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RIKSBANKENS
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THE SWEDISH FOUNDATION FOR
HUMANITIES AND SOCIAL SCIENCES

The Neo Fisher Effect

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May 27, 2018

Nobel Symposium, session on Conventional and Unconventional Monetary Policy

This talk is based on the following 4 papers:

Uribe, “The Neo-Fisher Effect in the United States and Japan,” NBER WP 23977, 2017.

Schmitt-Grohé and Uribe, “Liquidity Traps and Jobless Recoveries,” *AEJ: Macroeconomics*, 2017.

Schmitt-Grohé and Uribe, “Liquidity Traps: An Interest-Rate-Based Exit Strategy,” *The Manchester School*, 2014.

Benhabib, Schmitt-Grohé, and Uribe, “The Perils of Taylor Rules,” *Journal of Economic Theory*, 2001.

The Fisher equation:

$$i = r + \pi$$

where

i = nominal interest rate

r = real interest rate

π = inflation rate

Effect of an increase in the nominal interest rate (i) on inflation (π)

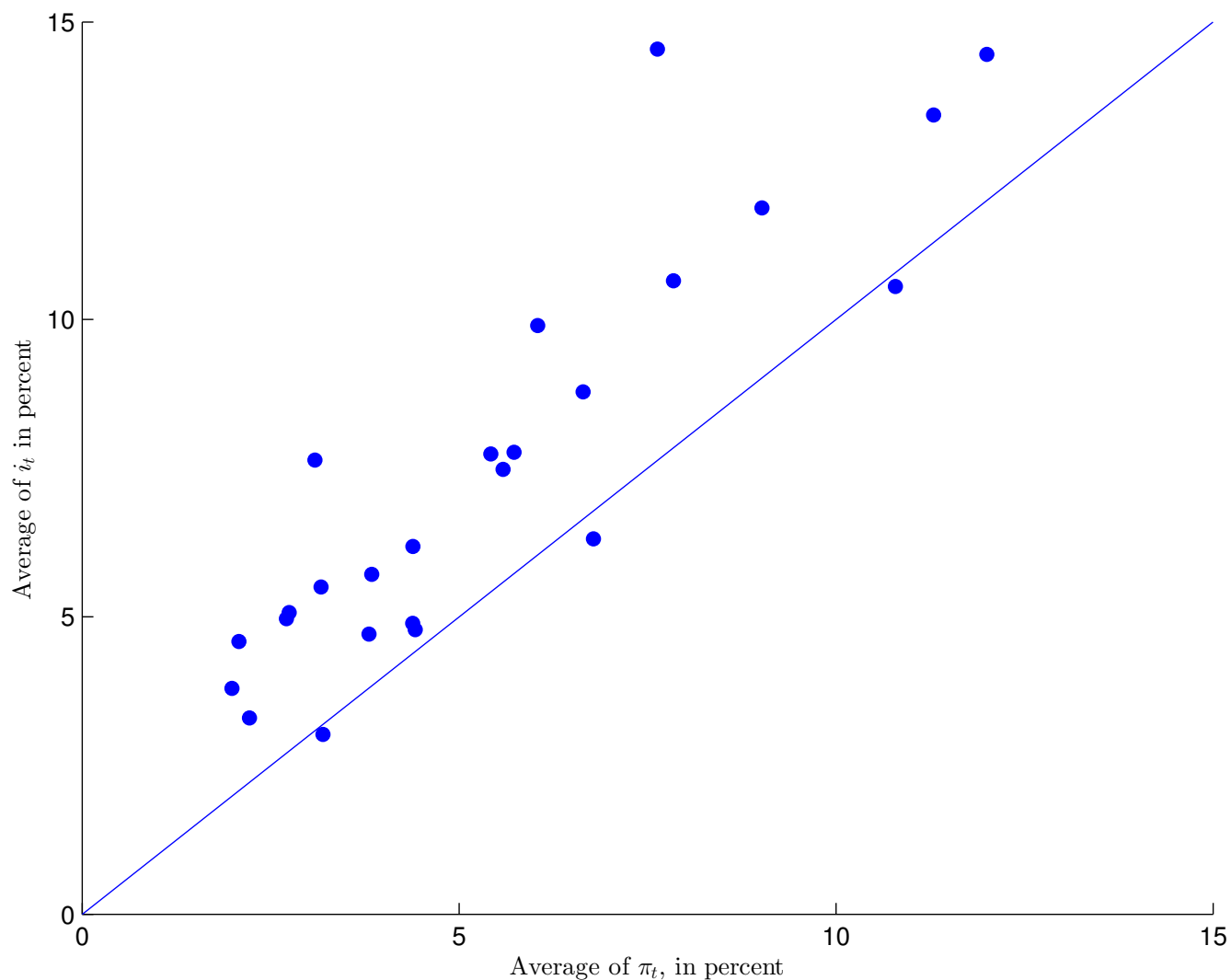
	Effect on π in the	
	long-run	short-run
Transitory increase in i	0	↓
Permanent increase in i	↑	↑

Entry (2,1): The Fisher Effect

Entry (2,2): The Neo-Fisher Effect

Cross-Country Evidence of the Fisher Effect

Long-Run Average Inflation and Nominal Interest Rates

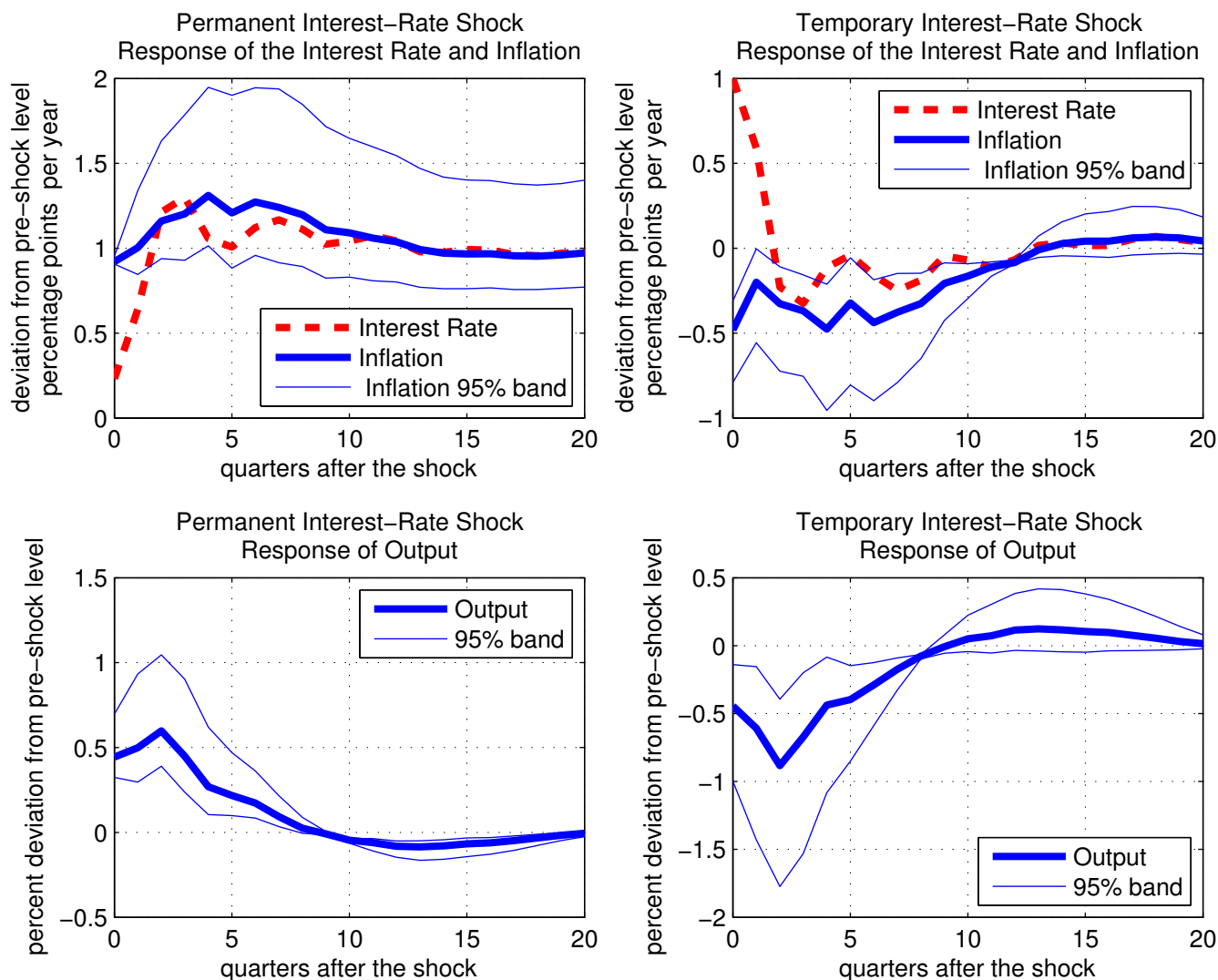


25 OECD countries. Average sample period is 1989 to 2012.

Central bankers and even some monetary economists talk knowledgeably of using high interest rates to control inflation, but I know of no evidence from even one economy linking these variables in a useful way, let alone evidence as sharp as that displayed in figure ...

Robert E. Lucas Jr., Nobel Lecture, 1996.

Estimated Impulse Responses to a 1-percent Nominal Rate Increase United States, 1954q4-2016q4



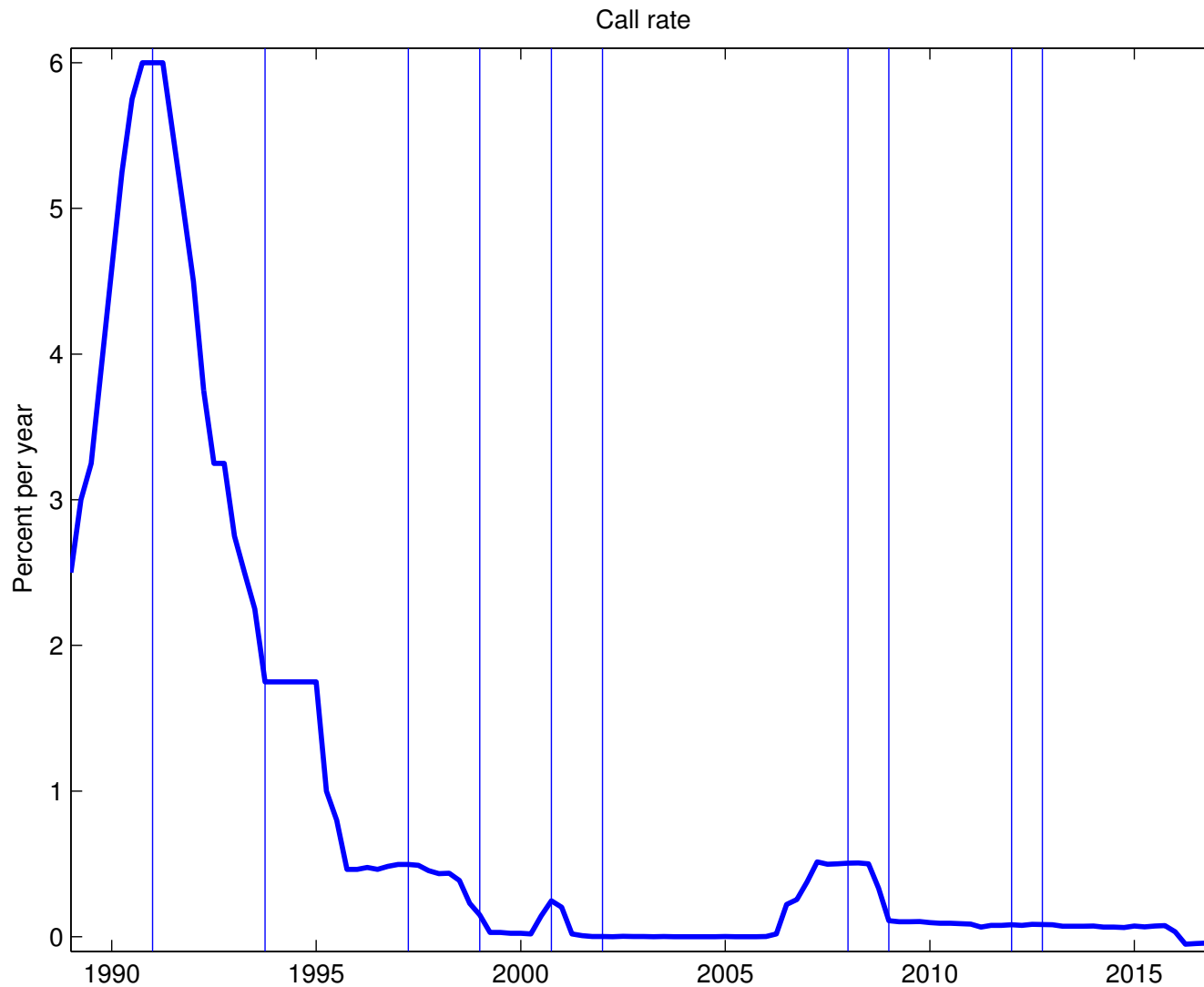
Source: Uribe, 2017.

The Neo Fisher Effect

and

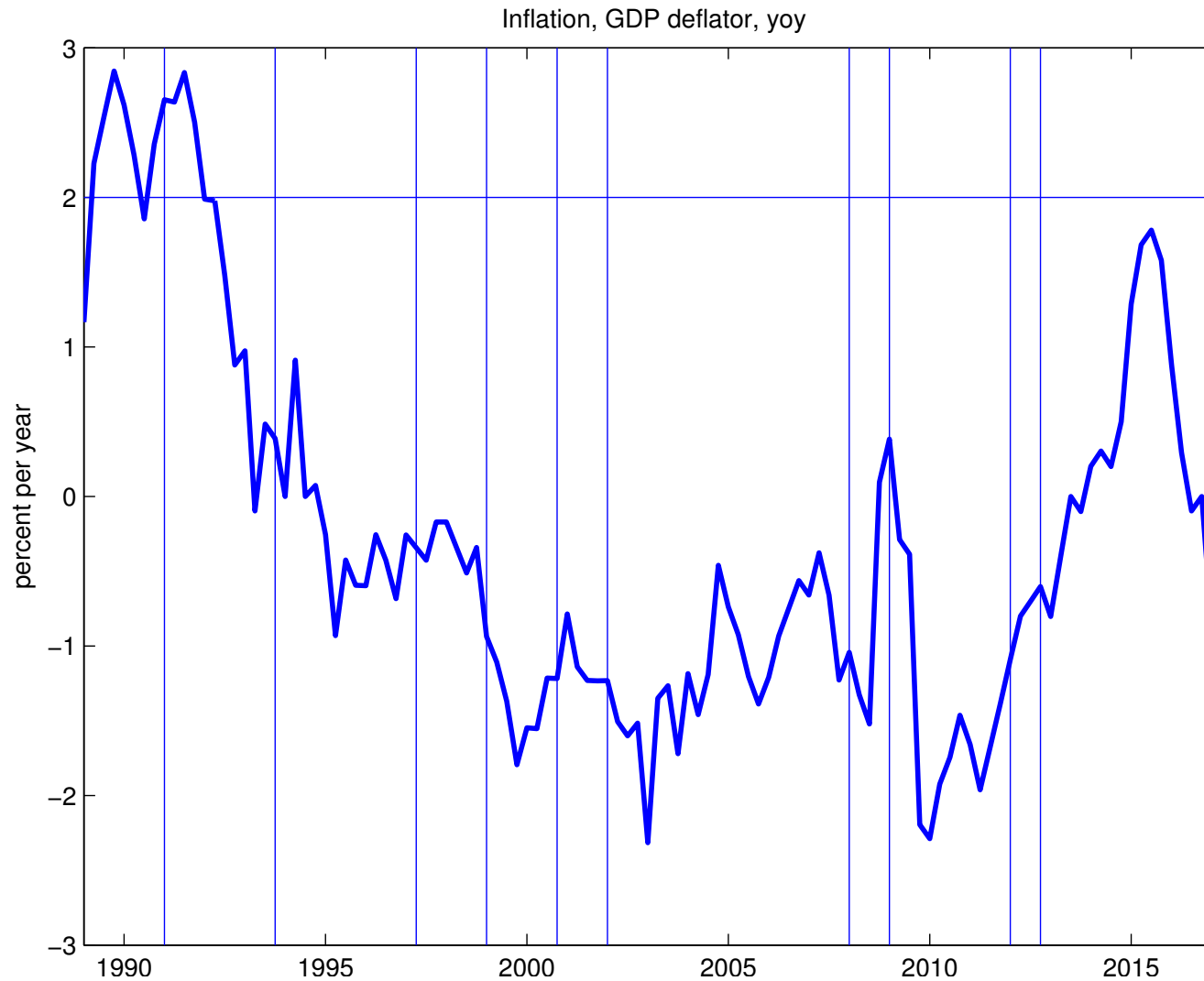
Exiting the Liquidity Trap

Japan has been in a Liquidity Trap ever since 1995



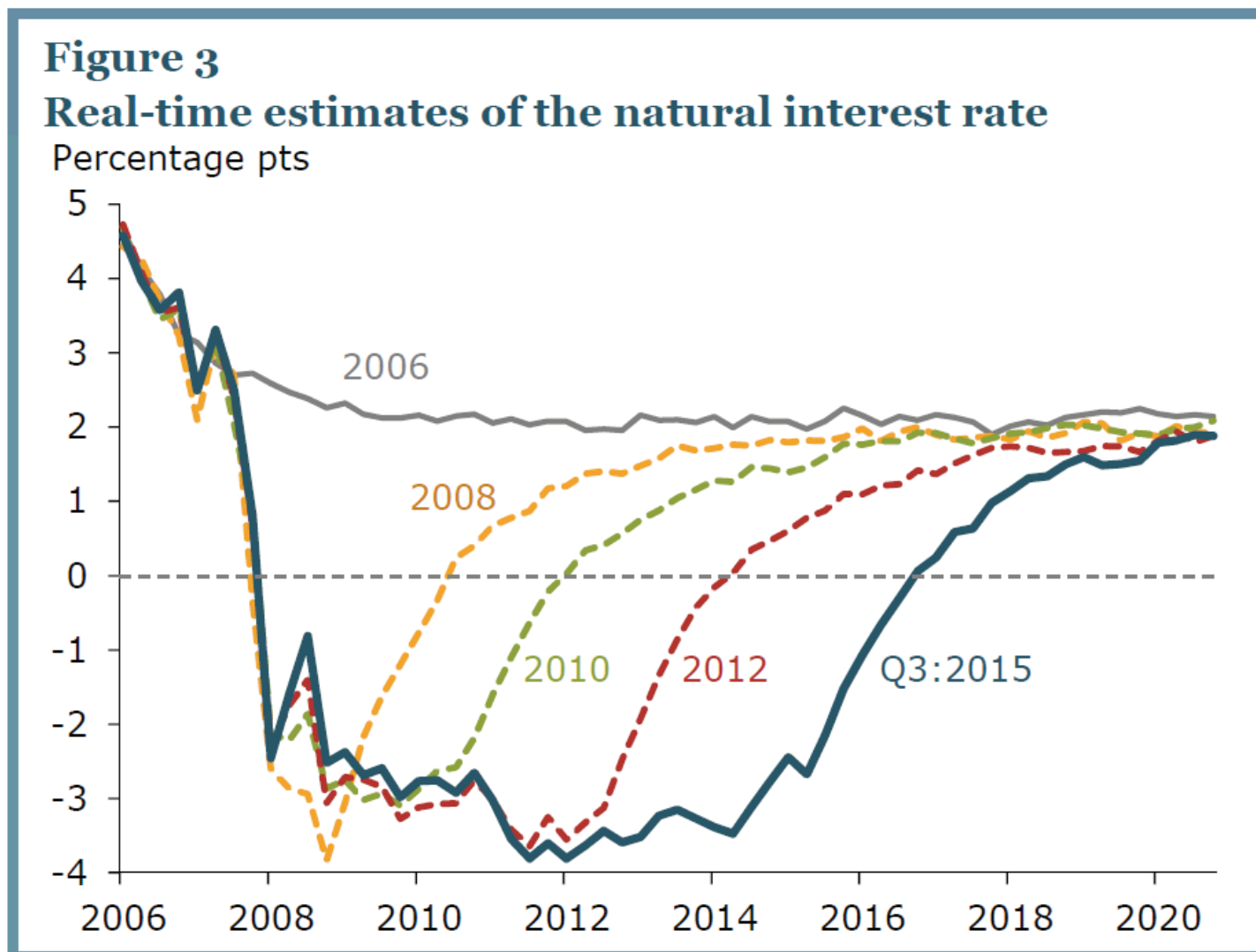
Vertical lines: Cabinet office recession dates, 1991Q1, 1993Q4, 1997Q2, 1999Q1, 2000Q4, 2002Q1, 2008Q1, 2009Q1, 2012Q2, and 2012Q4.

... and inflation has been below target throughout.



Vertical lines: Cabinet office recession dates, 1991Q1, 1993Q4, 1997Q2, 1999Q1, 2000Q4, 2002Q1, 2008Q1, 2009Q1, 2012Q2, and 2012Q4. Horizontal line: inflation target.

Curdia (2015) shows that the conventional view requires that the economy is continuously surprised by yet another negative natural rate shock:



Source: Curdia, FRBSF EL 2015.

Mr. Draghi and his peers are afraid that consumers and investors will increasingly see low inflation as the new normal, creating a self-fulfilling prophecy.

NYT, page B7, November 22, 2014.

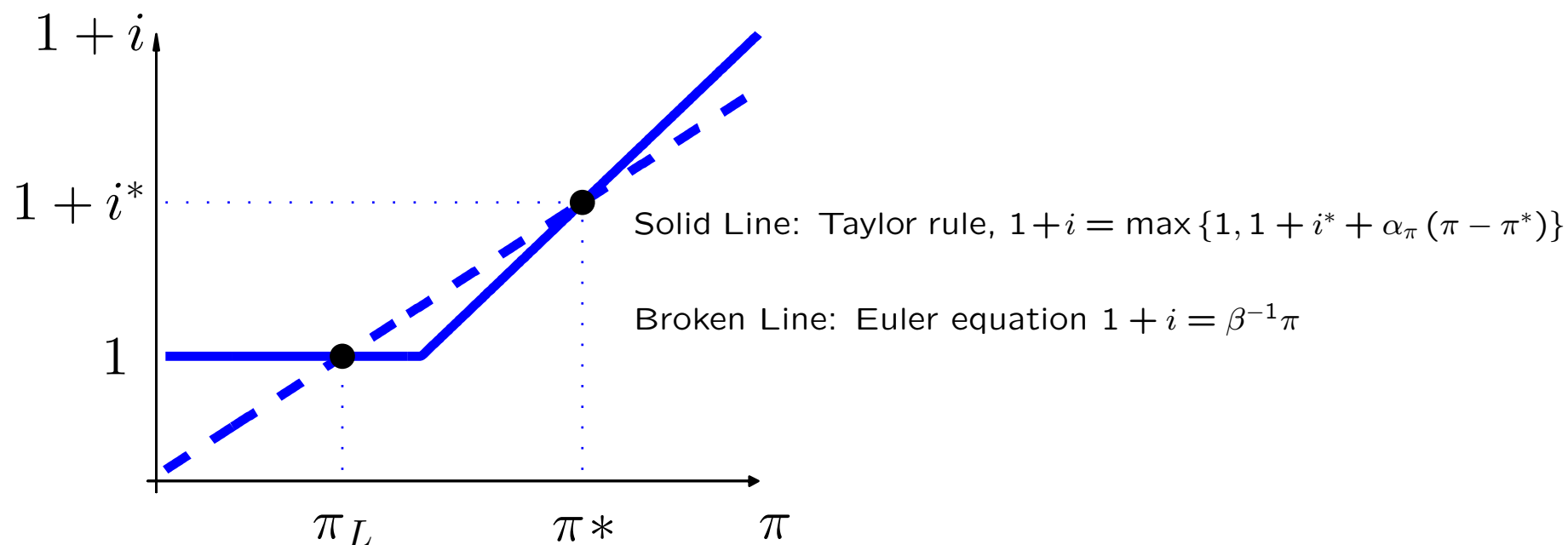
A Brief Exposition of the 'Perils of Taylor Rules', BSU 2001

The Taylor Rule: $1 + i_t = \max \{1, 1 + i^* + \alpha_\pi (\pi_t - \pi^*)\}$

The Euler Equation: $U'(C_t) = \beta(1 + i_t)E_t \frac{U'(C_{t+1})}{\pi_{t+1}}$

In a steady state they become, respectively,

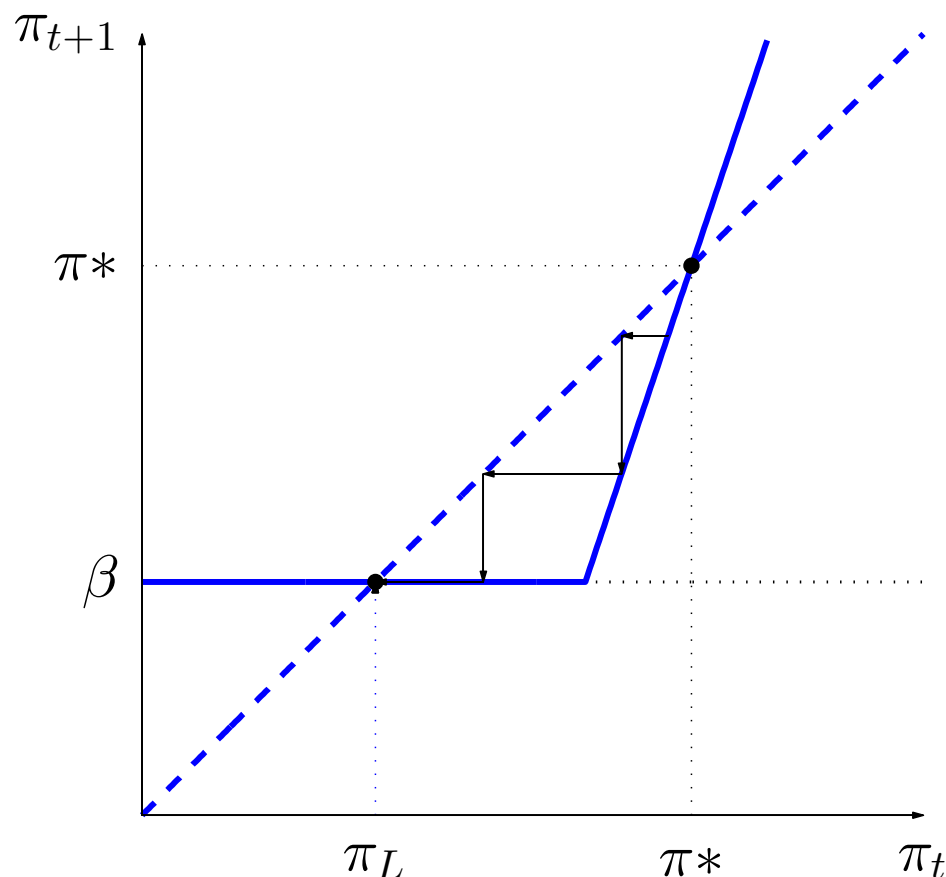
$$1 + i = \max \{1, i^* + \alpha_\pi (\pi - \pi^*)\} \quad \text{and} \quad 1 + i = \beta^{-1}\pi$$



Two inflation steady states:

The intended steady state (π^*) and the Liquidity Trap (π_L)

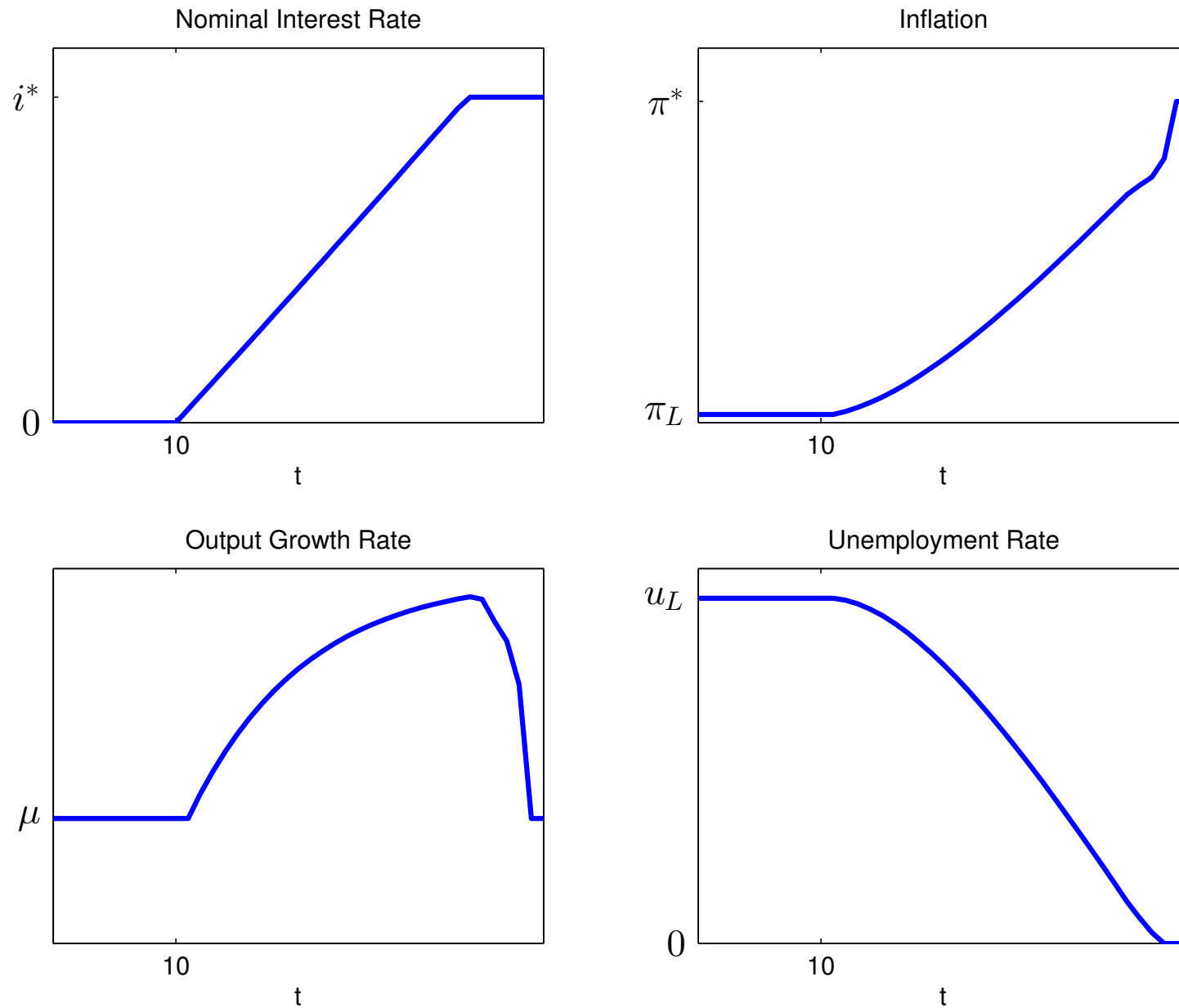
Dynamics in a Flexible-Price Endowment Economy



Solid line: $\pi_{t+1} = \max \{ \beta, \pi^* + \beta \alpha_{\pi} (\pi_t - \pi^*) \}$

Broken line: 45-degree line

Comment: Similar results obtain in sticky-price/wage economies (BSU 2001, SGU 2017) and also under time-consistent policy (Nakata & Schmidt, 2017).

Exiting a Chronic Liquidity Trap: Tightening is Easing

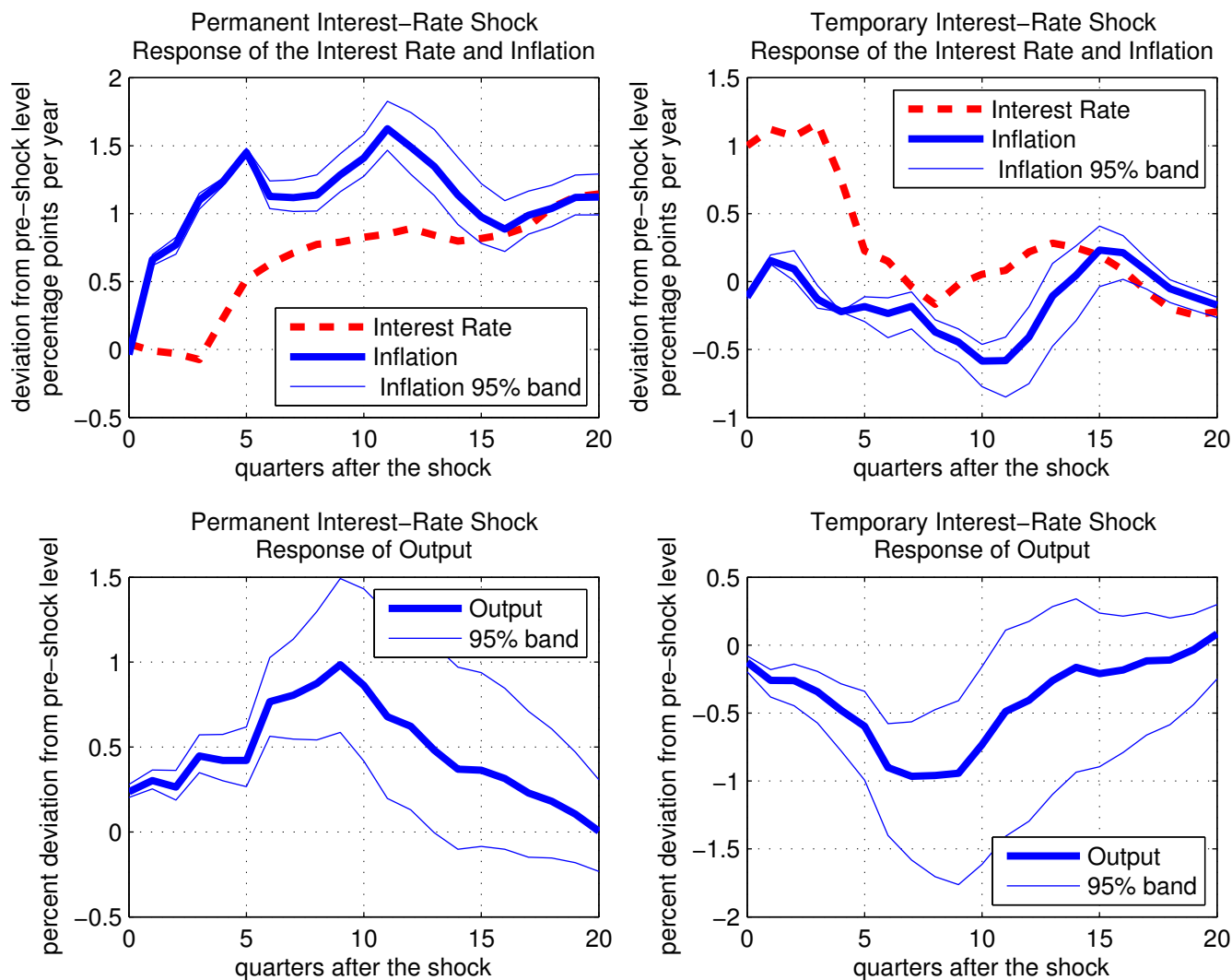
Summary

- Models with nominal rigidities are prone to self-perpetuating liquidity traps. This holds for Taylor rules as well as for optimal policy under discretion.
- In such circumstances, models with nominal rigidity predict that raising nominal interest rates can raise inflation already in the short run (**Neo Fisher Effect**) and thereby stimulates employment.
- This neo-Fisherian prediction of the model is consistent with empirical evidence on the short-run effects of permanent interest rate shocks.

Extras

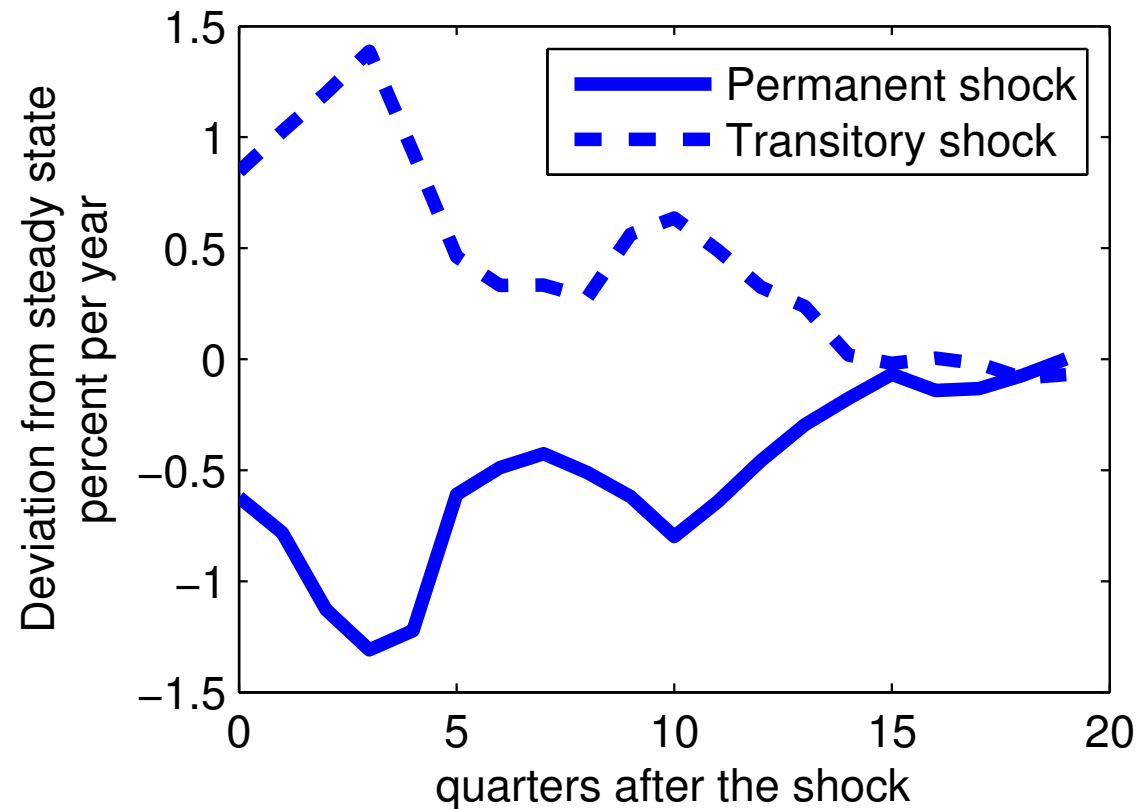
The Neo Fisher Effect in Japan

Estimated Impulse Responses to a 1-percent Nominal Rate Increase Japan, 1975q1-2016q4



Source: Uribe 2017.

Response of the Real Interest Rate to Permanent and Transitory Interest-Rate Shocks: Japan



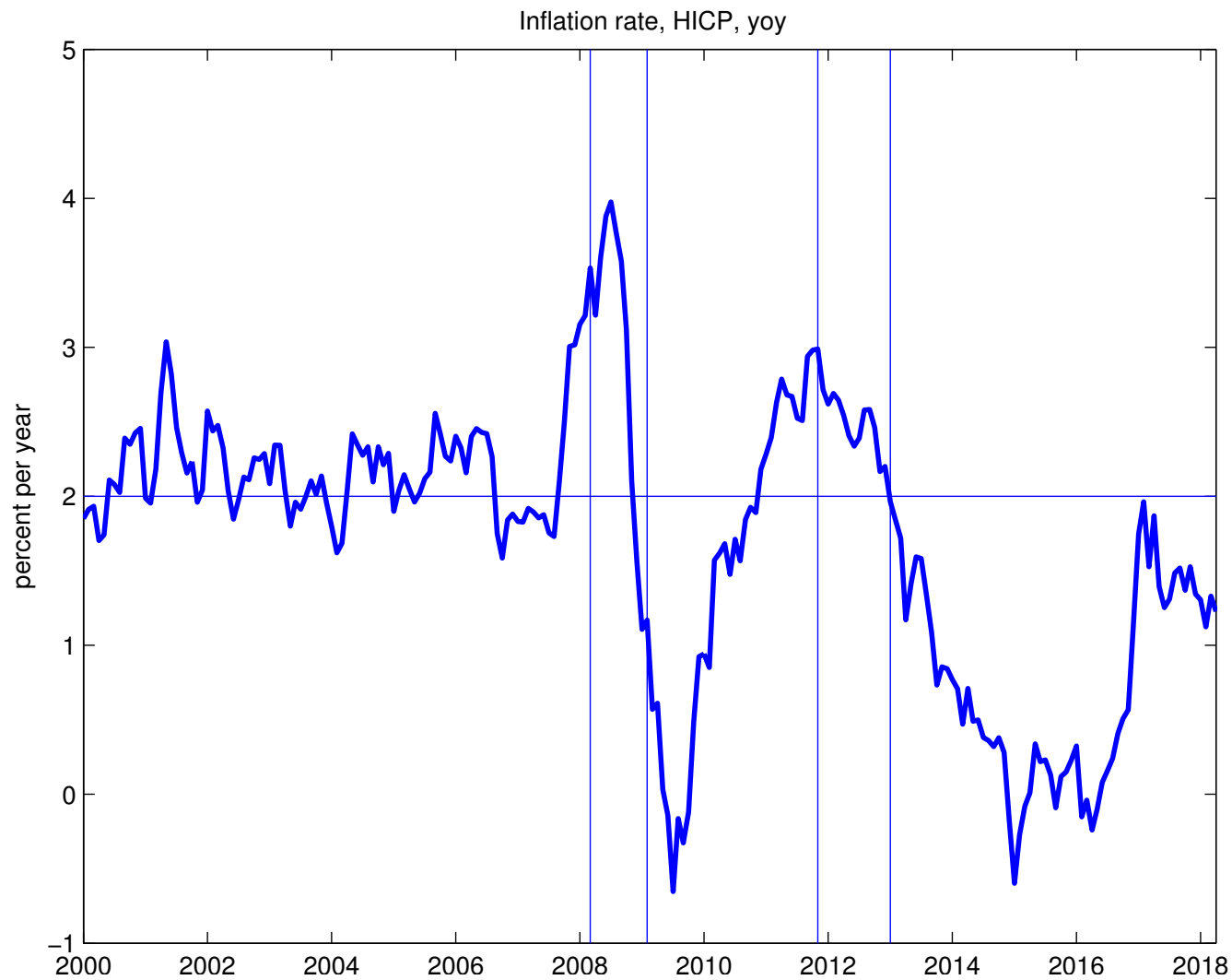
Source: Uribe, 2017.

The Euro area in a liquidity trap since 2008 ...



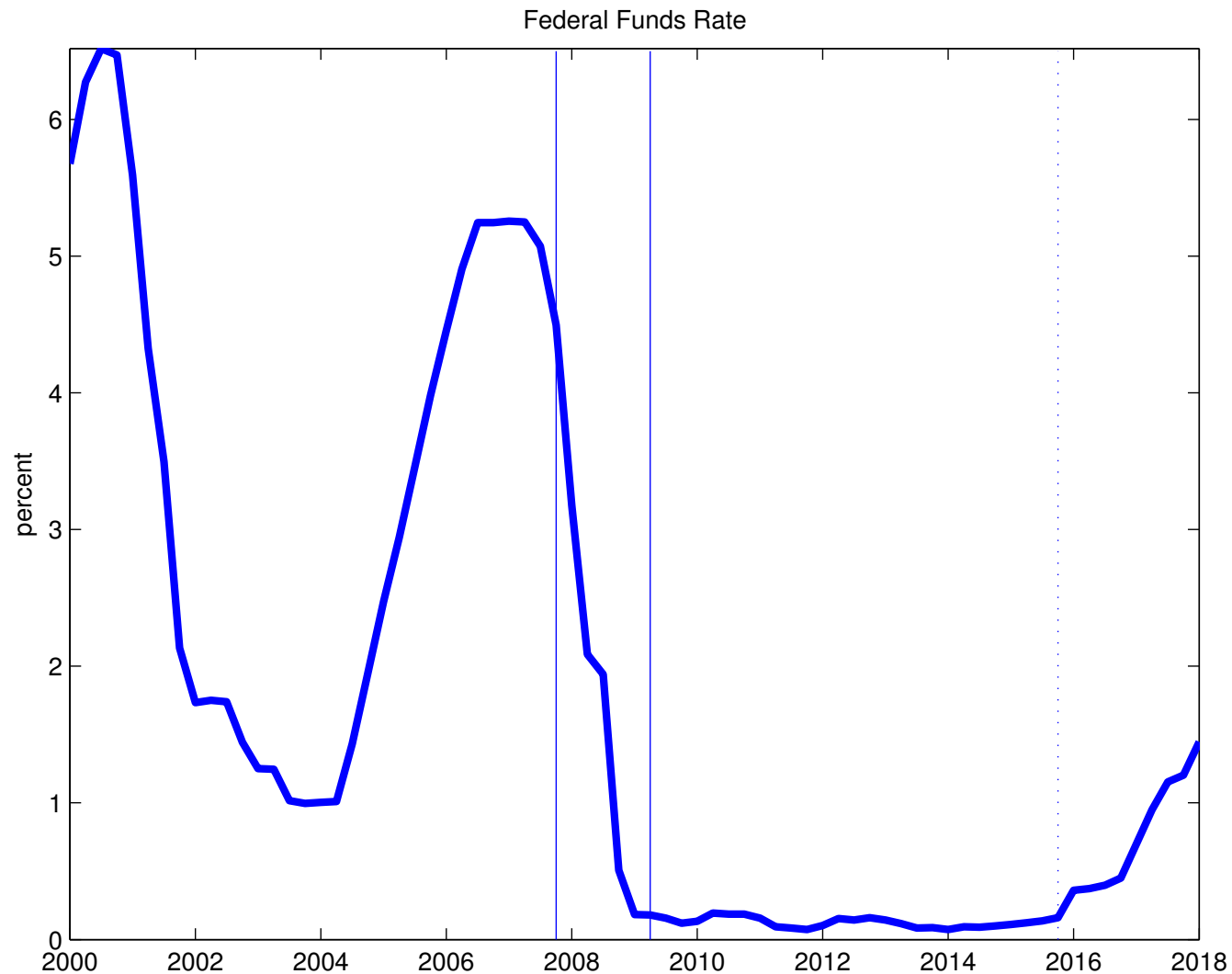
Vertical lines: CEPR business cycles dates, 2008Q1, 2009Q2, 2011Q3, 2013Q1

... and inflation remains below target.



Vertical lines: CEPR business cycles dates, 2008Q1, 2009Q2, 2011Q3, 2013Q1

The U.S. got out of the Liquidity Trap in 2015q4



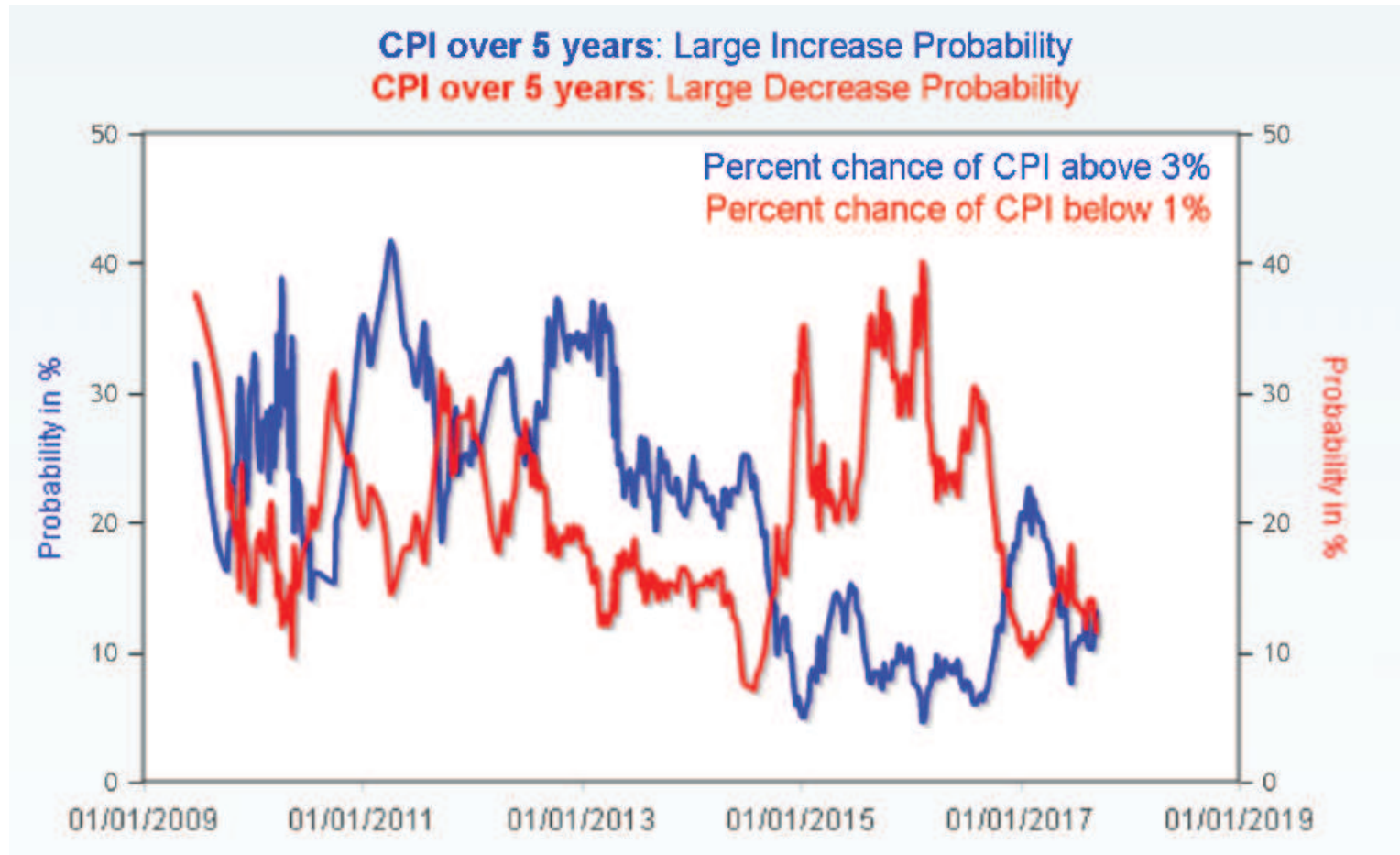
Vertical solid lines: NBER recession dates, 2007Q4 and 2009Q2. Vertical dotted line: end of liquidity trap, 2015Q4.

... exit coincided with an inflection point for inflation



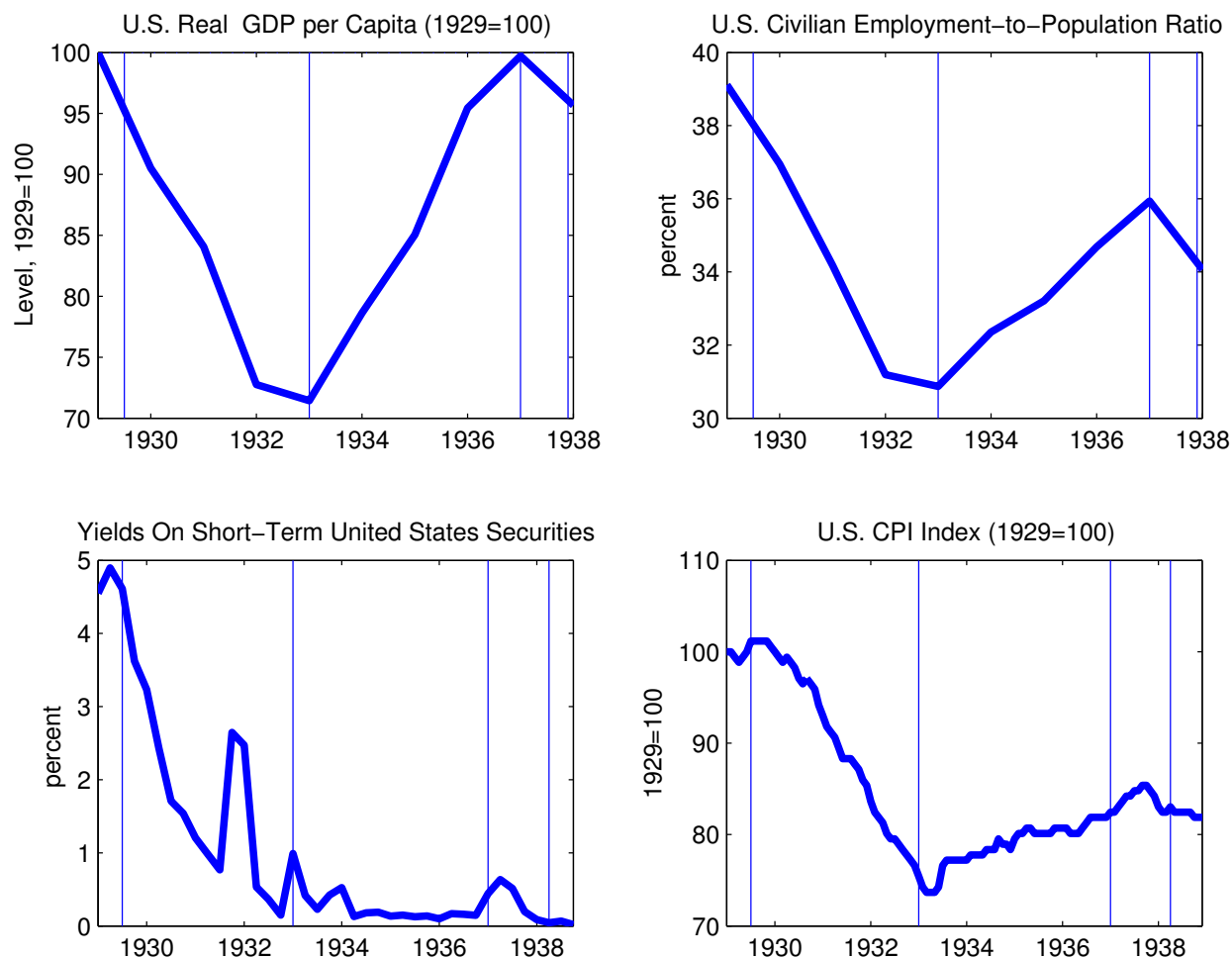
Vertical lines: NBER recession dates, 2007Q4 and 2009Q2. Vertical dotted line: end of liquidity trap, 2015Q4.

Any evidence in support of downward revisions of long-run inflation expectations in the United States?



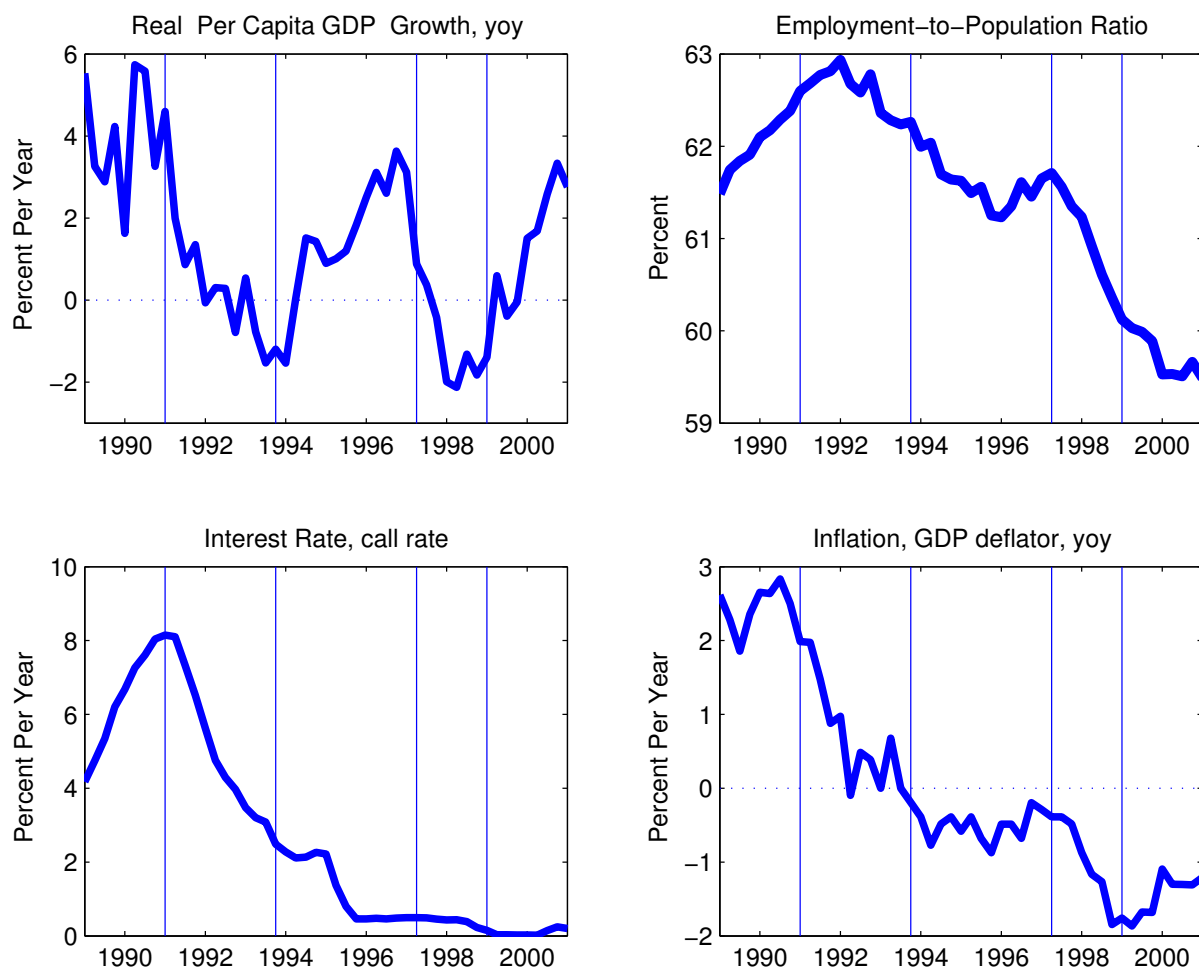
Source: FRB Minneapolis, <https://www.minneapolisfed.org/banking/mpd>

Jobless Recovery with Liquidity Trap United States, 1929-1938



Vertical lines: NBER recession dates, 1929Q2, 1933Q1, 1937Q1, and 1938Q2.

Jobless Growth Recovery with Liquidity Trap Japan, 1989-2001

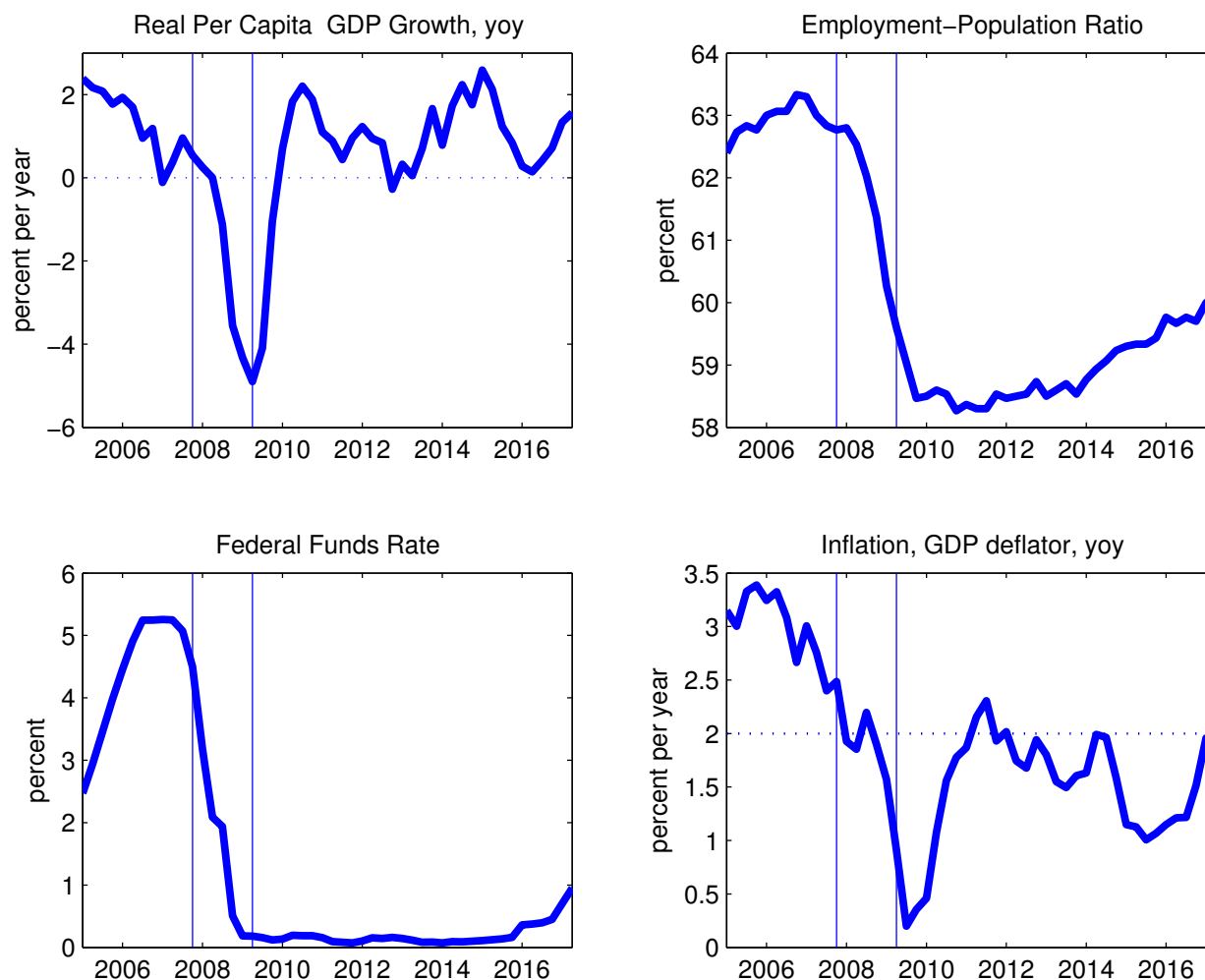


Source: Schmitt-Grohé and Uribe (2017).

Vertical lines: Cabinet Office Recession dates, 1991Q1, 1993Q4, 1997Q2, 1999Q1.

Jobless Growth Recovery with Liquidity Trap

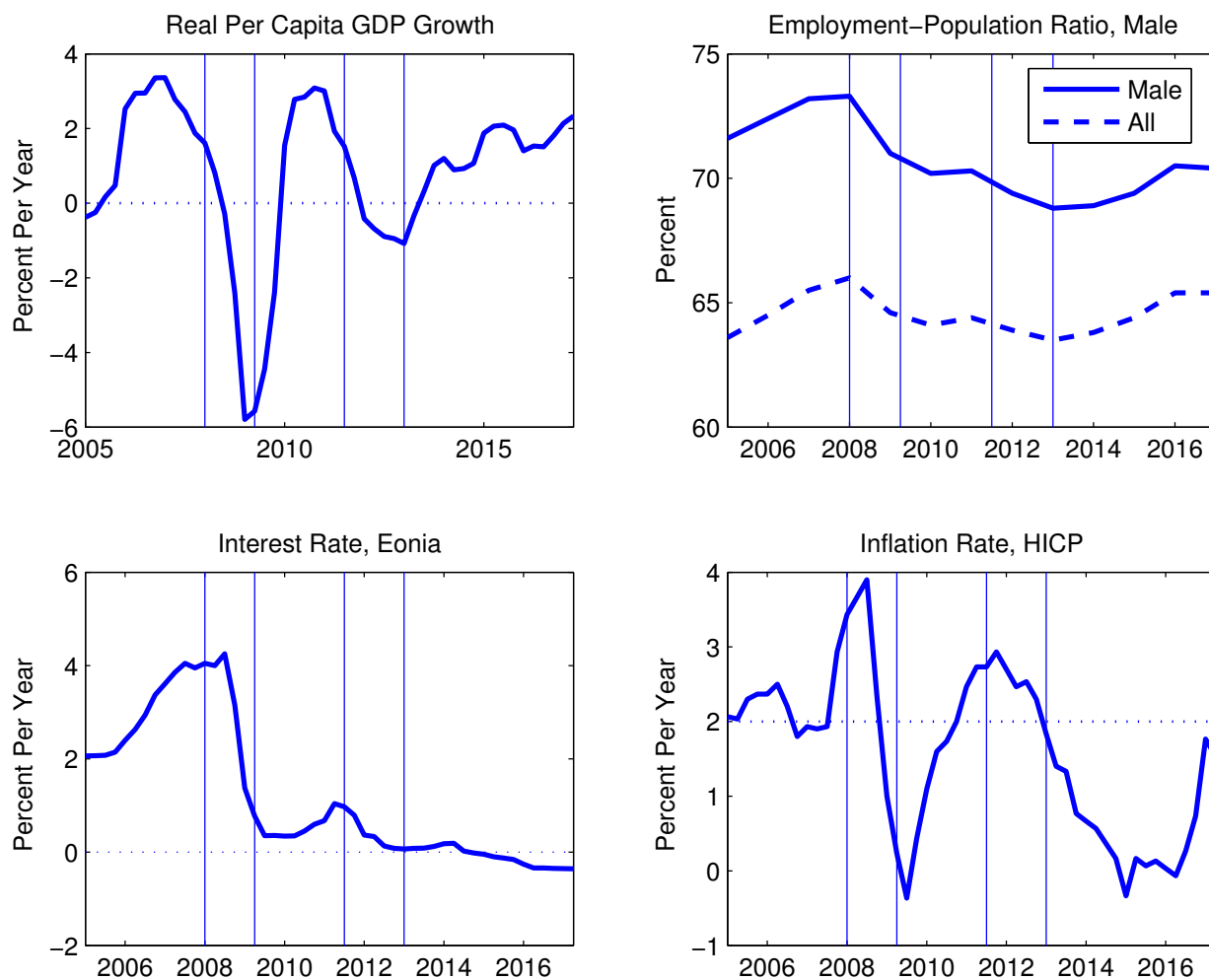
United States, 2005Q1-2017Q2



Source: Schmitt-Grohé and Uribe (2017).

Vertical lines: NBER recession dates, 2007Q4 and 2009Q2

Jobless Growth Recovery with Liquidity Trap Euro Area, 2005-2017



Vertical lines: CEPR business cycle dates, 2008Q1, 2009Q2, 2011Q3, 2013Q1.