Safe Assets and the Real Rate of Interest

Christopher Waller
Executive Vice President and Director of Research
Federal Reserve Bank of St. Louis

Financial Cycles and Policy Response in Latin America

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Any opinions expressed here are my own and do not necessarily reflect those of the Federal Open Market Committee participants.

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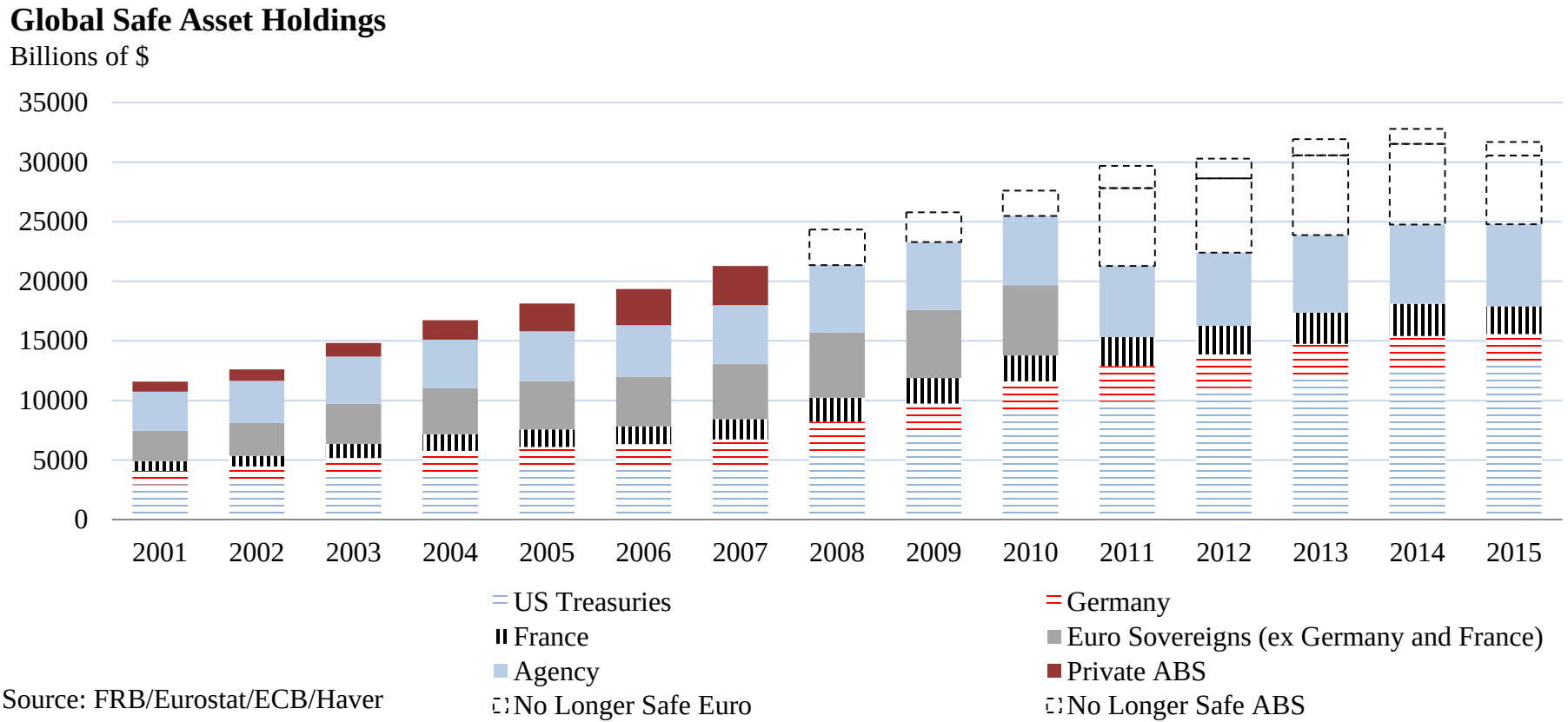
Motivation and Key Questions

- For some countries, sovereign debt is often viewed as "risk-free." Thus, we often call them "safe assets."
- The demand for these safe assets has risen over time—but particularly since the global financial upheaval in 2008.
- Consequently, yields on U.S. Treasuries – as well as the world long-term real interest rate – have been falling since the early 1980s.

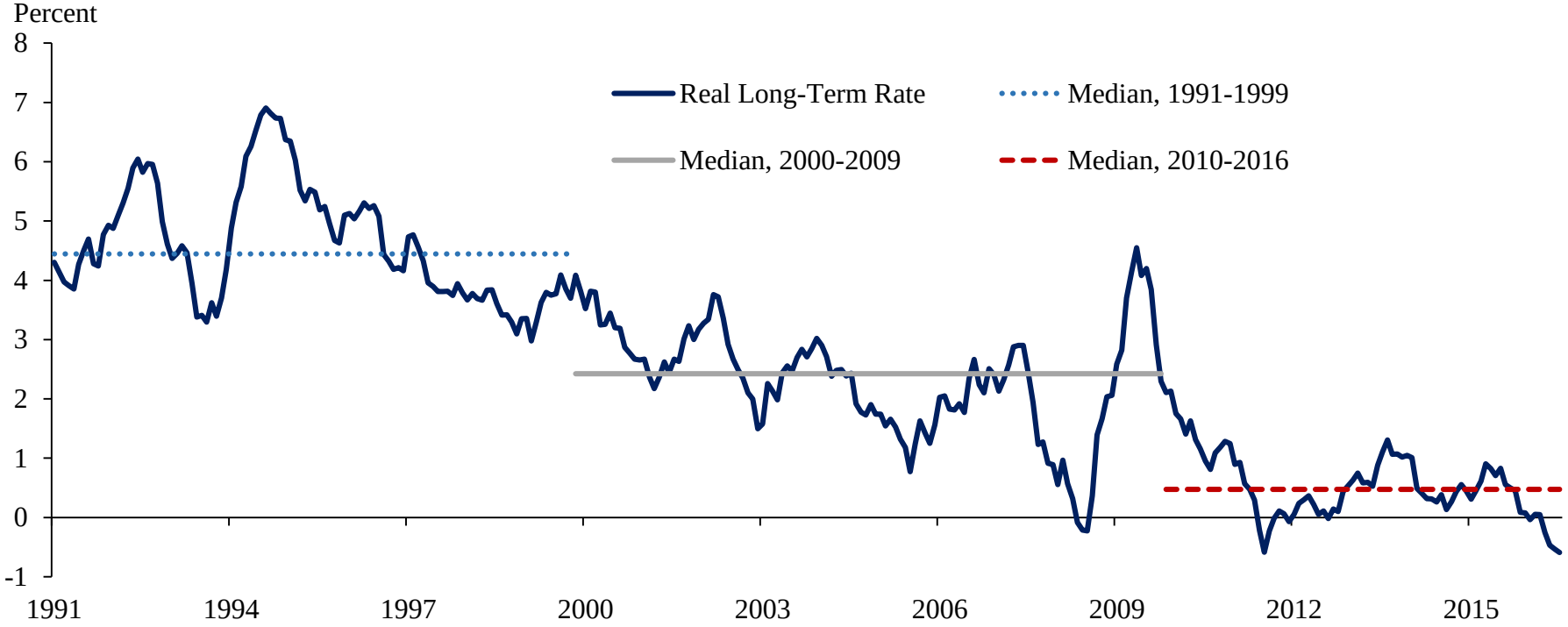
Safe assets have declined since the crisis.



Source: FRB/Eurostat/ECB/Haver

The long and winding road . . . down.

Real Long-Term Interest Rate for G10 Countries

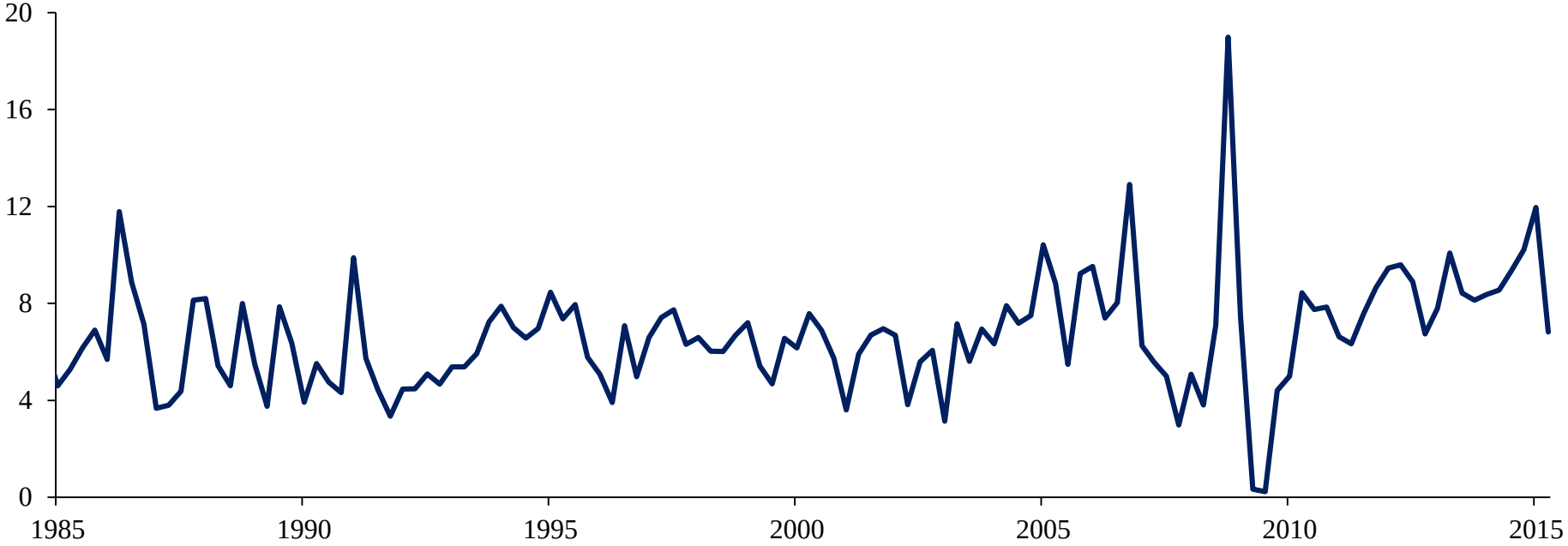


Source: Federal Reserve Bank of St. Louis/OECD/Haver

The real return to capital has not fallen in the U.S.

The Real Return to Capital Hasn't Fallen with Long-Term Real Rates

Percent per Annum

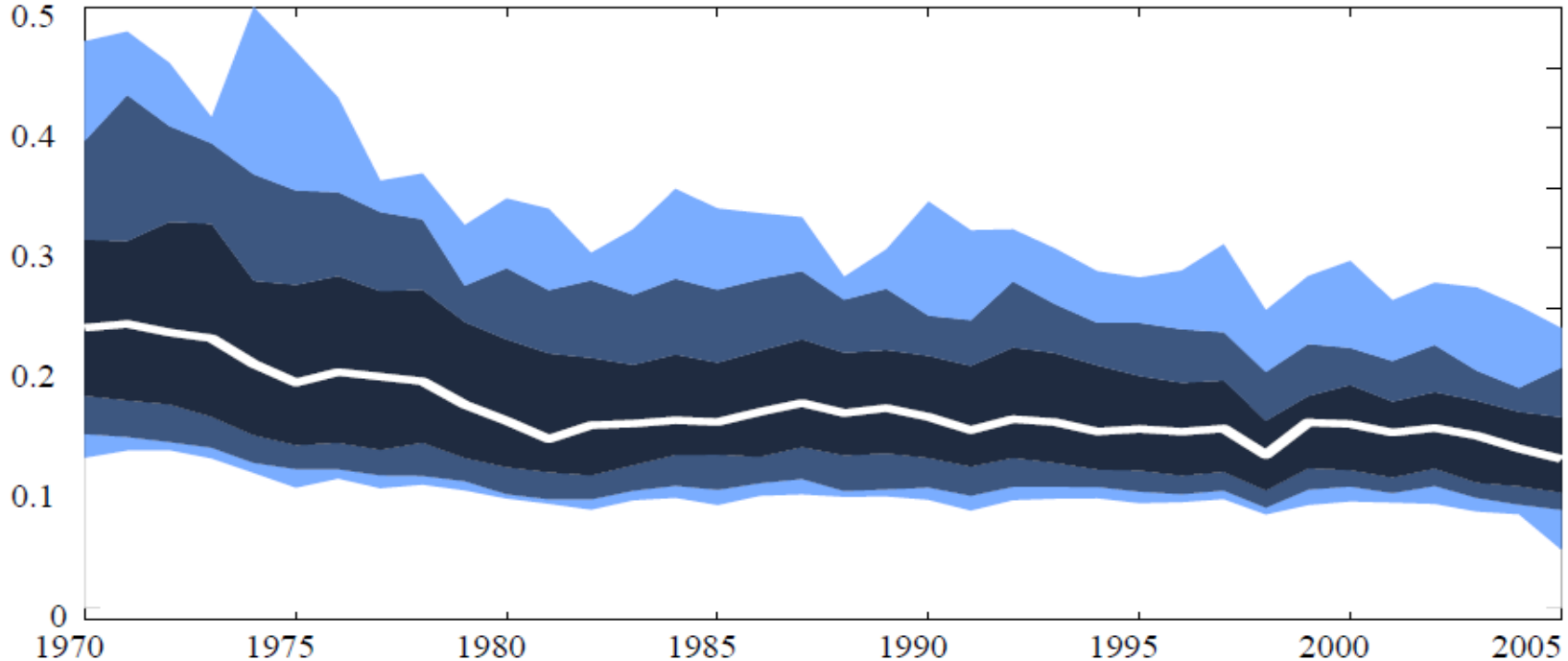


Source: Ravikumar, et. al.
Last calculation: 2015 Q2

The same is true globally.

Global Marginal Product of Capital Hasn't Fallen as Dramatically

Value of the Marginal Product of Capital, Lines Represent 5th, 10th, 25th, 50th, 75th, 90th & 95th Percentiles



Source: Monge-Naranjo, Sanchez, and Santaeulalia-Llopis

Motivation and Key Questions

- What explains the marked decline in real interest rates on safe (financial) assets?
- Are these factors secular or cyclical in nature?
- What are the implications for U.S. monetary policymakers?

What explains the decline in real rates on safe assets?

Sources of the Decline in Real Rates

- We have seen a large increase in the demand for government debt because of:
  1. Regulatory changes
  2. Globalization of financial markets
  3. Demographic trends
- Our view is that a sizable liquidity premium has developed. This has driven real rates to extraordinarily low levels.

1. Regulatory changes

- In the aftermath of the financial crisis, government entities have put in place rules designed to increase capital buffers.
- In the United States, these include new rules based on Basel III guidance that require banks to hold a minimum level of liquid assets.
- One of these new regulations is the Liquidity Coverage Ratio (LCR).

LCR incentivizes banks to hold Treasuries.

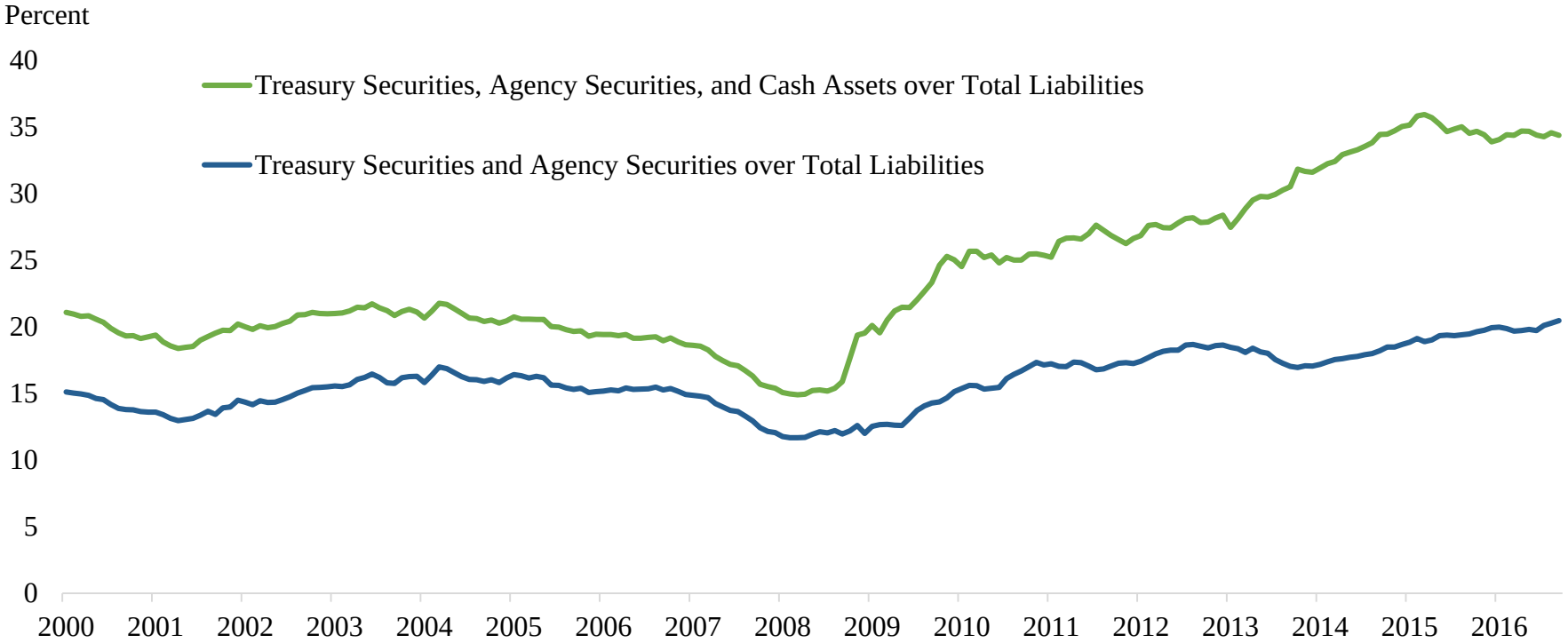
Table 1: Categories of High-Quality Liquid Assets under the Liquidity Coverage Ratio Standard

Category	Cap	Discount	Included Assets
Level 1	None	0%	• Unrestricted Federal Reserve balances • U.S. Treasury securities • Liquid and marketable securities issued by other U.S. government agencies whose obligations are explicitly guaranteed by the U.S. government • Unrestricted reserves held at foreign central banks • Low-risk securities issued or guaranteed by a foreign sovereign entity, the Bank for International Settlements, the International Monetary Fund, the European Central Bank, European Community, or a multilateral development bank and that meet certain criteria
Level 2A	40%	15%	• Certain securities issued by a U.S. government-sponsored enterprise such as Fannie Mae or Freddie Mac • Higher-risk securities issued or guaranteed by a foreign sovereign entity or a multilateral development bank and that meet certain criteria
Level 2B	15%	50%	• Liquid and marketable corporate debt securities that meet certain criteria • Liquid and marketable publicly traded common stocks that meet certain criteria

Source: Federal Reserve Bank of Richmond

U.S. banks hold more safe assets and reserves.

Liquid Assets at the 25 Largest U.S. Commercial Banks



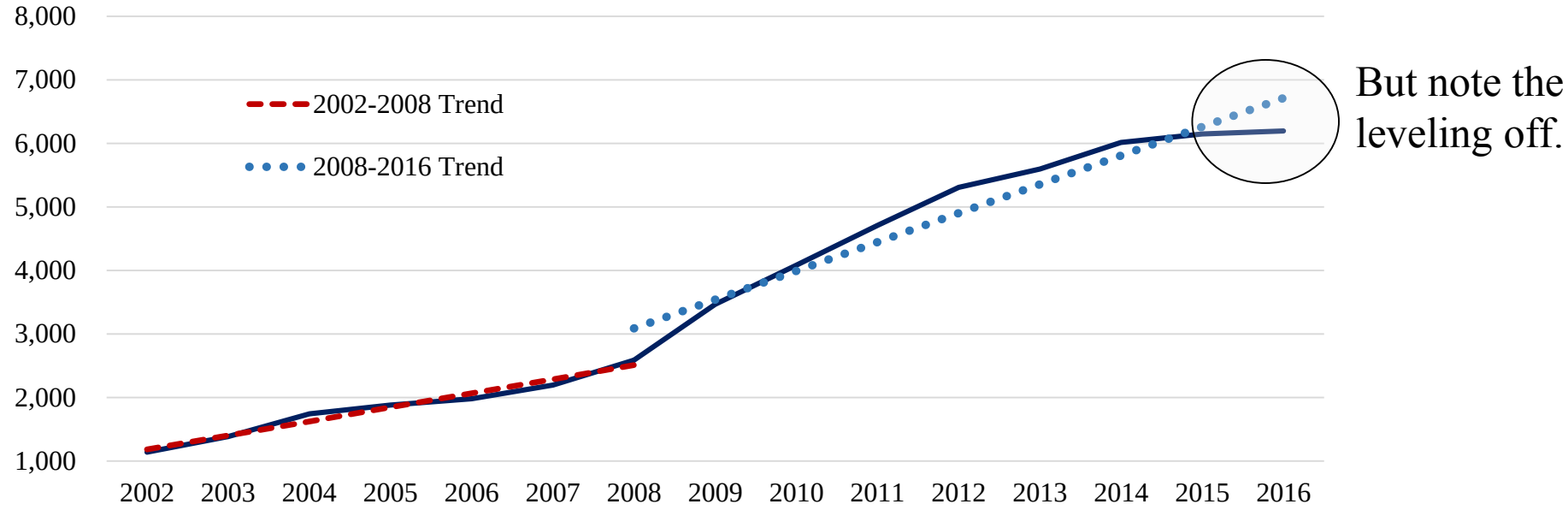
Source: Board of Governors of the Federal Reserve System/Haver Analytics

2. Integration of Financial Markets

- The reduction in capital controls around the world gave agents in emerging markets access to developed countries' assets.
- In particular, they gained access to safe, liquid government debt of developed countries.
- Rather than holding risky domestic assets, these agents shifted towards safe government debt of the developed world.

Increased foreign demand for U.S. Treasuries.

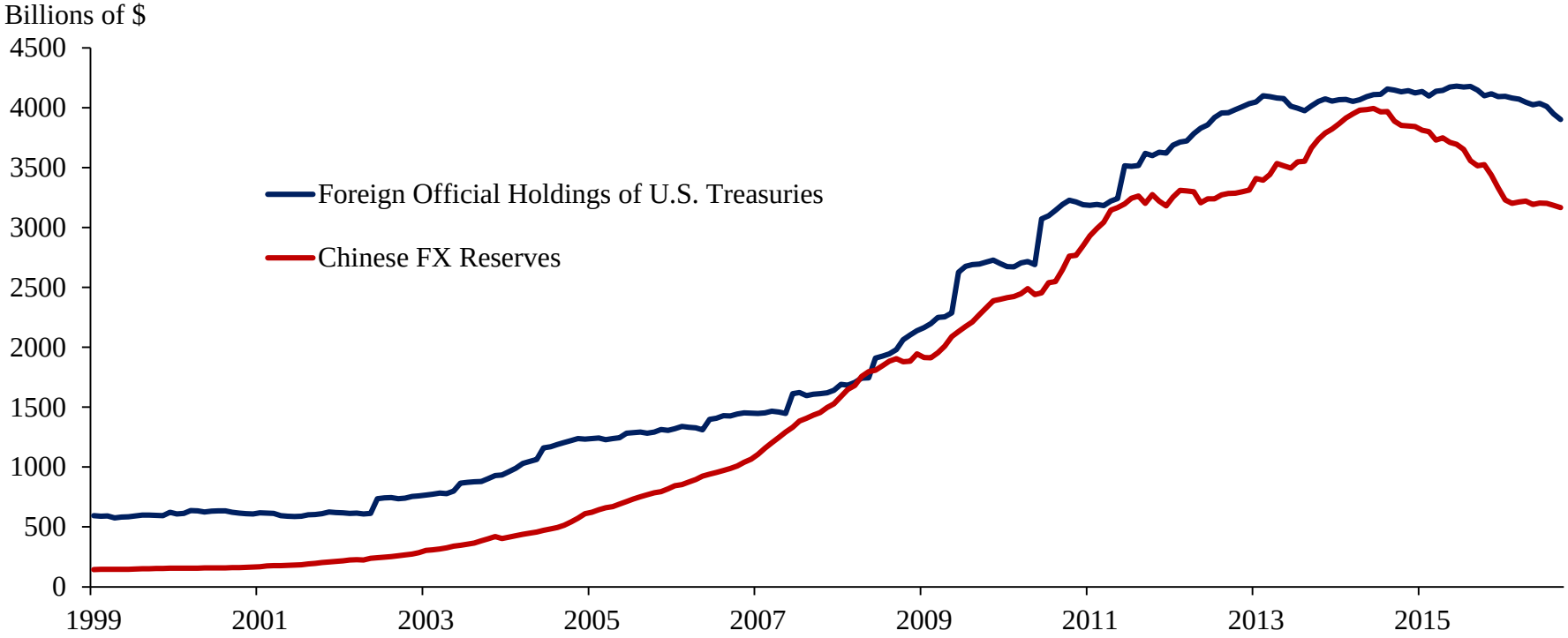
Total Foreign Holdings of U.S. Treasury Securities
Billions of $



Source: U.S. Department of Treasury
Last observation: August 2016

Foreign central banks exhibit similar behavior.

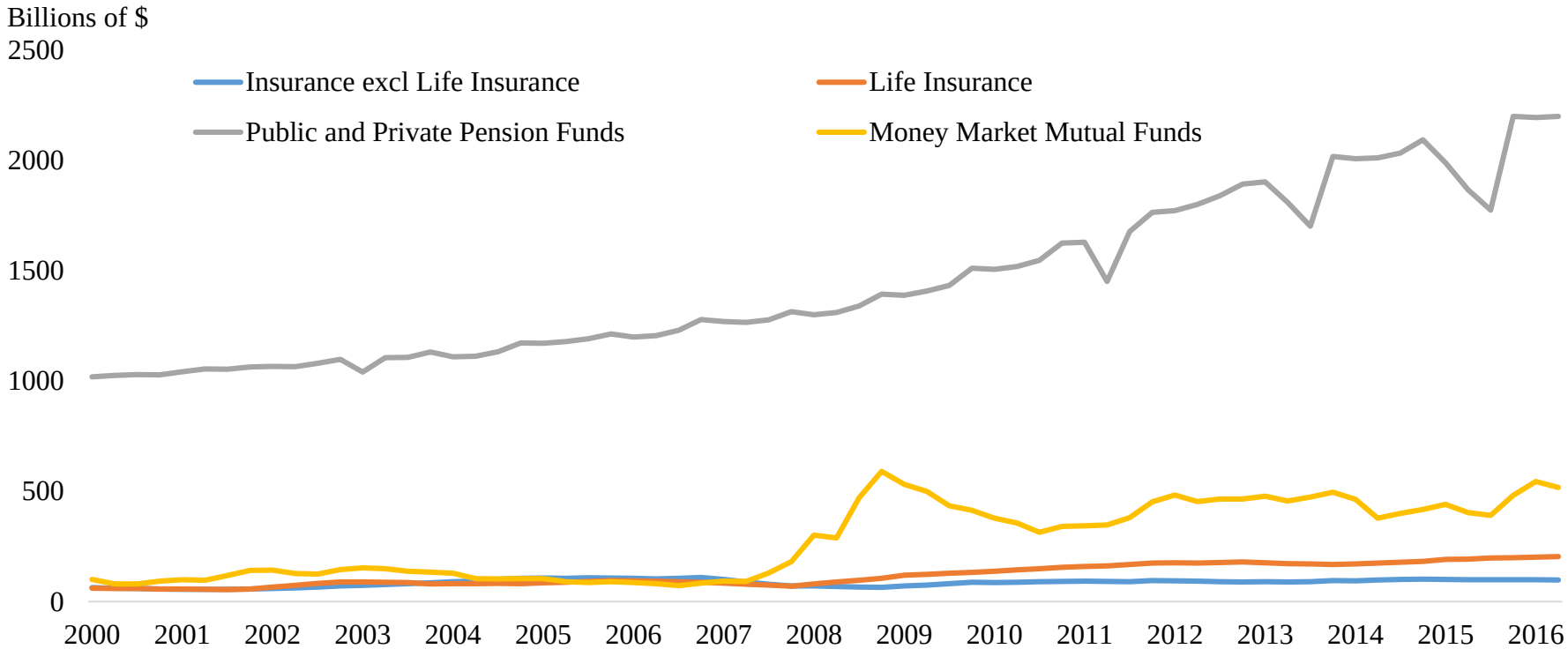
Foreign Official Holdings of U.S. Treasury Securities and Chinese FX Reserves



Source: U.S. Treasury/Haver/Bloomberg

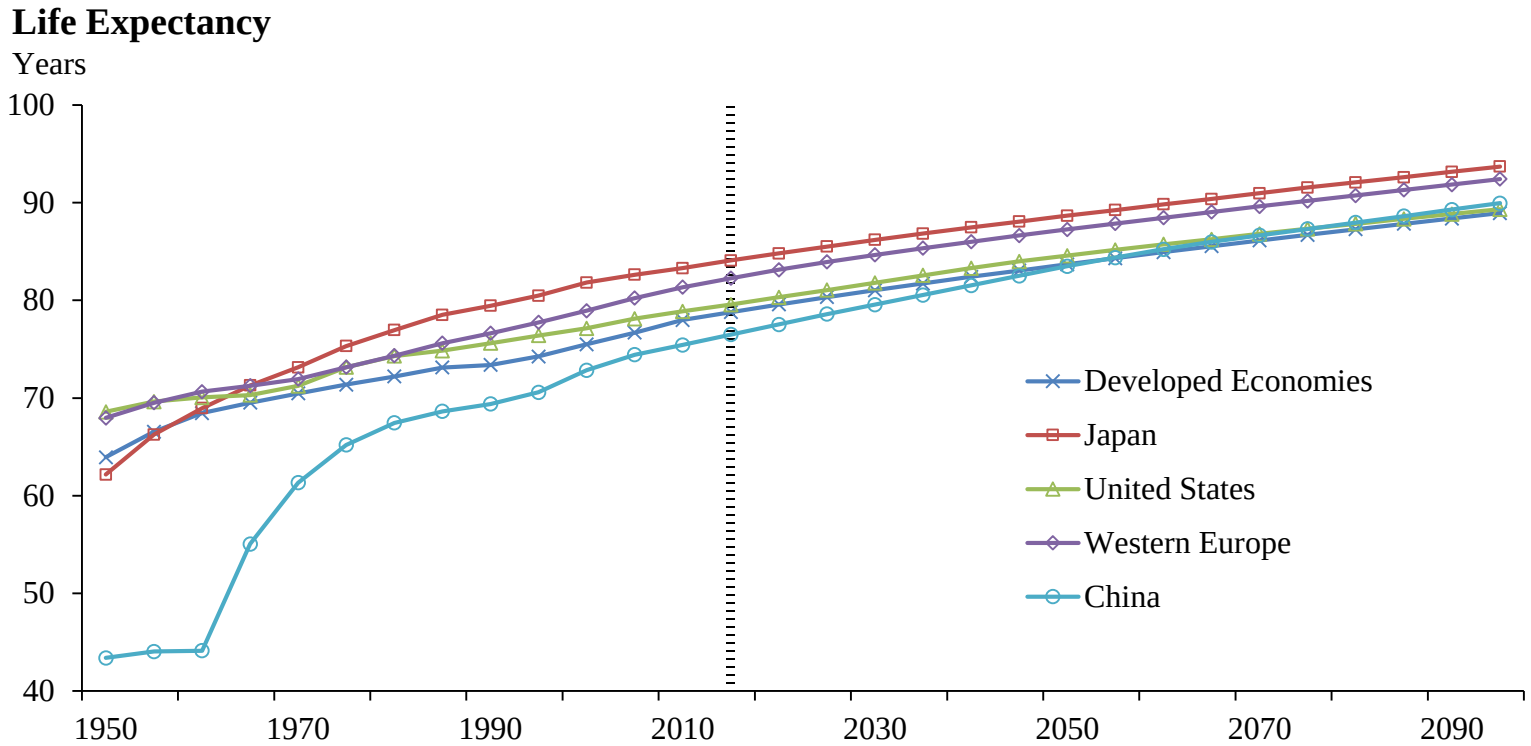
Rising demand for safe assets from non-banks.

Treasury Holdings by Sector



Source: Federal Reserve Board/Haver

3. Demography: The world is living longer.



Source: United Nations
Note: Developed Economies include the United States, Canada, Europe, Japan, Australia, and New Zealand.

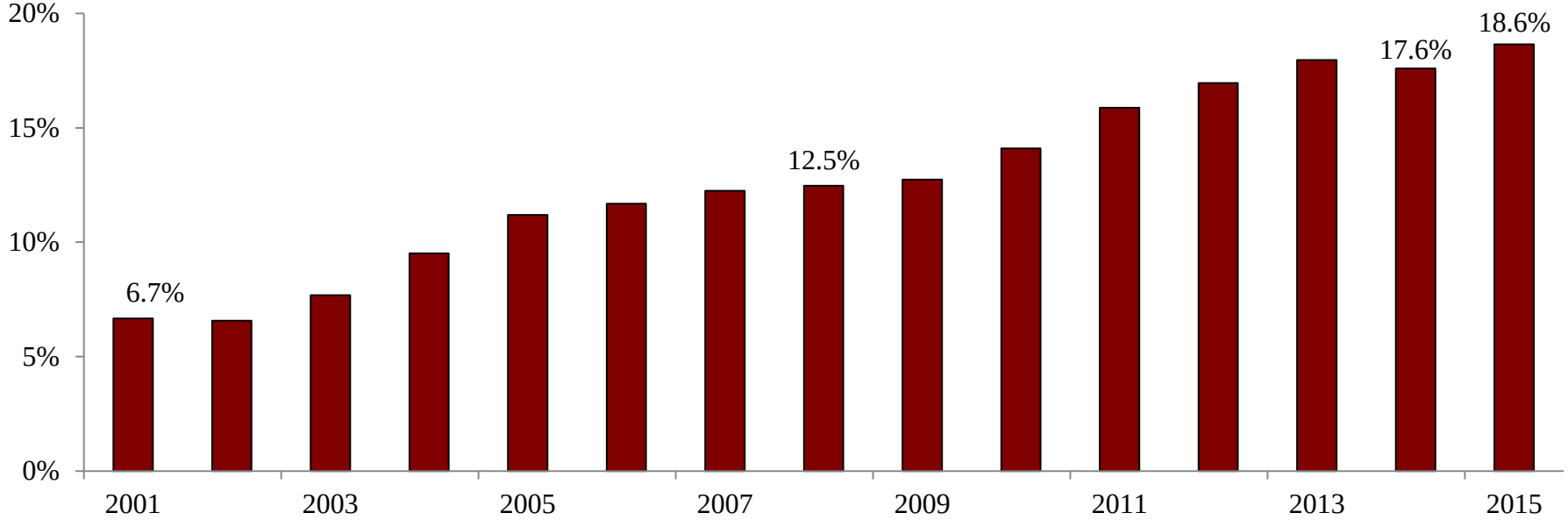
Demographic Trends

- Increased longevity means that individuals will save more during working years to finance a longer retirement period.
- The incentive to save during working years has been magnified by the current low-rate regime.
- Low rates have also adversely affected public pensions in the United States and in other advance economies.
- This has forced greater contribution rates from young workers, i.e., forced saving.

Pension shortfalls boost forced saving.

Required Contribution as Percentage of Payroll

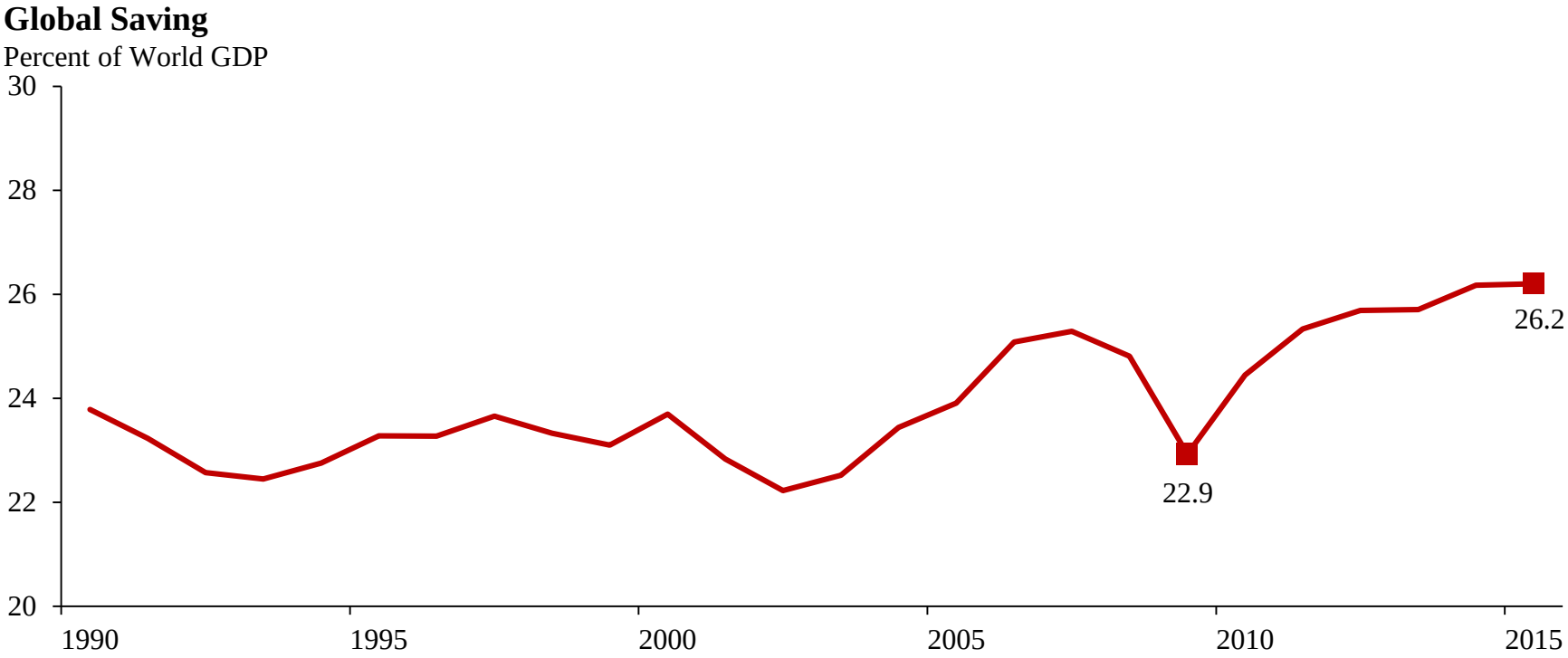
Percent



Notes: The 2001-13 measure is the ARC; the 2014-15 measure is the ADEC. The 2015 value involves projections for about one third of plans.

Sources: 2015 actuarial valuations/PPD (2001-2015)/The Center for Retirement Research at Boston College

Global saving has increased since 2009.



Source: International Monetary Fund
Last observation: 2015

Demographics affect real rates.

- Aging populations worry more about maintaining principal than the return on assets.
- These leads to a shift in portfolio holdings towards safer, more liquid debt.
- This bids up the price of safe assets and lowers the real return.

Demographics affect real rates.

- Carvalho, Ferrero, and Nechio (2016) calibrate a demographic model to estimate the effect on real rates from 1990 to 2014 in developed economies.
- They find that the demographic effects lowered the equilibrium real rate by 150 basis points over this period.
- CFN argue that most of this decline stems from the increase in life expectancy in the developed economies.

Do Low Rates Reflect Cyclical or Secular Factors?

Secular or Cyclical?

- If secular forces dominate, then we shouldn't expect much of a rebound in the real rate anytime soon.
- But if cyclical forces dominate, then we should expect the real interest rate on government debt to reverse its long-term decline.
- We can point to arguments on both sides.

Arguments in Favor of Secular Dominance

- The decline in labor productivity growth in advanced economies shows few signs of reversing.
- Basel III will require banks to hold more liquid assets for the foreseeable future.
- Demographic effects on the real rate will dissipate slowly.

Arguments in Favor of Cyclical Dominance

- Increased uncertainty about economic policies may increase the demand for safe assets.
- Firms may delay fixed investment spending—the familiar option-value of waiting to invest.
- But this may reverse as governments appear more receptive to regulatory reforms and expansive fiscal policies.

What are the Implications for Policymakers?

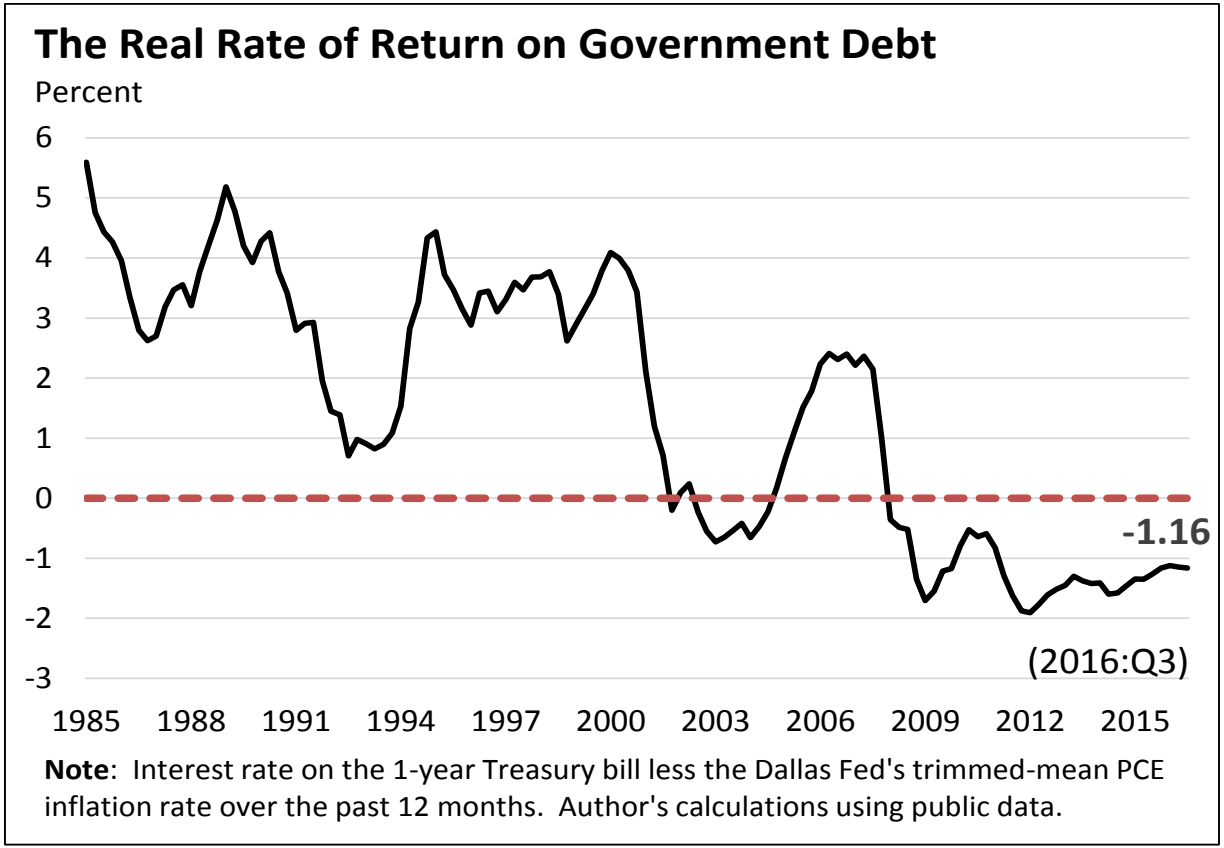
The St. Louis Fed's New Narrative

- The economy can enter a regime that persists for several years.
- One fundamental factor that dictates the nature of a regime is the short-term real interest rate on safe liquid government debt.
- We call this rate r-dagger ($r^{\dagger}$).

The St. Louis Fed's New Narrative

- In our view, the aforementioned factors have created a large ***liquidity premium*** for safe assets.
- We believe this premium is driven by secular rather than cyclical factors.
- We know regimes can change, but they are persistent and switches are unpredictable. Thus, $r^{\dagger}$ is time varying.

Our measure of $r^{\dagger}$ is negative!



The St. Louis Fed's New Narrative

- We argue that, in the United States, the inflation and output gaps are closed.
- Thus, with an inflation target of 2% and a time-varying real rate, the conventional Taylor rule condenses to:
  - $FFR = r^{\dagger} + \pi^{*}$

The St. Louis Fed's New Narrative

- So, if the inflation target is 2% and the real interest rate is -1.16%, then:
  - *FFR = -1.16% + 2%*
- That means that:
  - *FFR = 0.84%*
- Implication: The current regime demands a low policy rate.

Conclusion

- The demand for safe, liquid government debt is demographic- and globalization-driven.
- The world is willing to accept lower rates, which has driven up asset prices.
- Thus, it appears we have entered a new regime of low productivity growth and low real rates.
- We believe that forecasting regime switches is difficult.

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