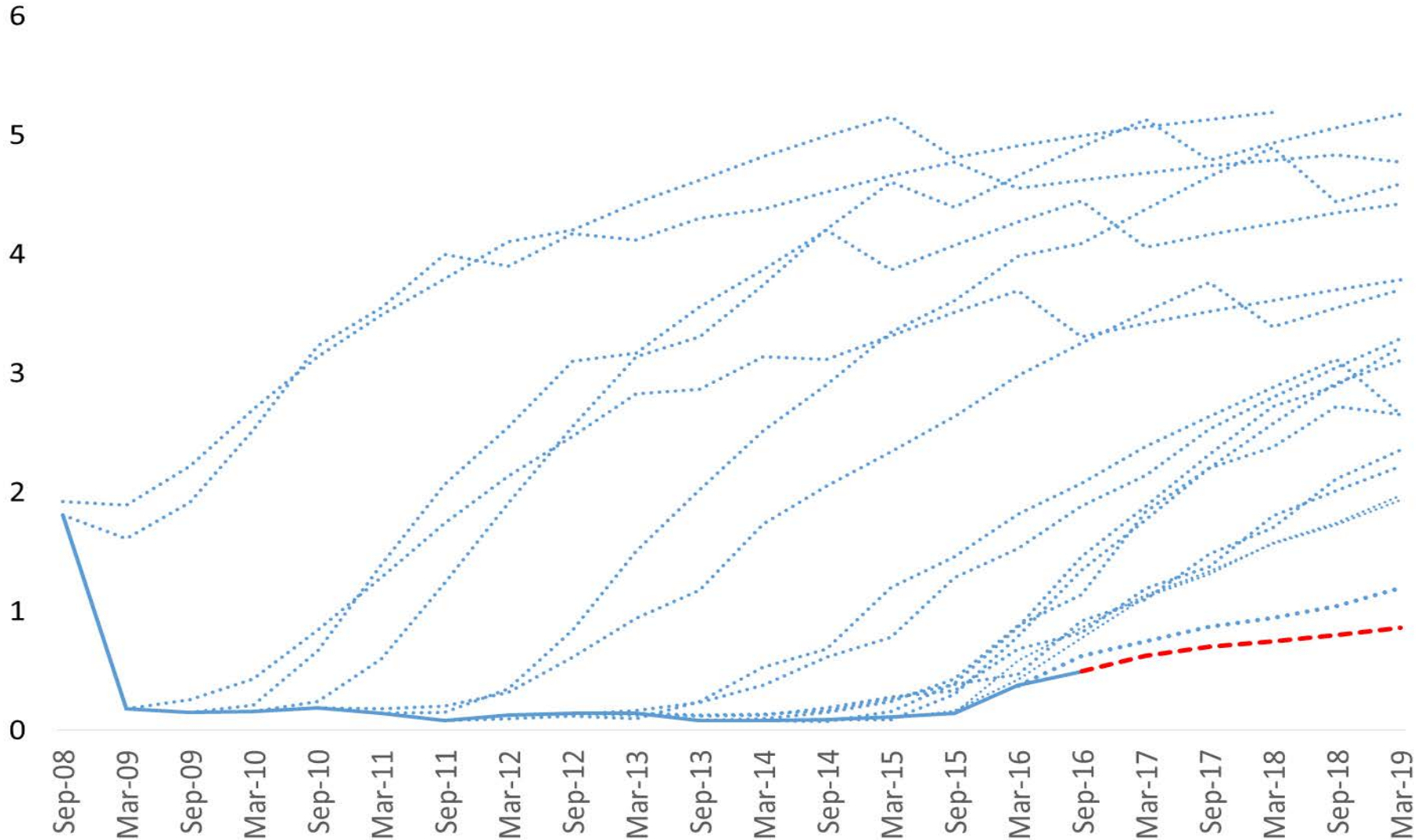
U.S. Year Ahead GDP Forecasts

	Prior June	Actual	Diff
2011	4.0	1.6	-2.4
2012	3.5	2.2	-1.3
2013	2.5	1.5	-1.0
2014	3.3	2.4	-0.9
2015	3.1	2.4	-0.7
2016	2.6	1.5 *	-1.1*

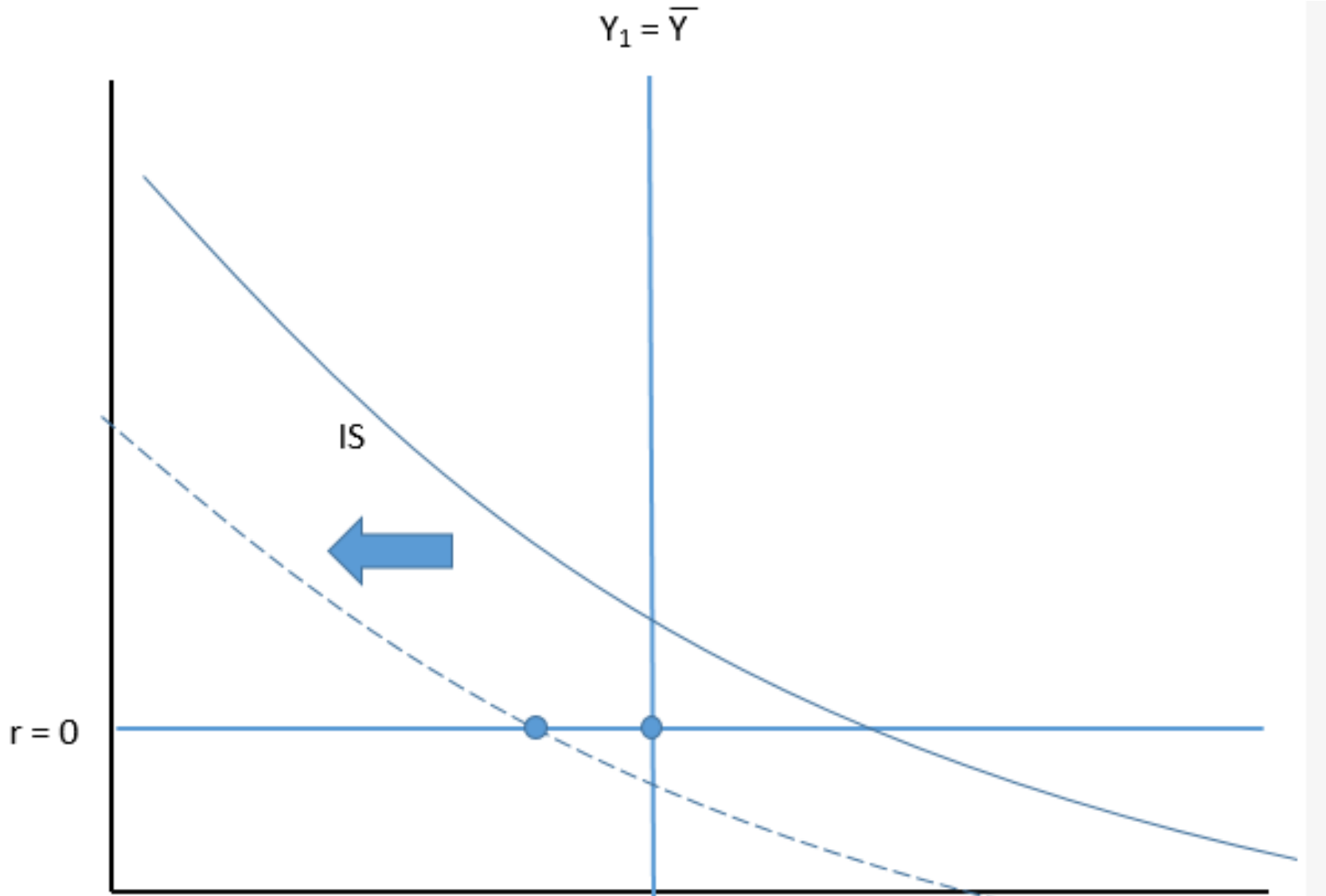
Federal Reserve Economic Projections

Market Has Been Too Optimistic

Forward OIS Curve, Past and Current

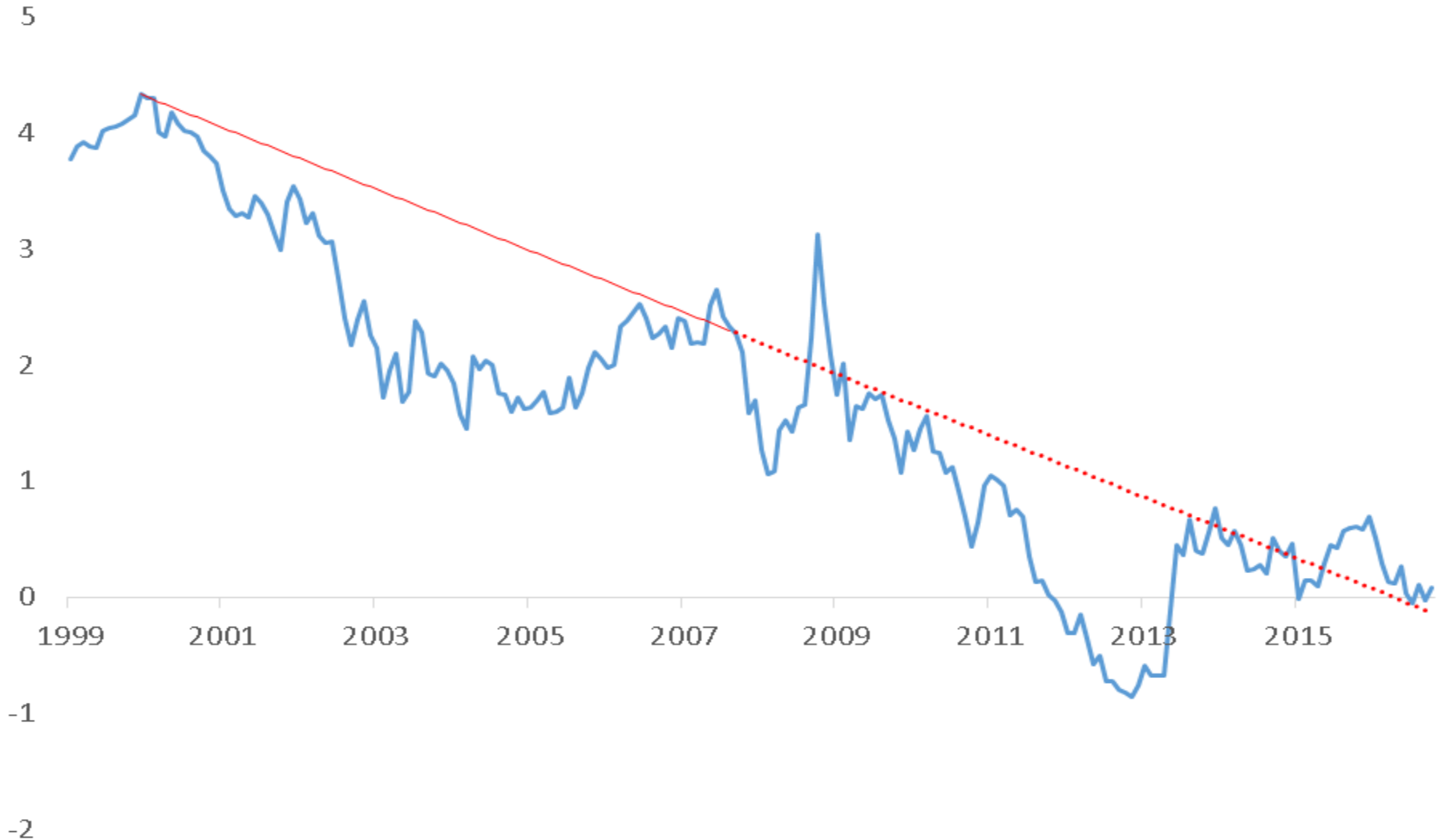


Secular Stagnation



Real Rates Have Fallen Steadily

US TIPS 10 Year Real Yield

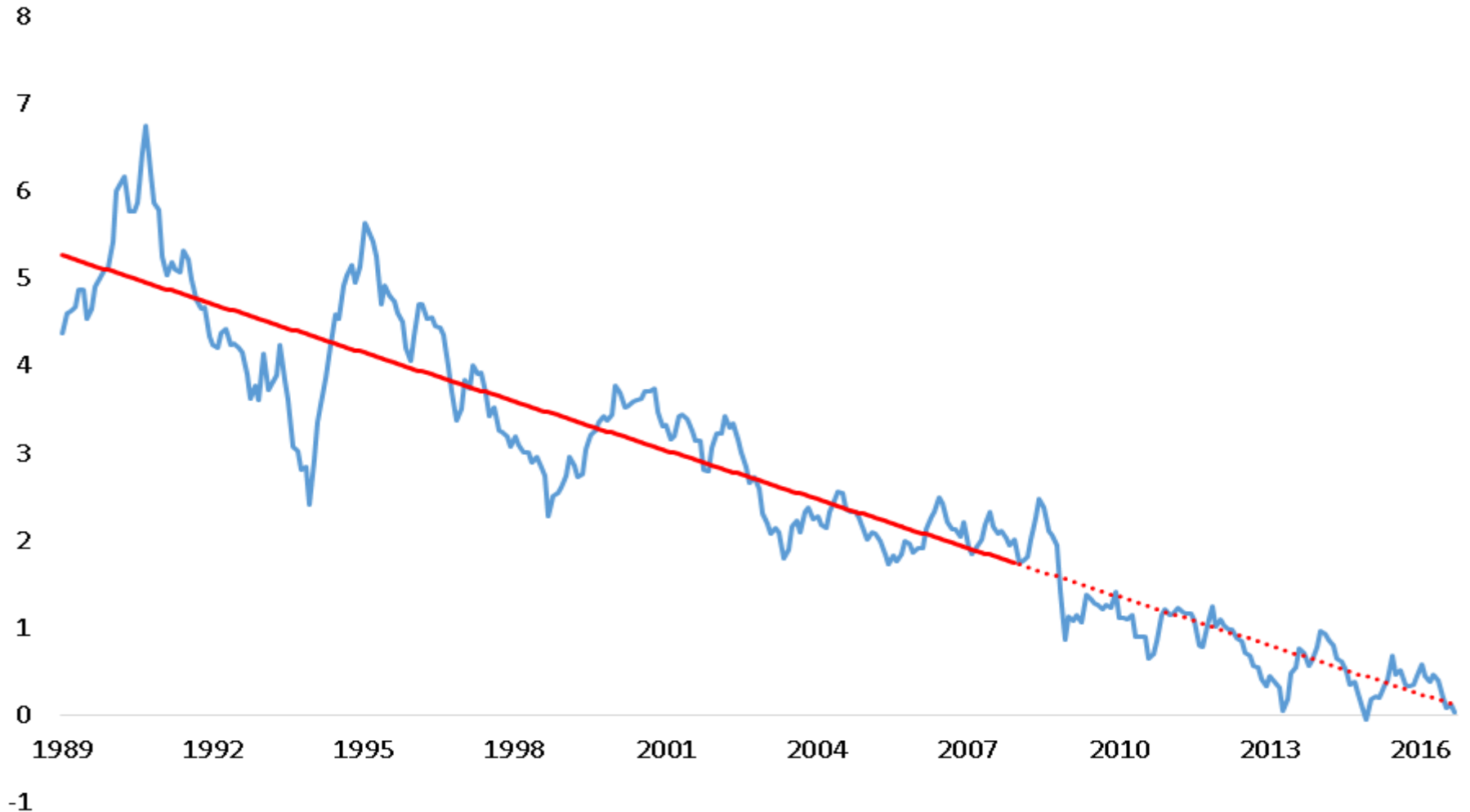


Sources: Bloomberg November 2, 2016

Along With Rates In The Rest Of World

Rest of World Real Rate

(10 Year Yield - 5 Year Prior Inflation, Weighted By PPP GDP)

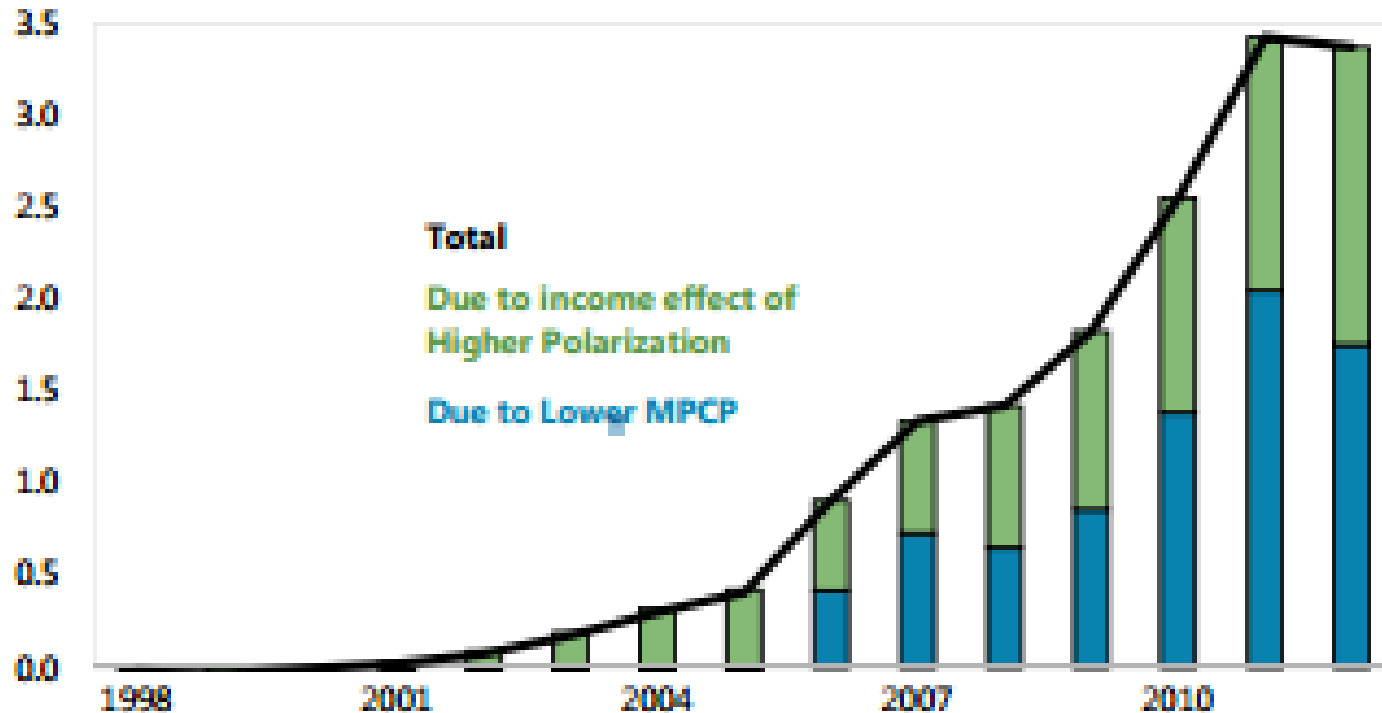


Secular Stagnation Then and Now

	Nov 2013	
	Expectations	Now
Output*	2.4%	2.1%
Inflation		
PCE Core*	1.9%	1.6%
5 Year/5 Year Expectations	2.5%	1.5%
Ten Year Interest Rate	2.8%	1.8%
Ten Year Real Rate	0.6%	0.0%
Fed Neutral Rate	4.0%	2.9%
Market Terminal Rate (OIS)	4.1%	2.0%

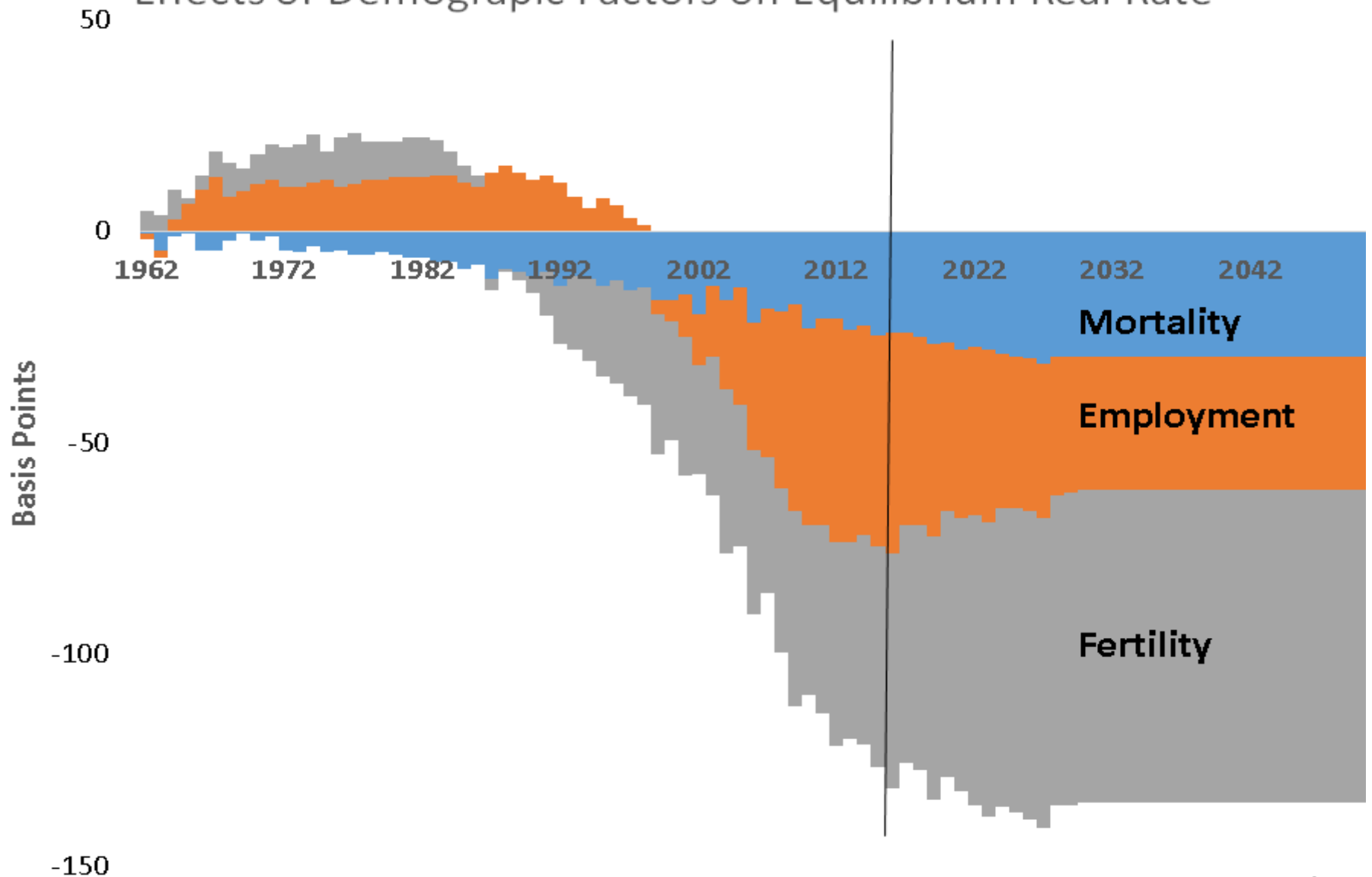
Income Inequality and Secular Stagnation

Cumulative Consumption Loss 1998-2013 (%pts off level of consumption)



Demography and Secular Stagnation

Effects of Demographic Factors on Equilibrium Real Rate



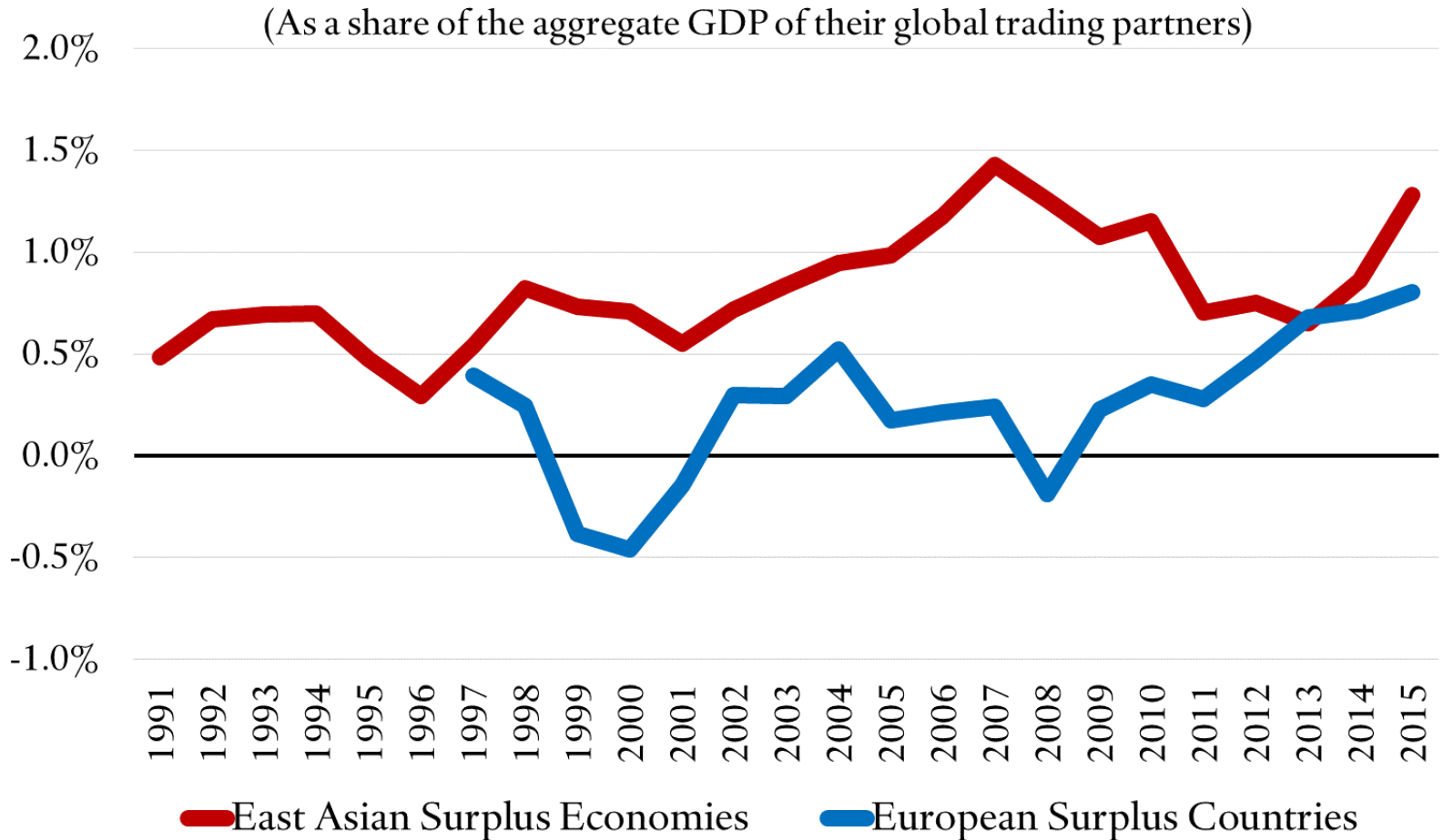
Leading Companies Require Less Investment

	Market Cap	Property, Plant and Equipment	Multiple
Berhire Hathaway	355	145	2.4x
Exxon	361	252	1.4
GM	50	31	1.6
Verizon	211	84	2.5
Walmart	223	117	1.9
Amazon	397	22	18.2
Apple	606	25	23.8
Facebook	370	6	65.0
Google	540	29	18.6

(Billions)

Capital Flows and Secular Stagnation

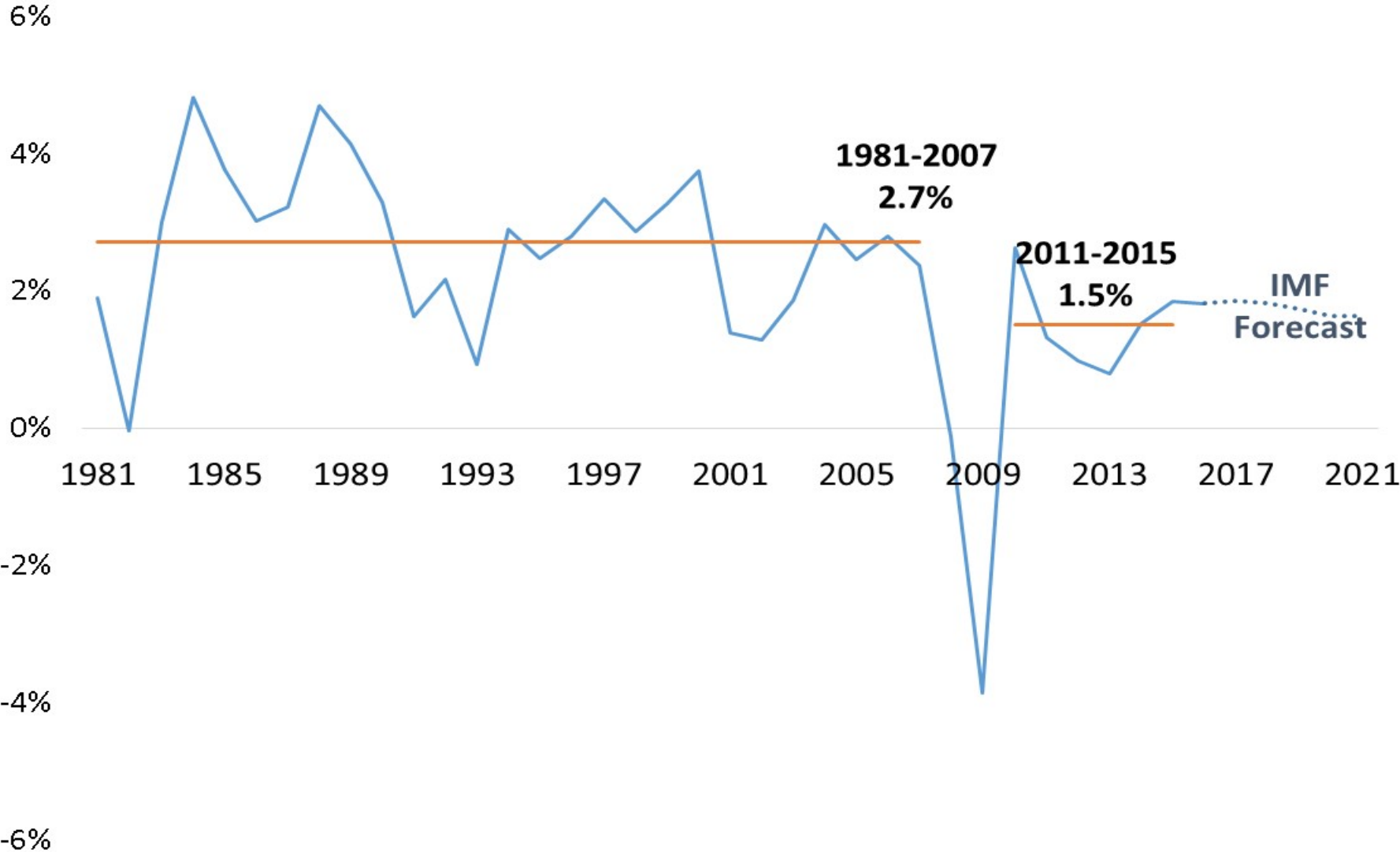
Current Account Surplus in East Asian Surplus Economies Versus European Surplus Economies
(As a share of the aggregate GDP of their global trading partners)



Sources: IMF; State Administration of Foreign Exchange; Haver Analytics.

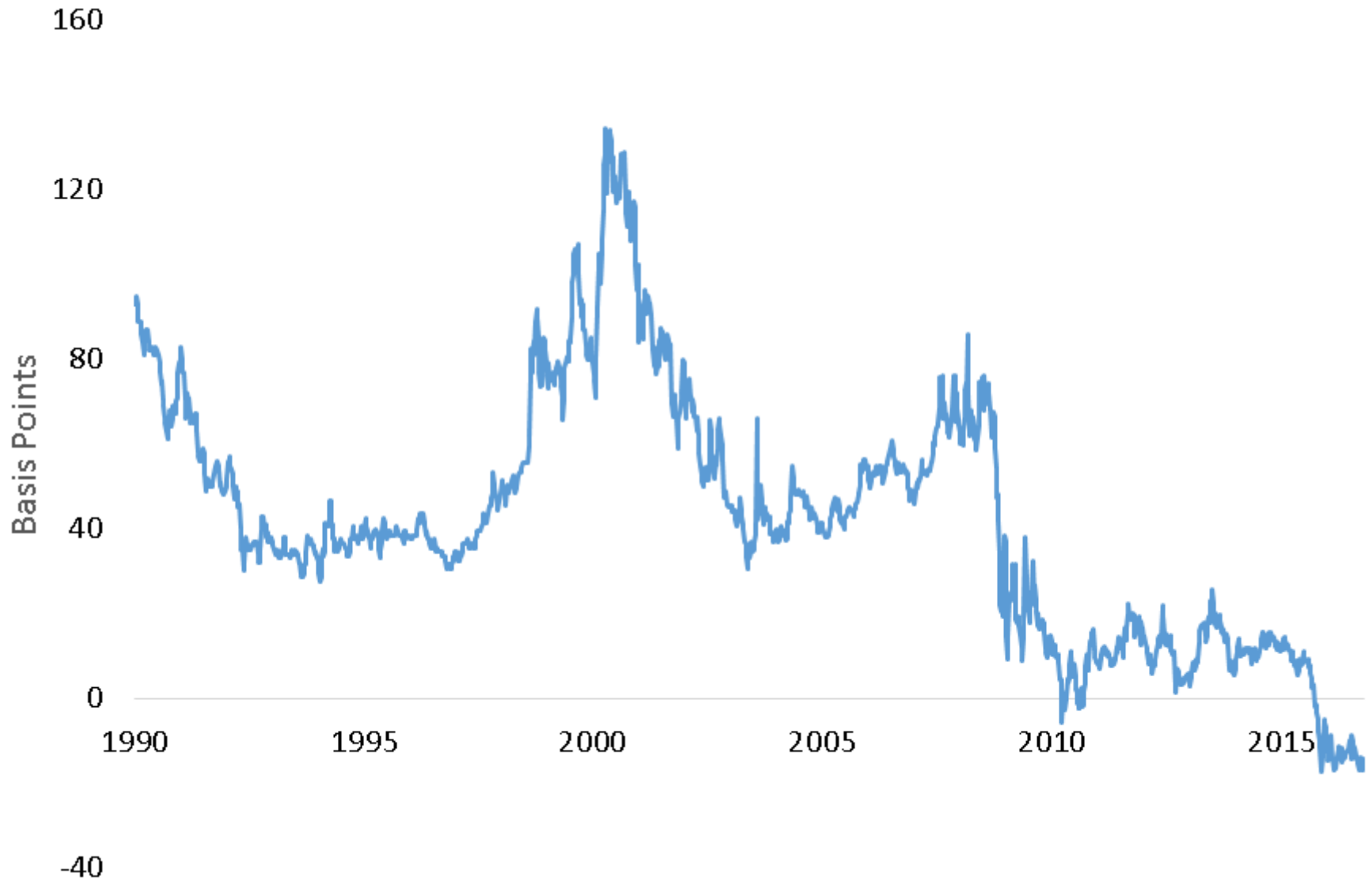
Growth at a Permanently Lower Plateau?

US, EU and Japan Nominal Growth

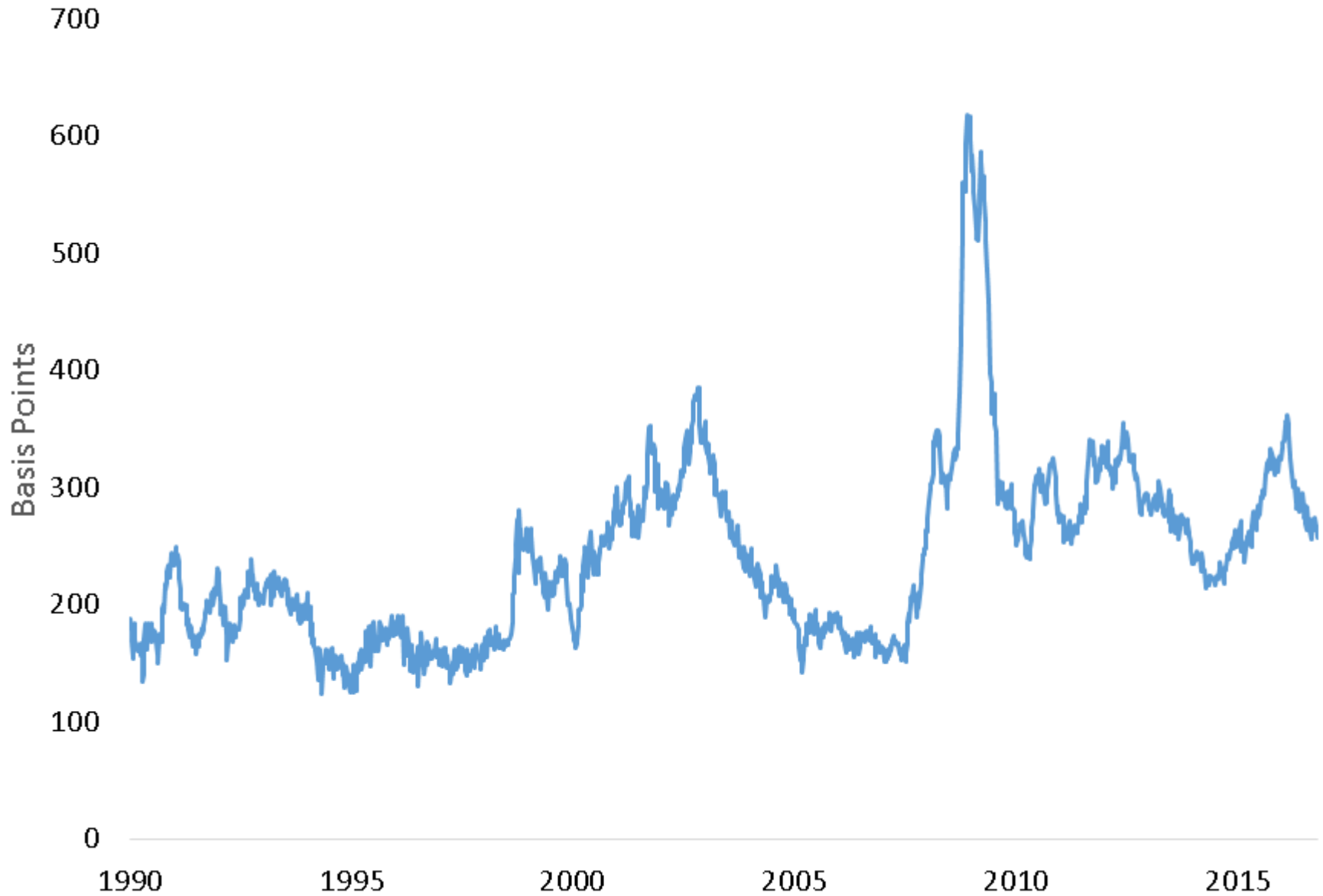


Sources: IMF, Countries weighted by PPP

Ten Year Swap Spread

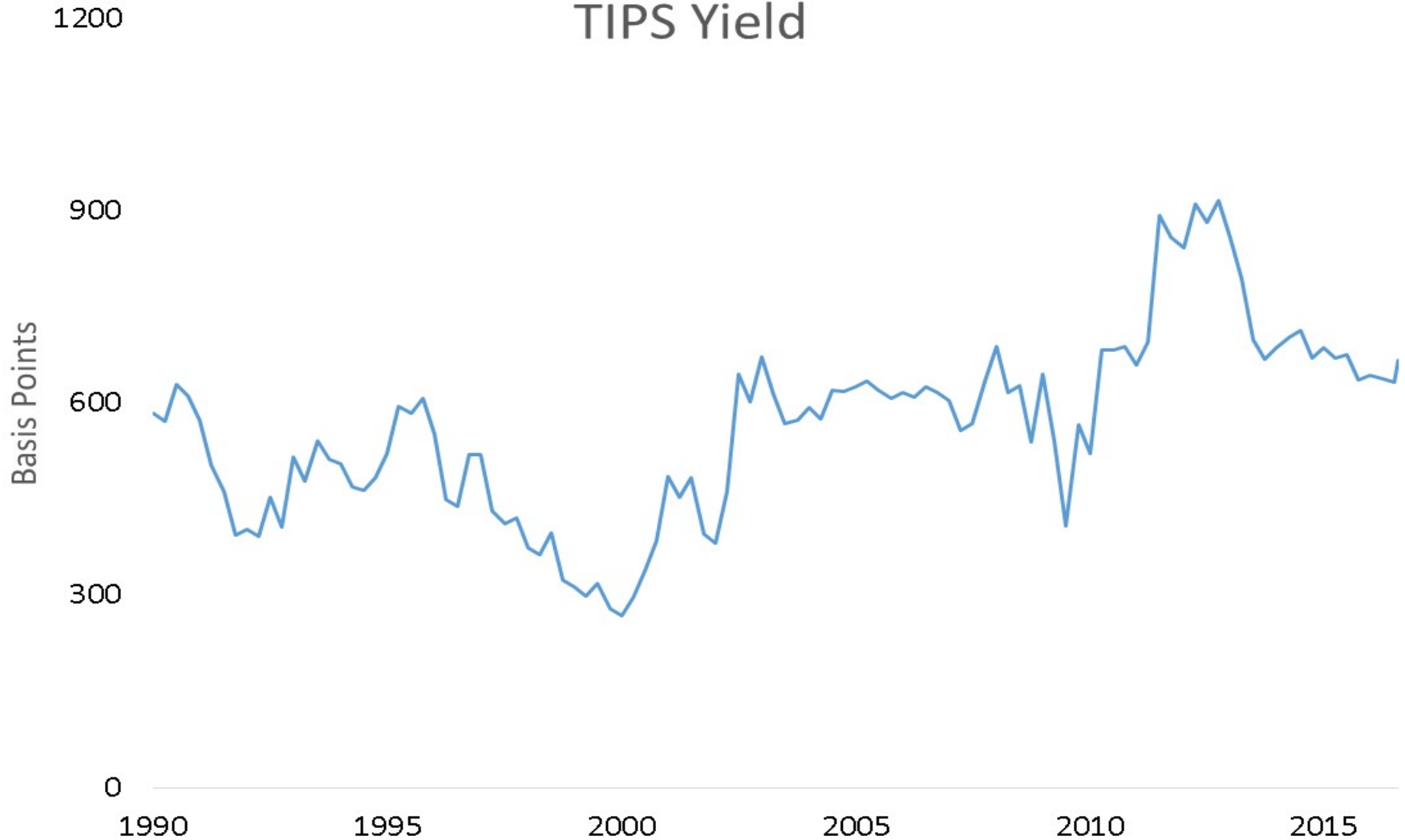


BAA Spread Above Ten Year Treasury



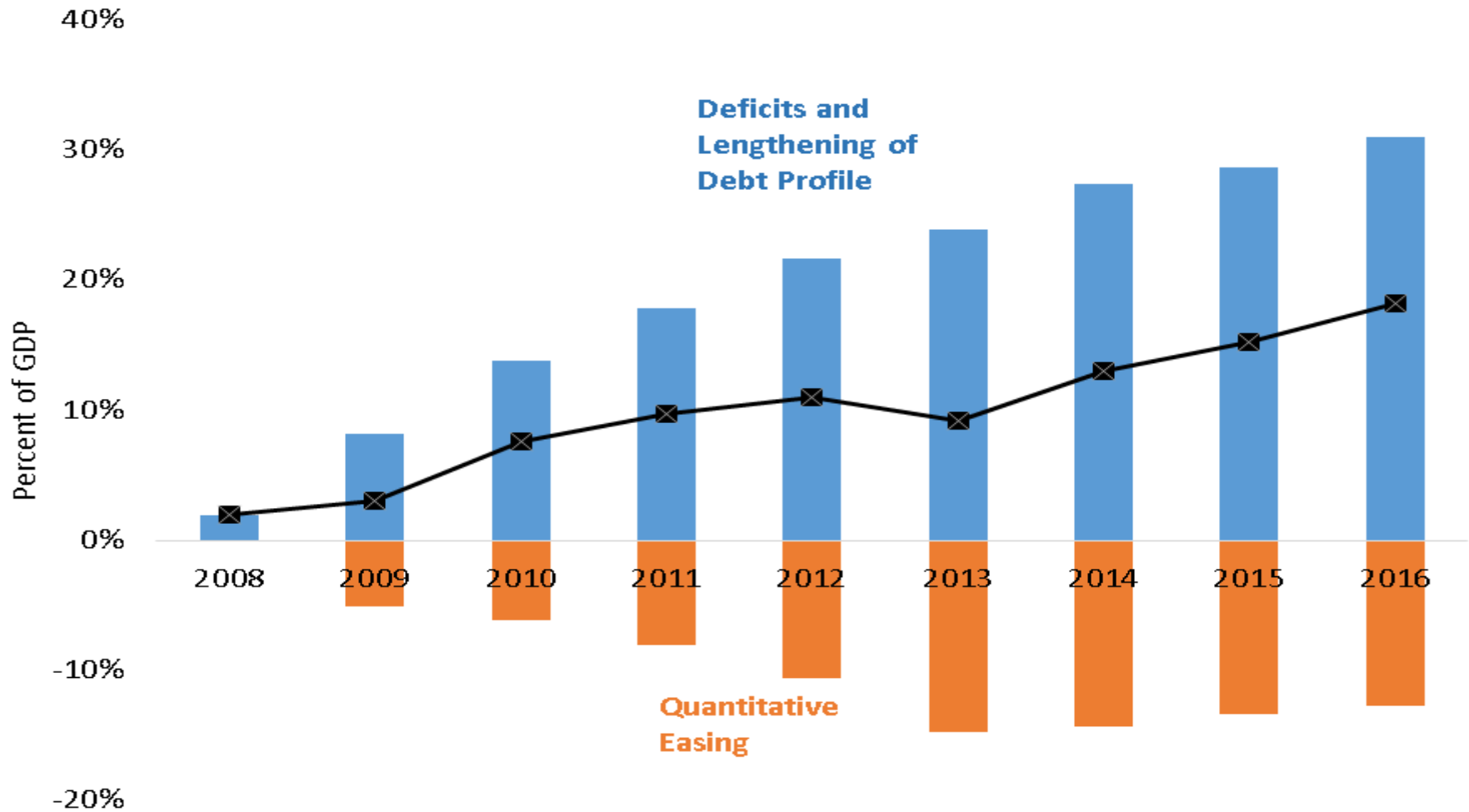
Stock Prices Reflect Slower Growth

S&P 500 Earnings Yield + Potential Growth -
TIPS Yield



Debt Stock Rising Rapidly Despite QE

Change in Ten Year Equivalent Debt Stock



Always A Decent Chance of Recession Intermediate Term

Three+ Year Old Expansions Percent of Time Recession Within:

	2 Years	3 Years	5 Years
Japan	30%	40%	54%
Germany	53%	74%	98%
UK	28%	40%	63%
US	43%	63%	88%

* 1970-on

Large Rate Cuts Are Often Necessary

Real Funds Rate Easings

	Start	Final	Easing
May-60	1.9	-0.1	2.0
Aug-66	3.1	0.7	2.3
Nov-70	4.5	-0.9	5.4
Nov-74	6.4	-1.6	8.0
May-81	8.7	-0.1	8.8
Sep-84	7.6	3.4	4.2
Nov-90	5.5	0.1	5.4
Dec-00	4.8	-0.4	5.2
Aug-07	3.3	-1.1	4.4
			5.1

Zero Long-Term Real Rate: Swaps

10 Yr Interest Rates and Expected Inflation			
	USA*	Japan	Euro
Nominal Swap Rate	1.29	0.07	0.26
- Inflation Swaps	1.66	0.20	1.15
Real Swap Rate	-0.36	-0.13	-0.89

*Adjusted for the 0.35 Percentage Point Avg. Difference Between CPI and Federal Reserve's Preferred PCE Inflation Rate

Ultra-High Duration Bond Demand

