

The Equilibrium Real Rate in Advanced Economies:

Boston Federal Reserve Conference: What Are the
Consequences of Long Spells of Low Interest Rates?

September 8, 2018

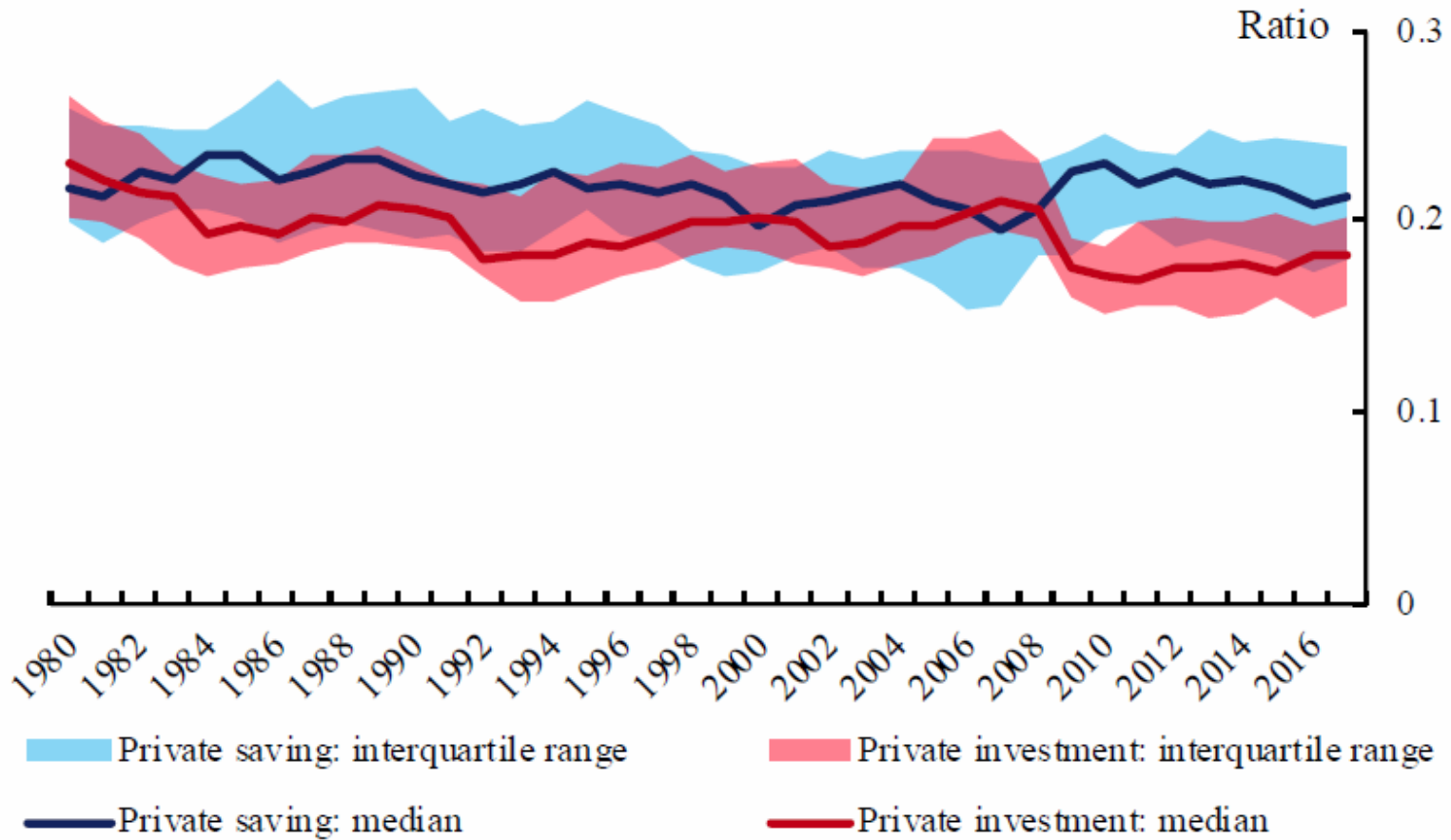
Lawrence H. Summers

Now Vs November 2013

	Nov 2013 Expectations	Actual 2014-Present
Budget Deficit, 2014-2020	4.4 Trillion	5.0 Trillion
Average Fed Funds Rate	1.3%	0.6%
Funds Rate August 2018	3.16%	1.88%
Output	2.4%	2.4%
PCE Core Inflation	1.9%	1.6%
Ten Year Interest Rate	2.8%	2.3%
Ten Year Real Rate	0.6%	0.5%
Fed Neutral Rate	4.0%	2.9%

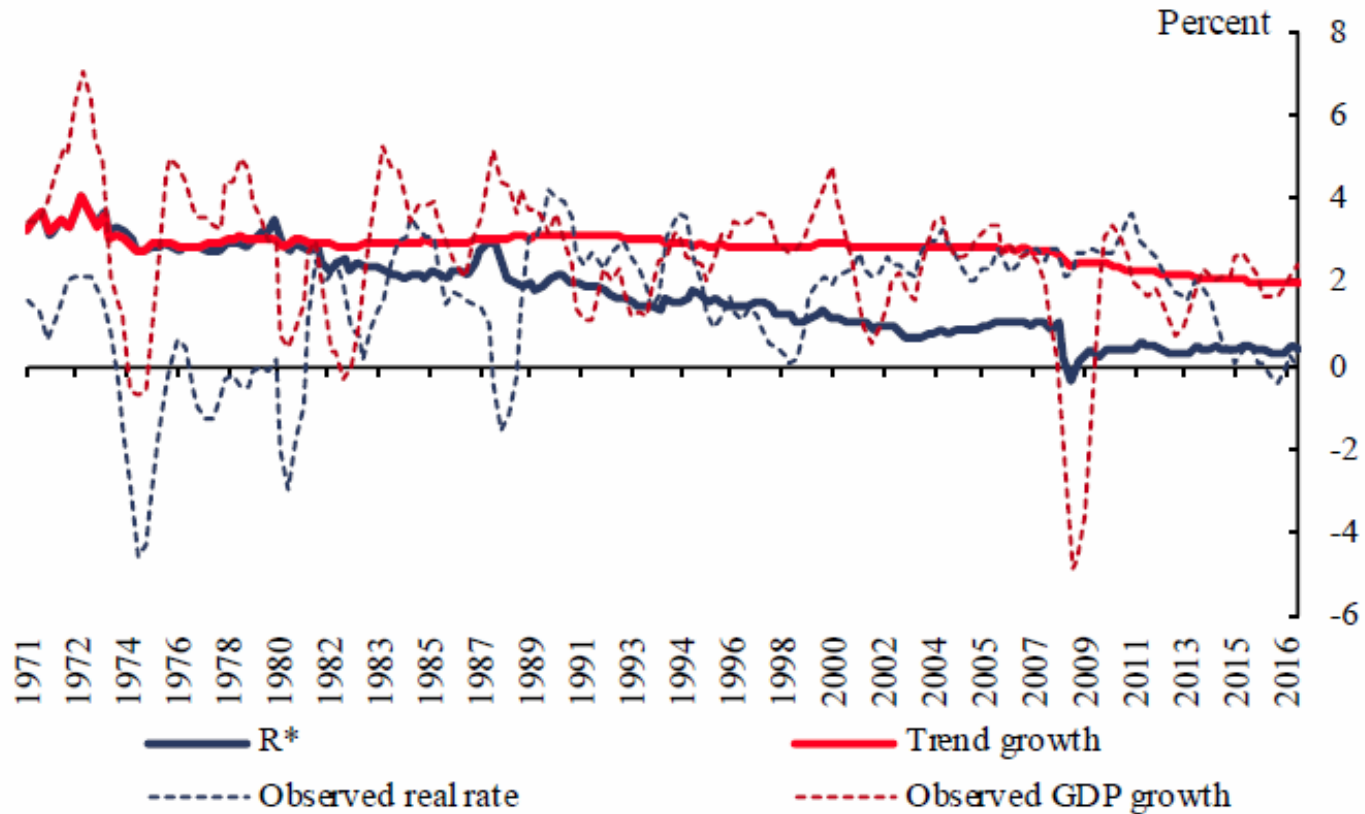
Private Savings Has Outstripped Investment

Private sector saving-to-GDP and investment-to-GDP ratios in advanced economies



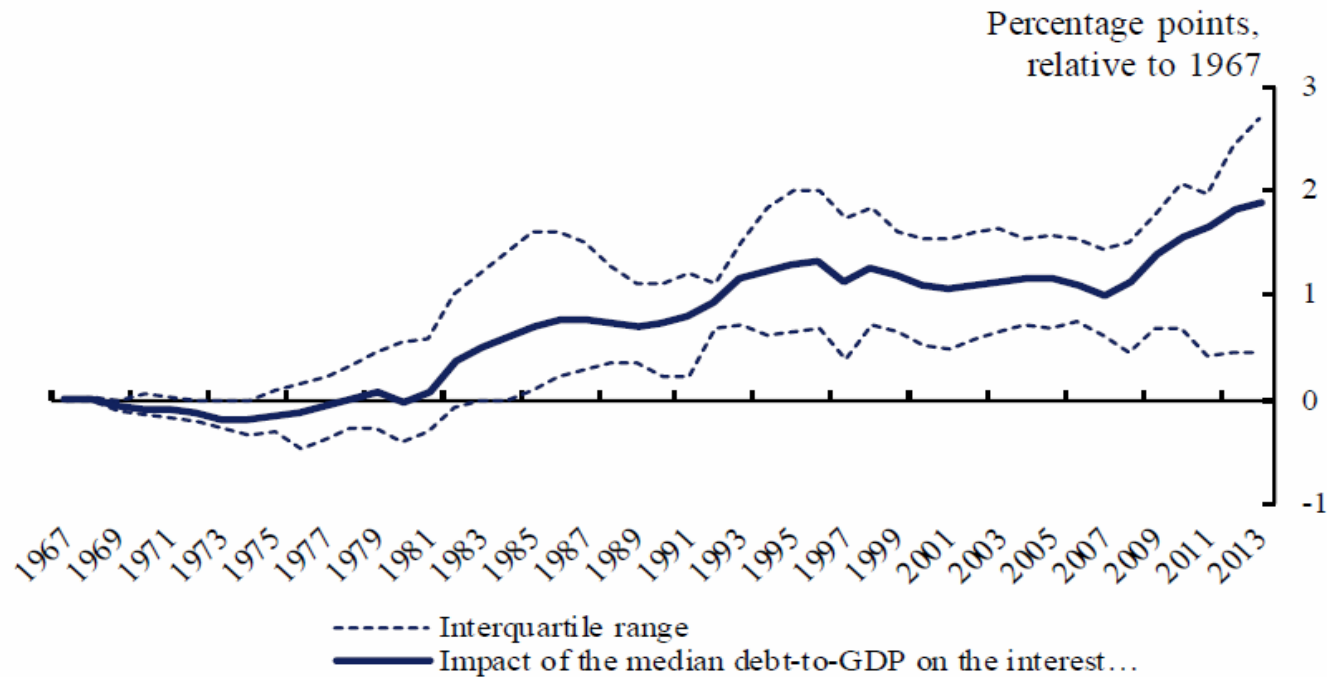
Equilibrium Real Rate Has Declined Much More Than Growth

AEs R^* and trend growth



Advanced Economies Rates Have Been Affected By Rising Debt Levels

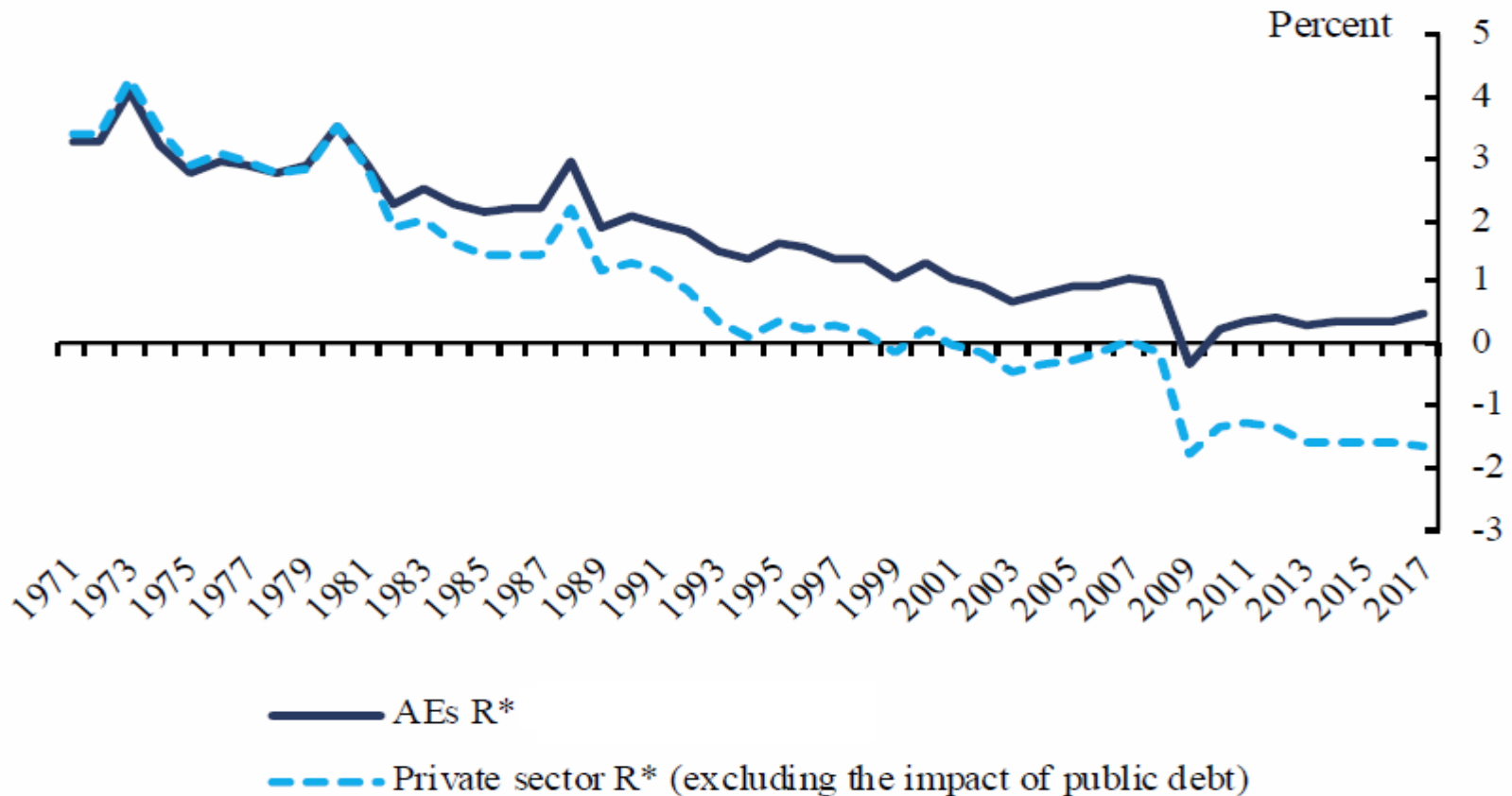
Impact of government borrowing on the equilibrium rate in advanced economies



Note: Constructed using the panel of 17 advanced economies' debt-to-GDP from the Jorda-Schularick-Taylor database. Assumes that an additional 1pp increase in the ratio of government debt to GDP raises interest rates by 3.5bp.

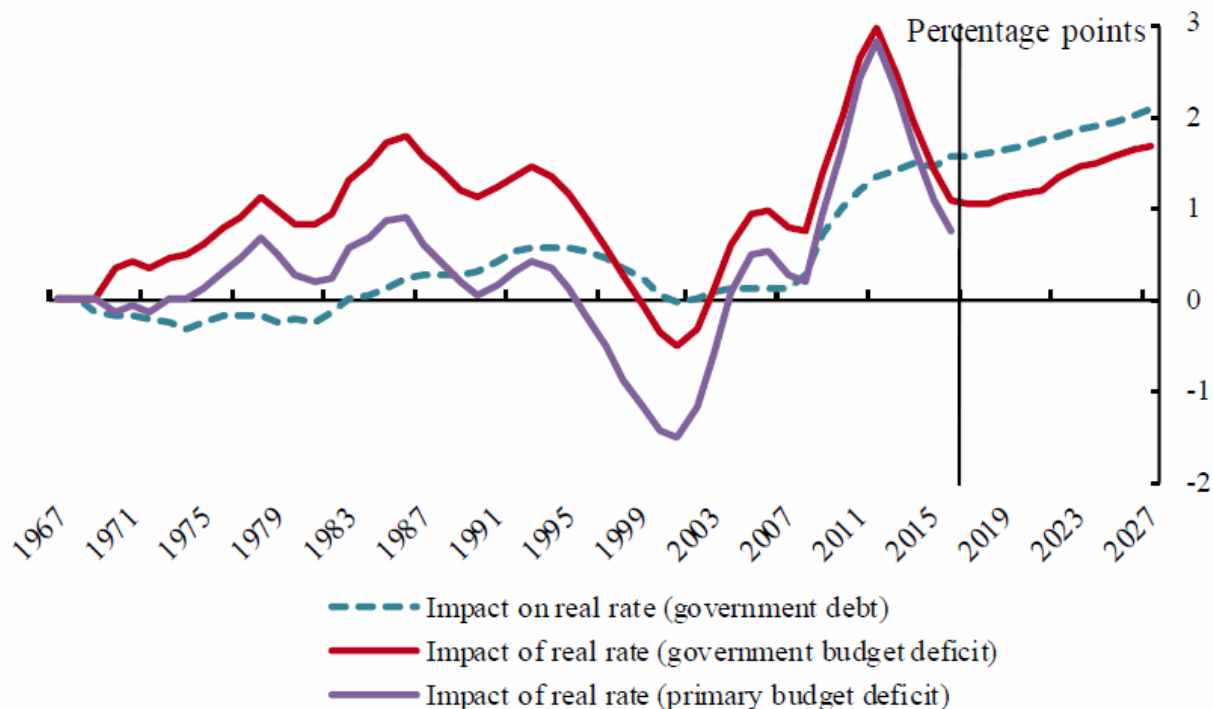
Without Debt Effects Neutral Rates Would Be Decidedly Negative

Advanced economies R* adjusted for the impact of government debt



The U.S. Experience is Fairly Typical

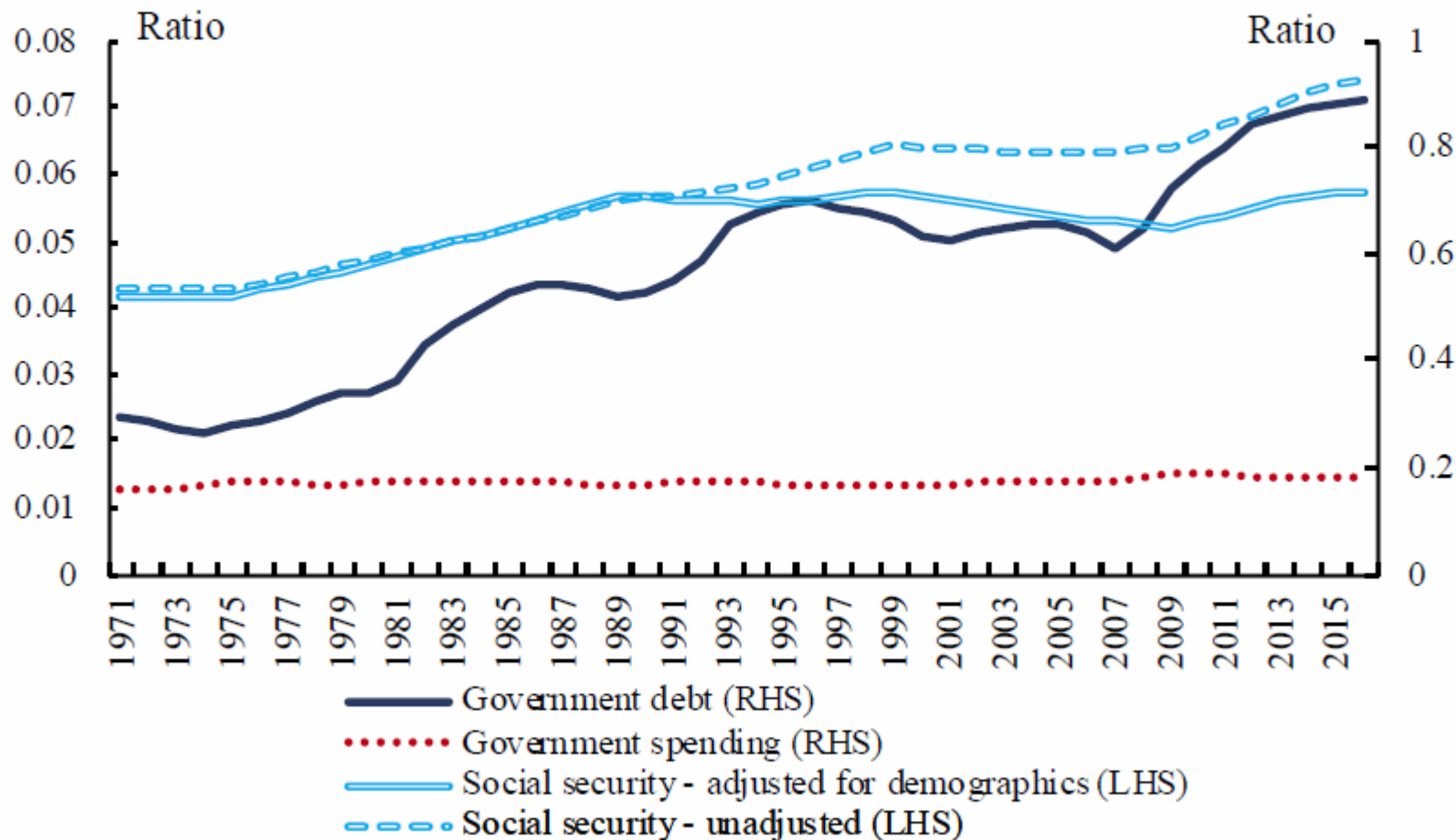
Impact of government borrowing on US interest rate



Note: The calculation underlying the deficit line assumes that a 1pp increase in government deficit raises the interest rate by 35bps. The corresponding figure for debt is 3.5bps. Both figures are meant to represent the consensus in the literature discussed above.

Growth in Government Debt and Paygo Pensions

Advanced economies government policy ratios (in proportion to GDP)



Theoretical and Empirical Decline in AER In Synchron

Changes in the equilibrium real interest rate as a result of policy, demographic and technological shifts

