Lessons of the long quiet ELB

Comments on "Monetary policy: Conventional and unconventional"

Nobel Symposium on Money and Banking

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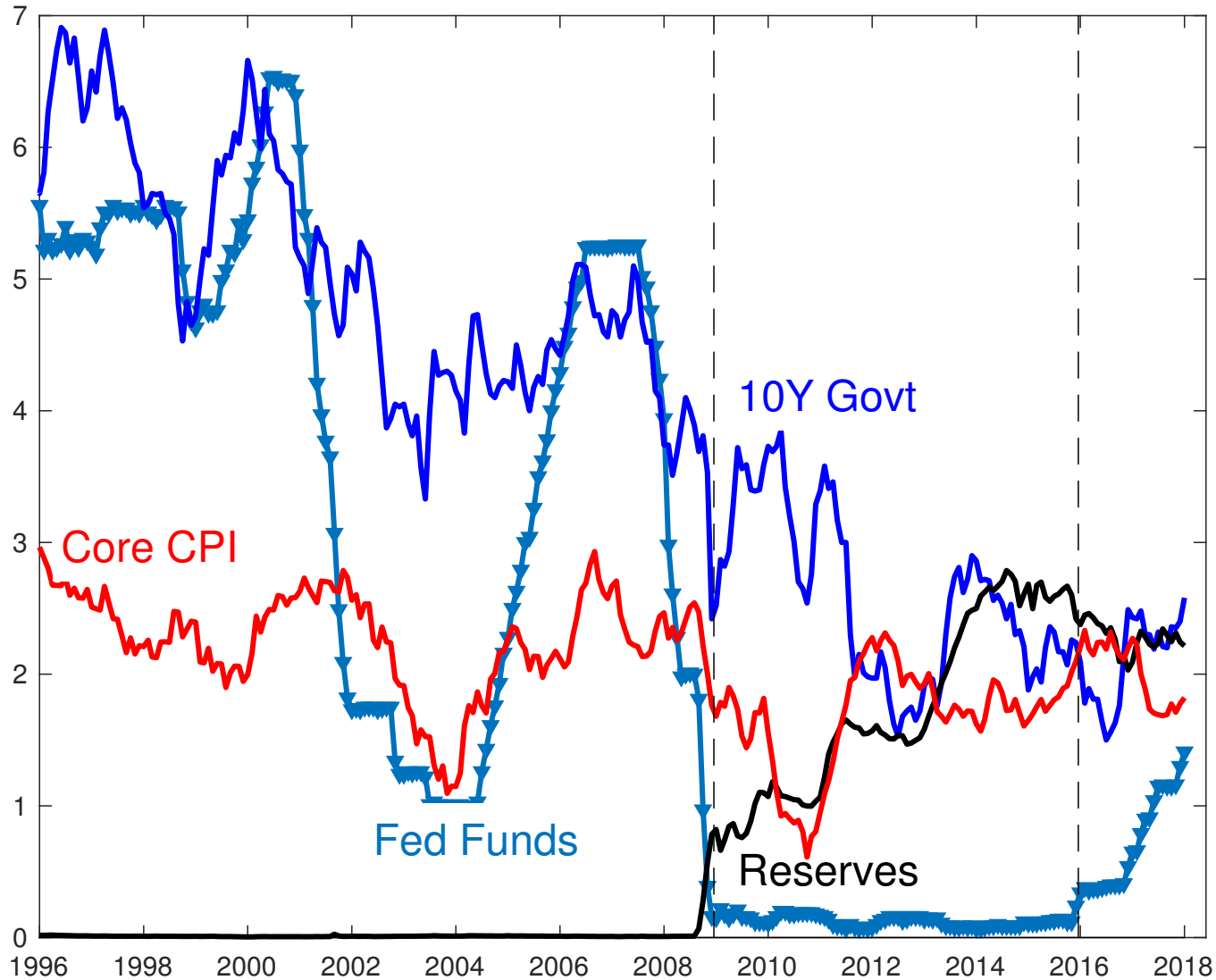
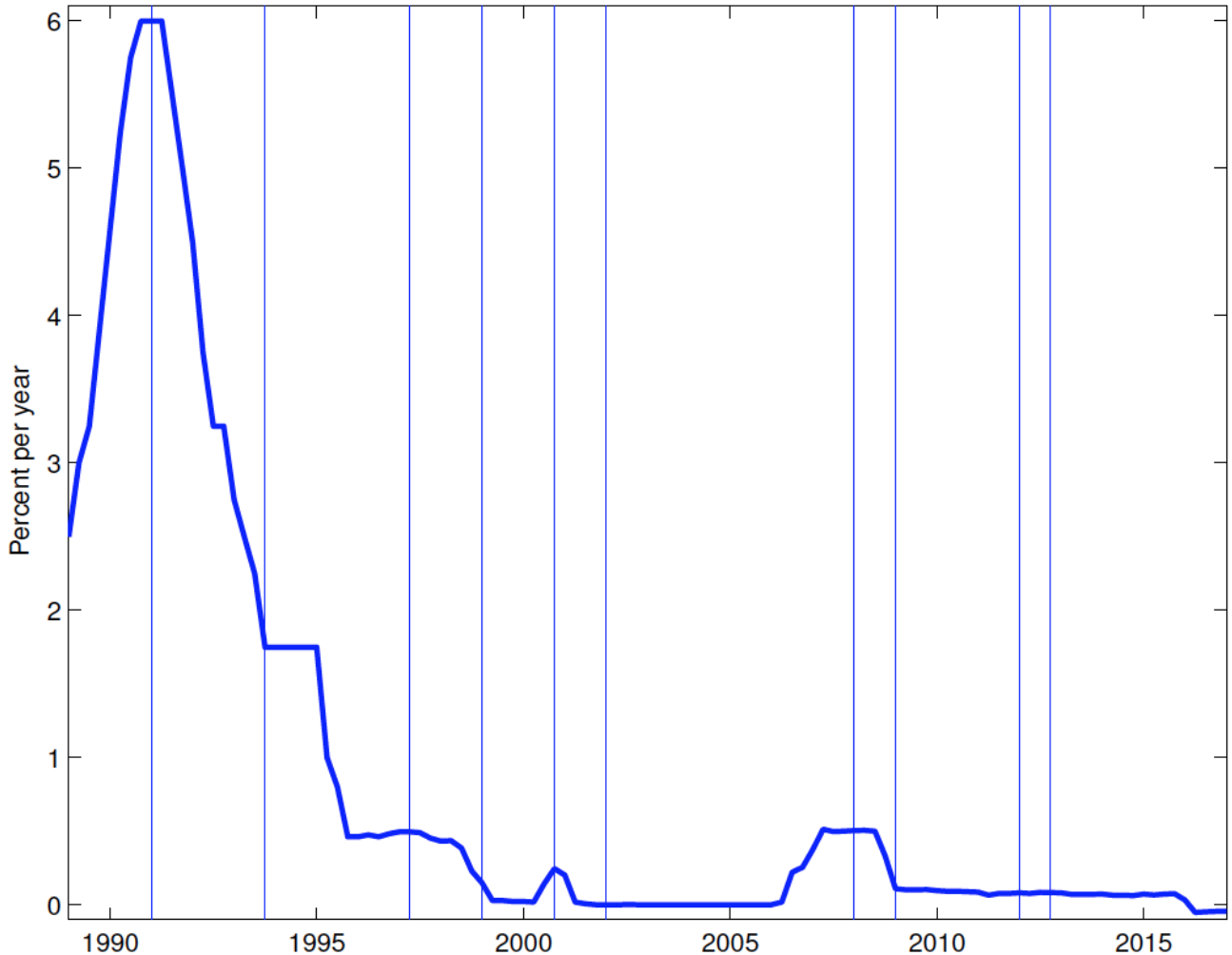
Lessons of long quiet ELB, huge QE



- Dramatic experiment. $i = 0$. Reserves $= 300\times$.
- π is *the same* (or slightly lower and quieter)!

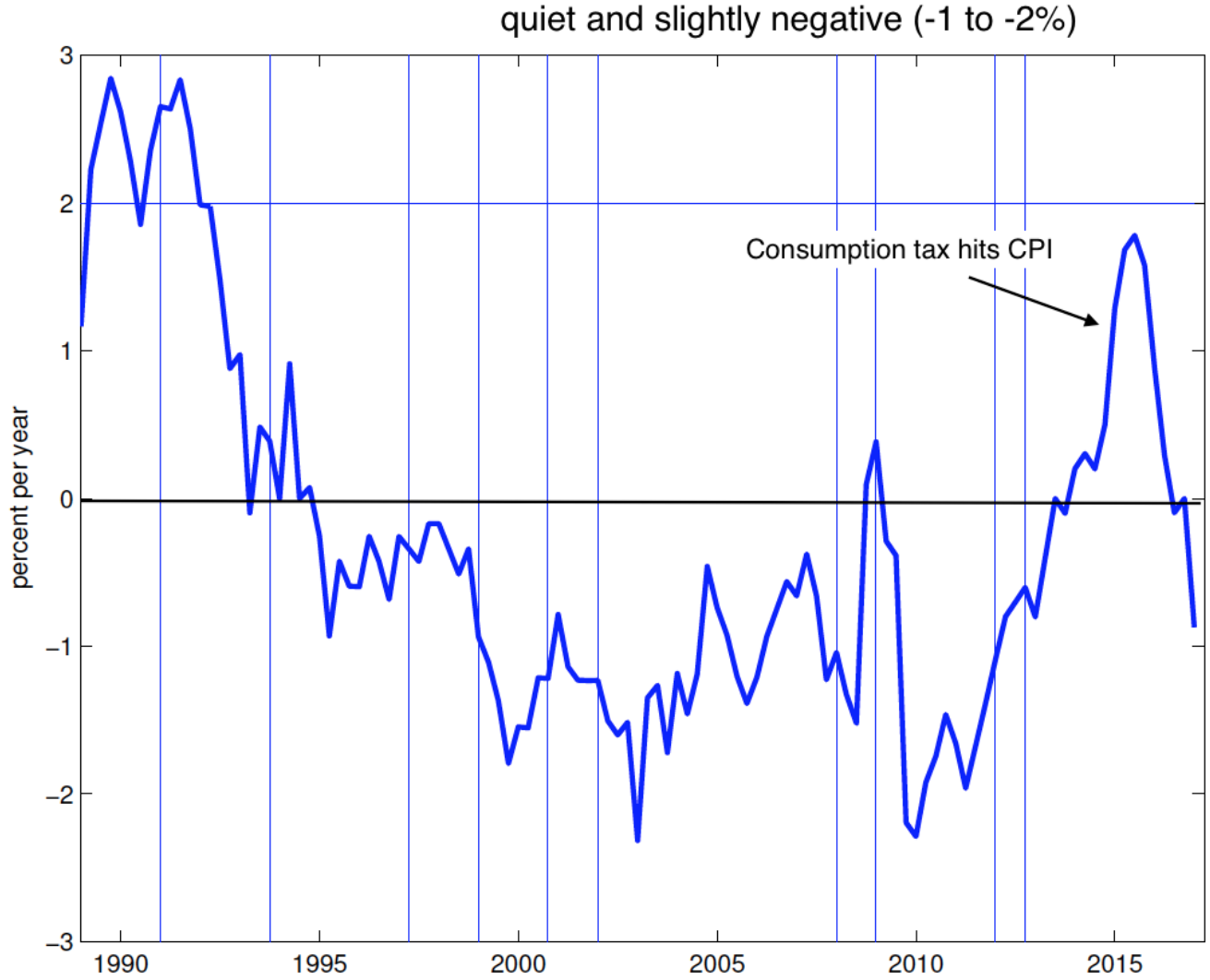
Japan has ~~been in a Liquidity Trap~~ ever since 1995

Had essentially 0% nominal rates and passive policy



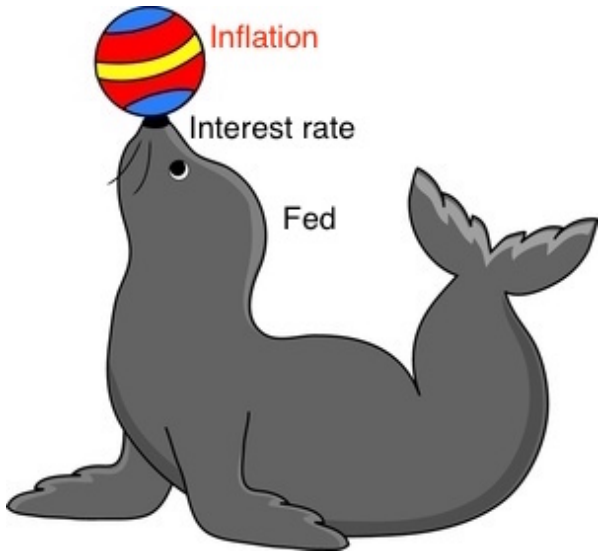
- Japan. 23 years at the ELB with $\phi < 1$. And...

... and inflation has been ~~below target~~ throughout.



- 23 years of Friedman optimum ($i = 0$, $\pi = -r$)?
- 2 atomic bombs (reserves, long ELB). Nothing happened!
- Important and revealing experiment.

Stability lessons



Unstable

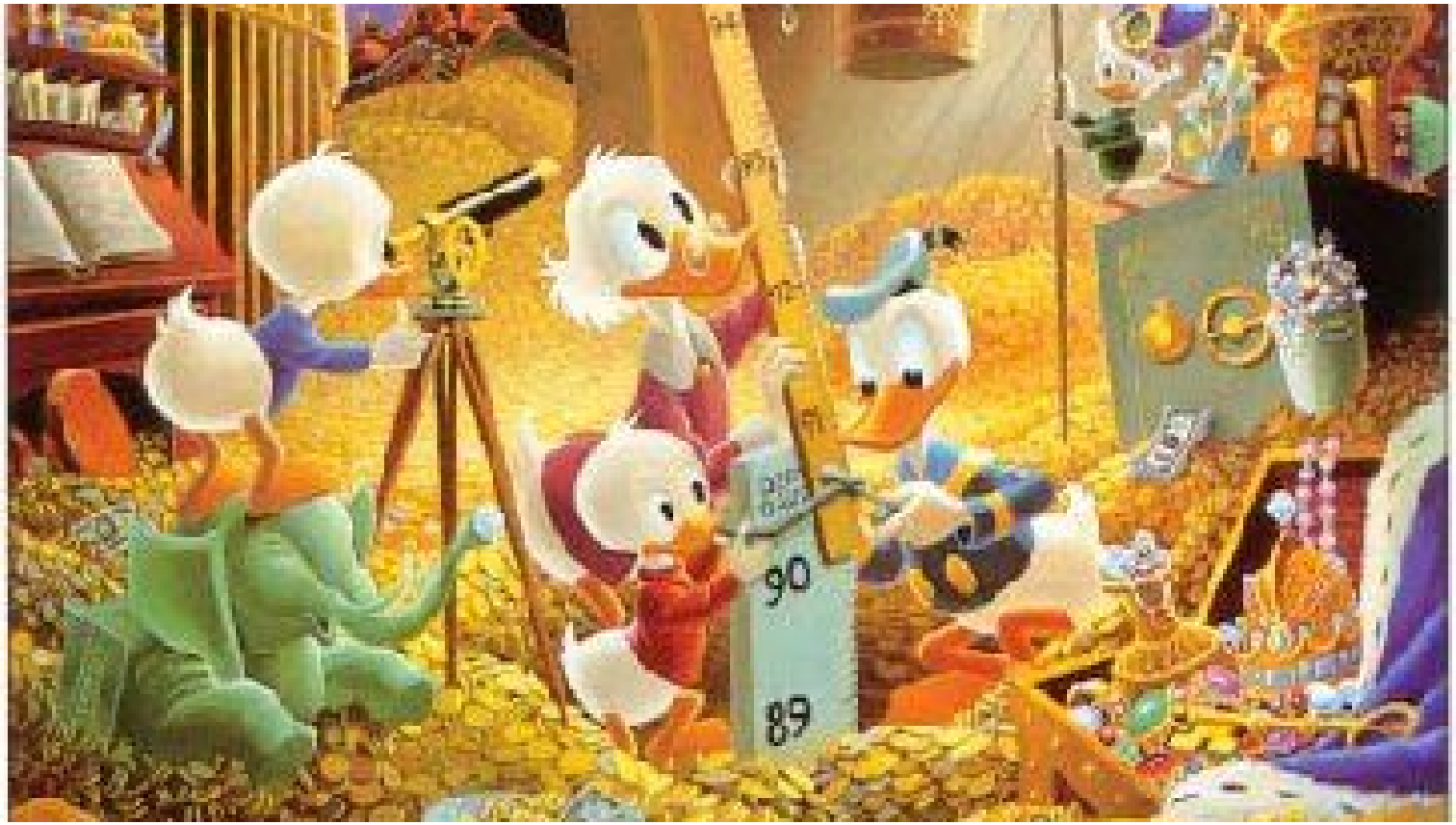
$\pi_{t+1} = (\lambda > 1)\pi_t + ...$

Stable

$\pi_{t+1} = (\lambda > 1)\pi_t + ...$

- Inflation is *stable* and *quiet* at long lasting ELB, & huge interest-paying reserves.
- $\rightarrow$ with passive policy ($i_t = \phi\pi_t$; $\phi < 1$); even a peg.
- This lesson of the long quiet ELB provides a crucial experiment finally separating previously hard-to-distinguish theories.

Quantity lessons



The optimal quantity of money

- Arbitrary interest-paying reserves do not cause inflaton. ~~MV=PY.~~
- We can live the Friedman-optimal quantity of money!
- Reserves can and should be huge, pay market interest.
- No need to control reserve quantity.
- Treasuries should issue reserve - like bonds.

Interest rate lessons

Preview: a common theoretical structure

$$x_t = E_t x_{t+1} - \sigma(i_t - E_t \pi_{t+1} + v_t^r) \tag{1}$$

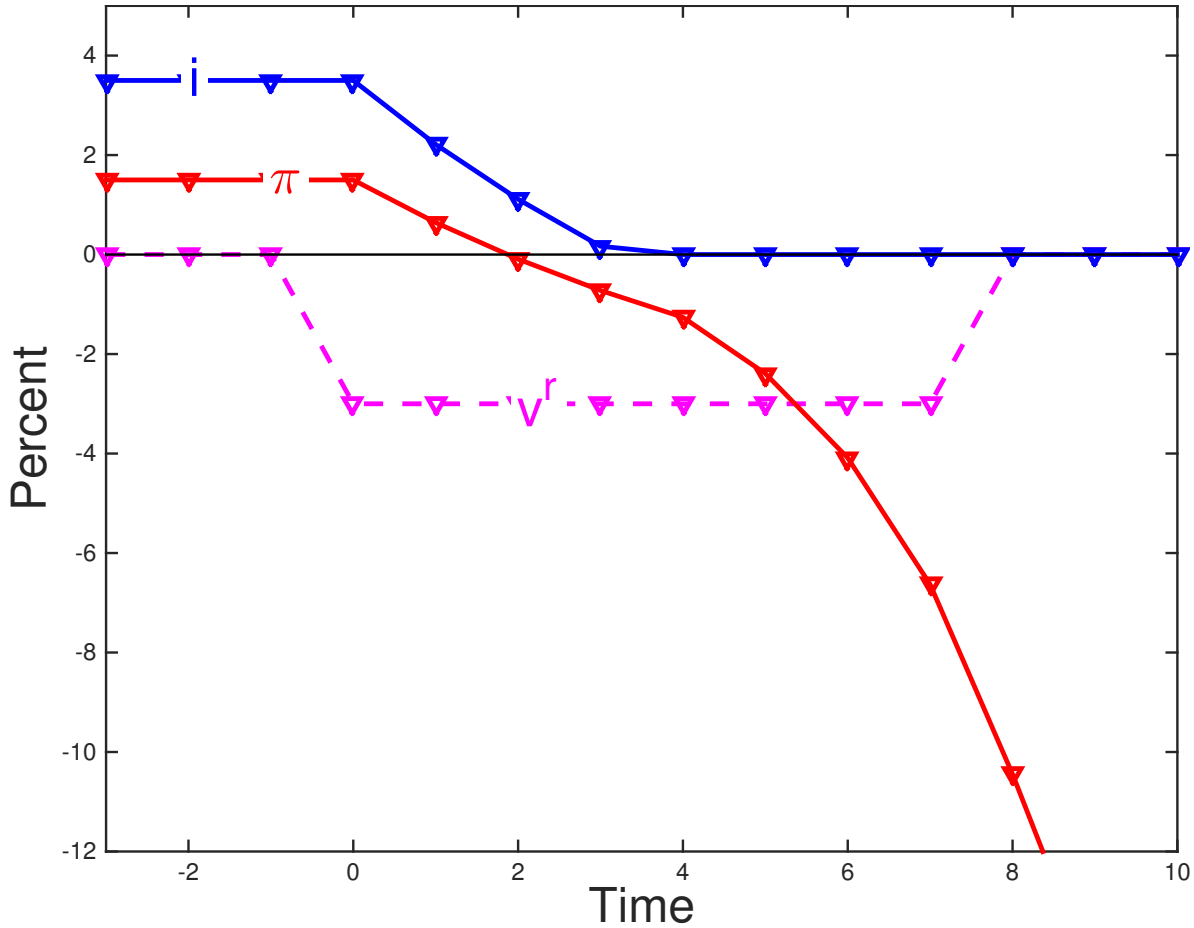
$$\pi_t = E_t \pi_{t+1} + \kappa x_t \tag{2}$$

$$i_t = \max[i^* + \phi(\pi_t - \pi^*), 0] \tag{3}$$

$$(E_{t+1} - E_t)\pi_{t+1} = (E_{t+1} - E_t) \sum_{j=0}^{\infty} m_{t,t+j} s_{t+j} / b_t. \tag{4}$$

- Adaptive or rational E? (Or halfway, e.g. Woodford k-step?)
- Handling multiple equilibria?
- Does (4) just "passively" determine s,..
- Or does it solve all puzzles? (Yes!)

Adaptive Expectations / Old-Keynesian



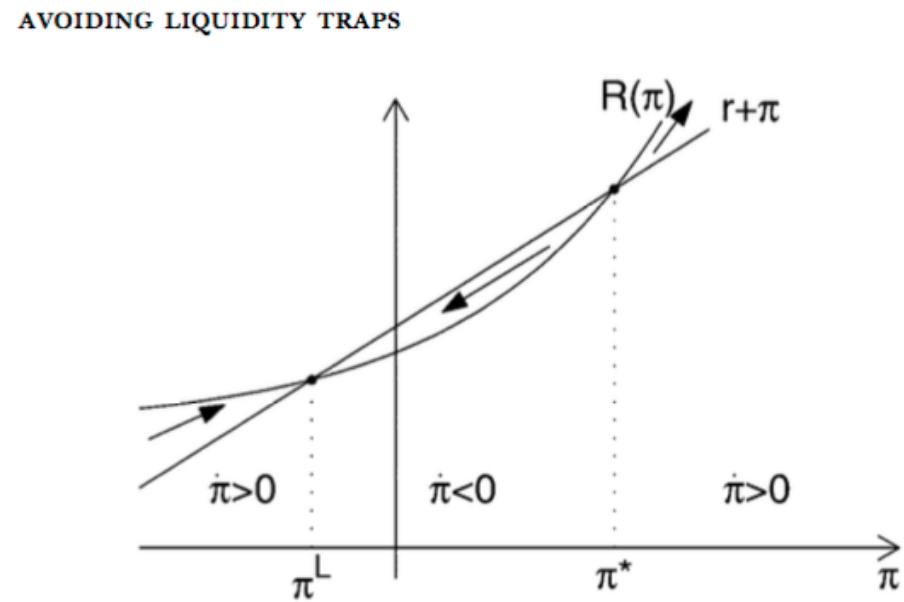
- Old K/Adaptive E, Friedman 1968: *i* peg, $\phi < 1$ is *unstable*.
- Taylor $\phi > 1$ stabilizes. ELB $\rightarrow \phi < 1 \rightarrow$ *Deflation spiral.*
- *The deflation spiral did not happen. This theory is wrong.*

Rational Expectations / New-Keynesian I

- ELB, peg, trap $\to \pi$ is *stable.* :) !
- But *indeterminate* hence *volatile.* "Multiple equilibria." "Self-confirming fluctuations." "Sunspots."

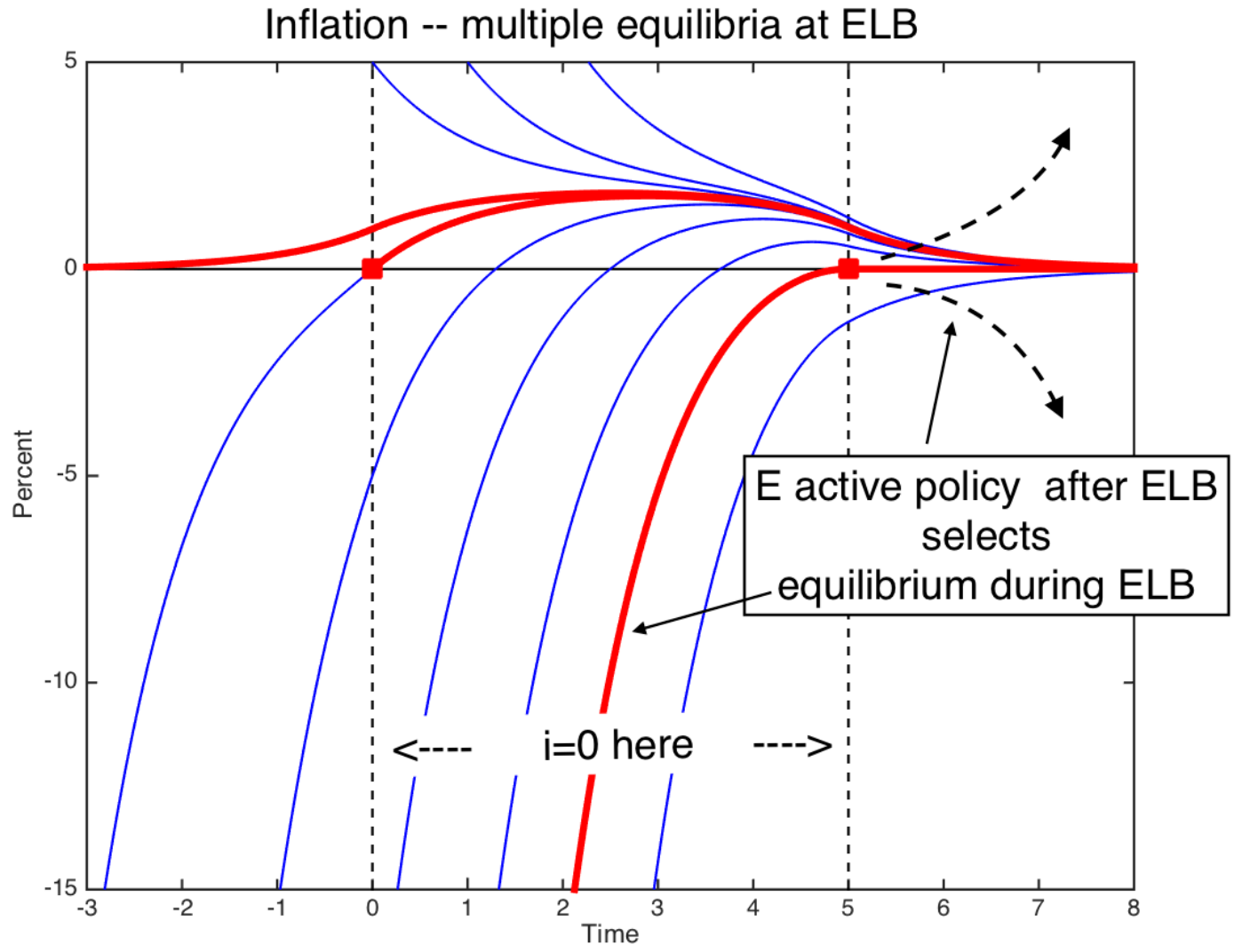
  $E_t\pi_{t+1} = r_t + i_t;\ \pi_{t+1} = E_t\pi_{t+1} + \delta_{t+1}$

- Taylor $\phi > 1$ makes economy *un*stable, hence locally determinate.
- $\phi < 1$ volatility is a core prediction. Clarida Galí Gertler. 1990s Japan ELB fears. Main "trap" problem.



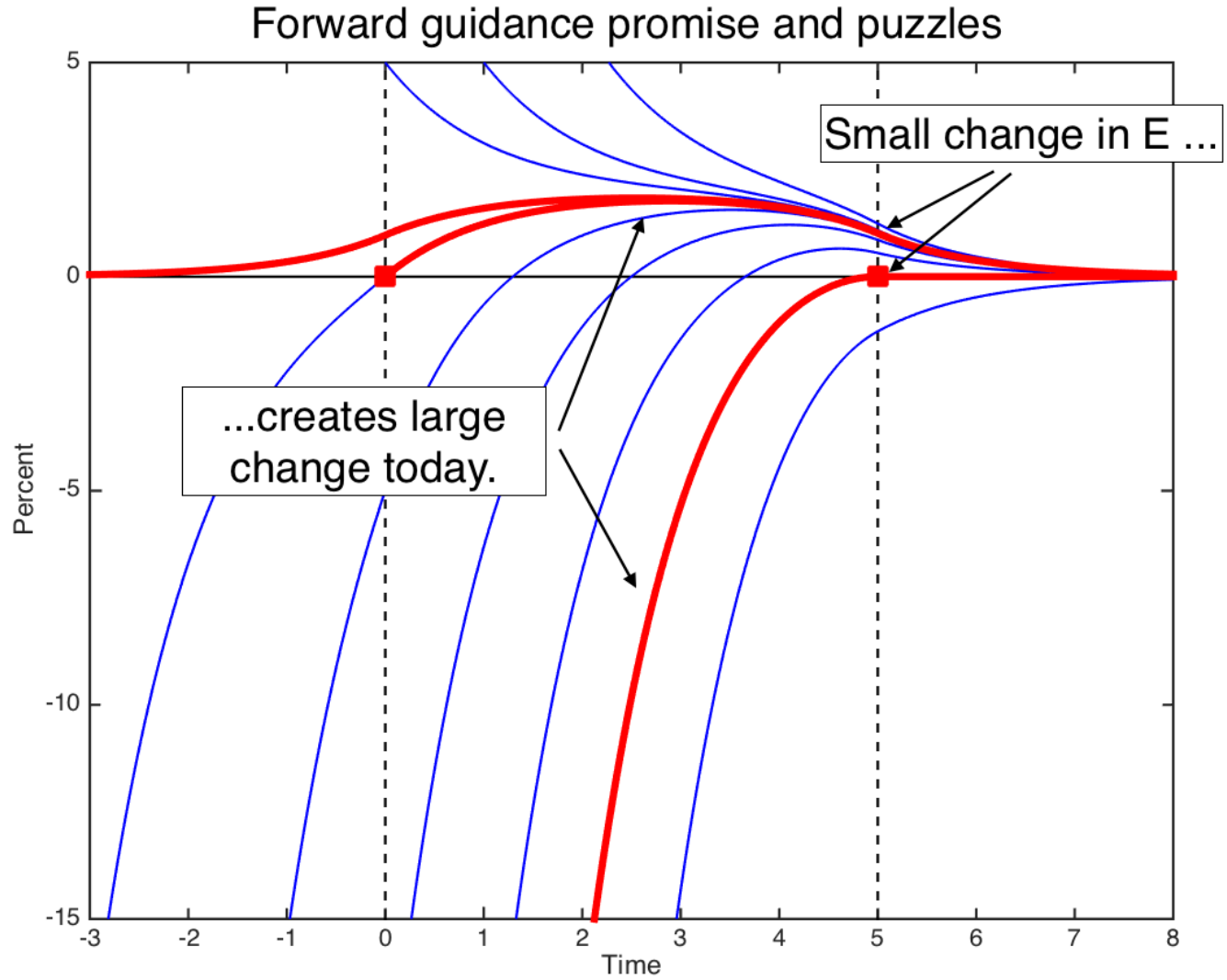
  - Extra sunspot volatility *did not happen*. *This theory is wrong.* (Incomplete.) Inflation can be stable, *determinate* and *quiet* at ELB.

NK II: Selection by future active policy



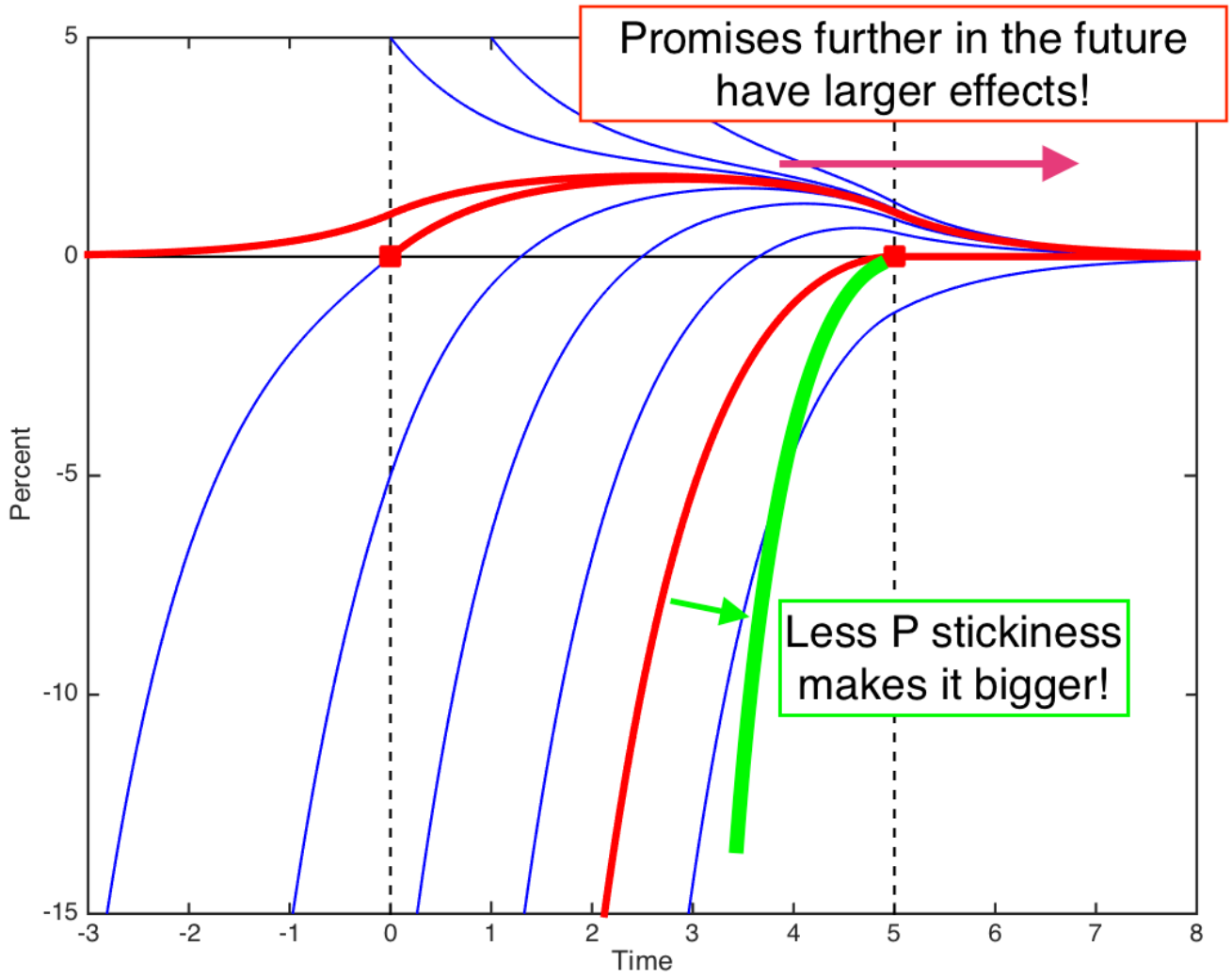
- Expected future $\phi > 1$ selects equilibria $\rightarrow$ determinate.
- (Why not 1970s?)

NK II: Selection by future active policy



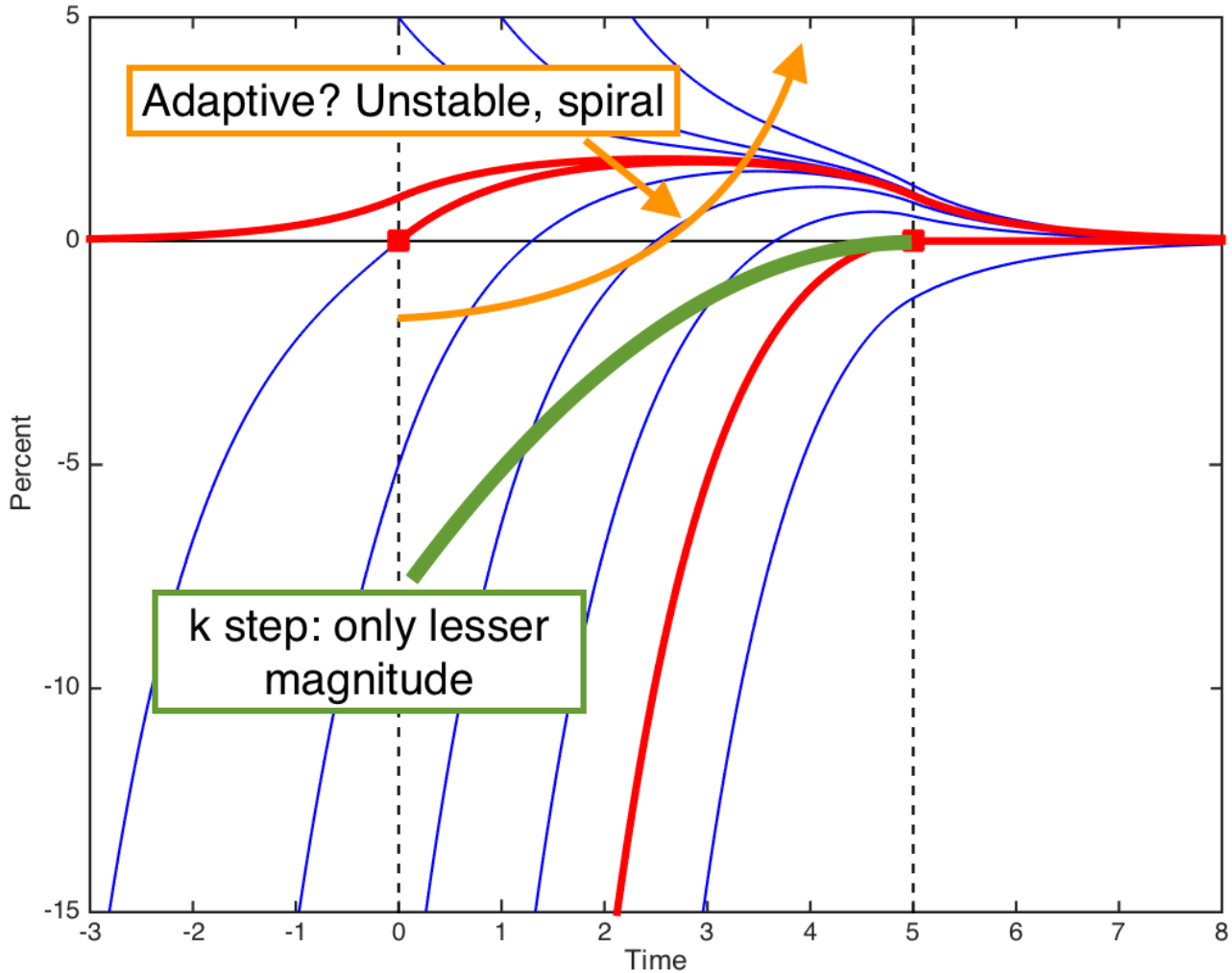
- Small changes to $E_0\pi_T$ can have big effect on π_0, y_0
- $\rightarrow$ Forward guidance. Woodford: Commitment? Price level target. Schmitt-Grohé: Raise i_T to raise $\pi_T \rightarrow \pi_0$.

NK II: Problems



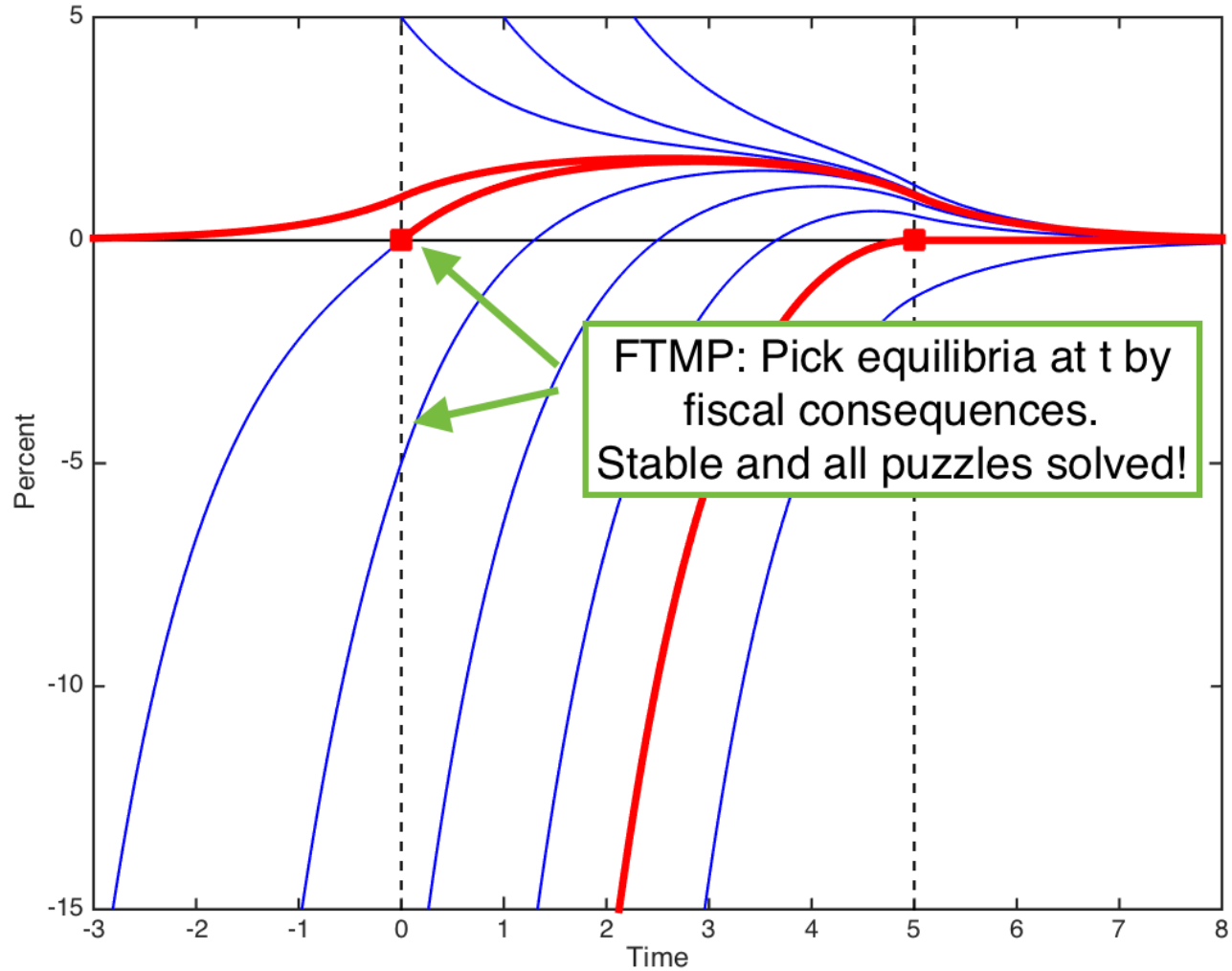
- Promises further in the future have bigger effects today.
- Prices *less* sticky, faster backward explosions. Frictionless limit.

NK II: Solutions?



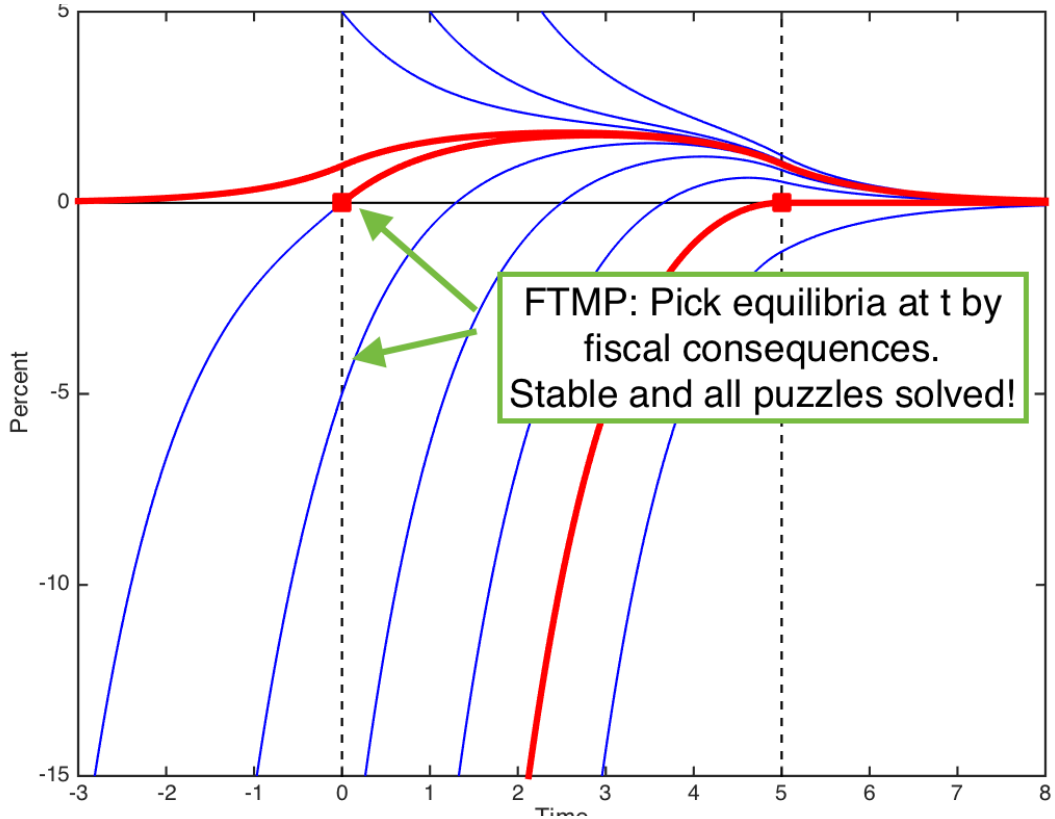
- Woodford, Gabaix, others: Abandon rational expectations.
- Woodford k-step. Complex. Only reduces the magnitude.
- Gabaix & others return to adaptive: Spiral?
- Basic stability properties are robust!

Fiscal theory of monetary policy



- Stable, but select equilibria by π_t not π_T.
- Unexpected deflation $\leftrightarrow$ more PV surplus to pay bondholders.
- Wealth effect of government bonds. Pigou vs. Keynes.

Fiscal theory of monetary policy



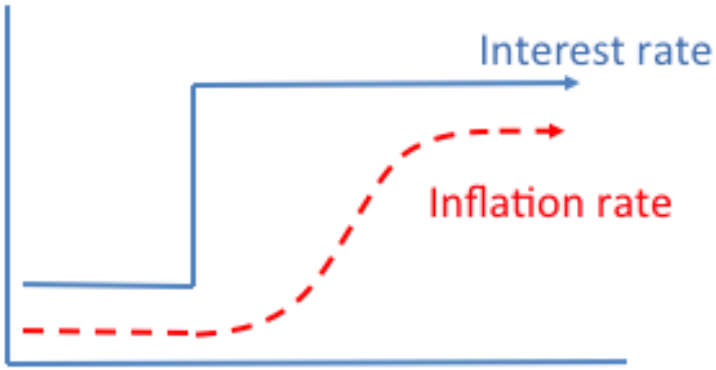
- Explains no deflation jump.
- Solves guidance puzzle, frictionless limit.
- Allows (not requires) rational expectations. Simple.
- Saves NK program from self-destruction!
- Only paradox-free simple theory left, consistent with stability.

$$(E_t - E_{t-1})\pi_t = (E_t - E_{t-1}) \sum_{j=0}^{\infty} m_{t,t+j} s_{t+j} / b_t$$

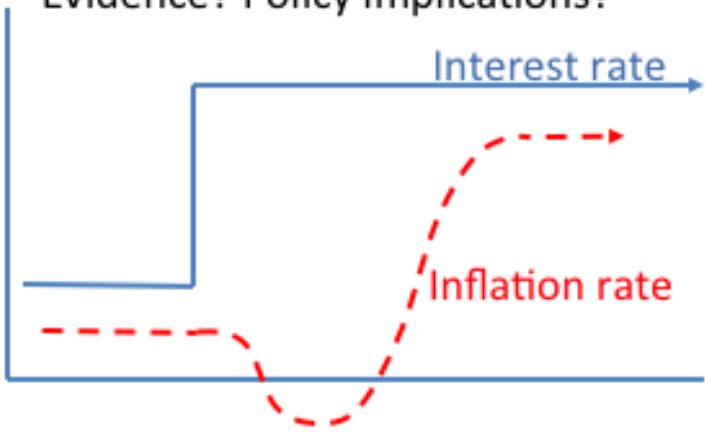
Neo-Fisherism

- If π is *stable* with passive policy, then if the Fed raises i, permanently, then π should eventually *rise*.
- Unavoidable consequence of stability. All NK models.
- π could still decline in the *short run*. Does it? How?

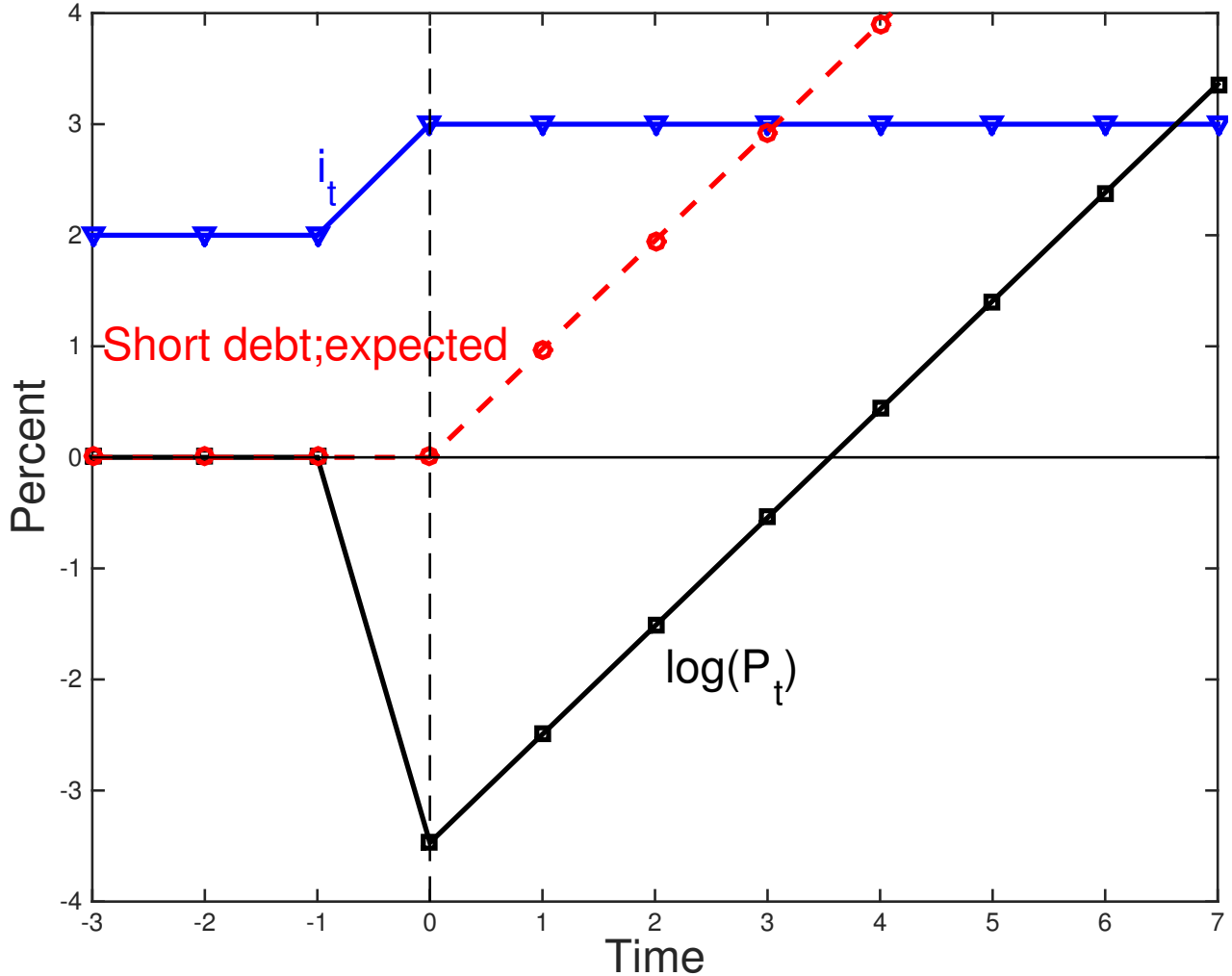
Implication of stability. Theory?



Minimum *necessary* assumptions?
Evidence? Policy implications?

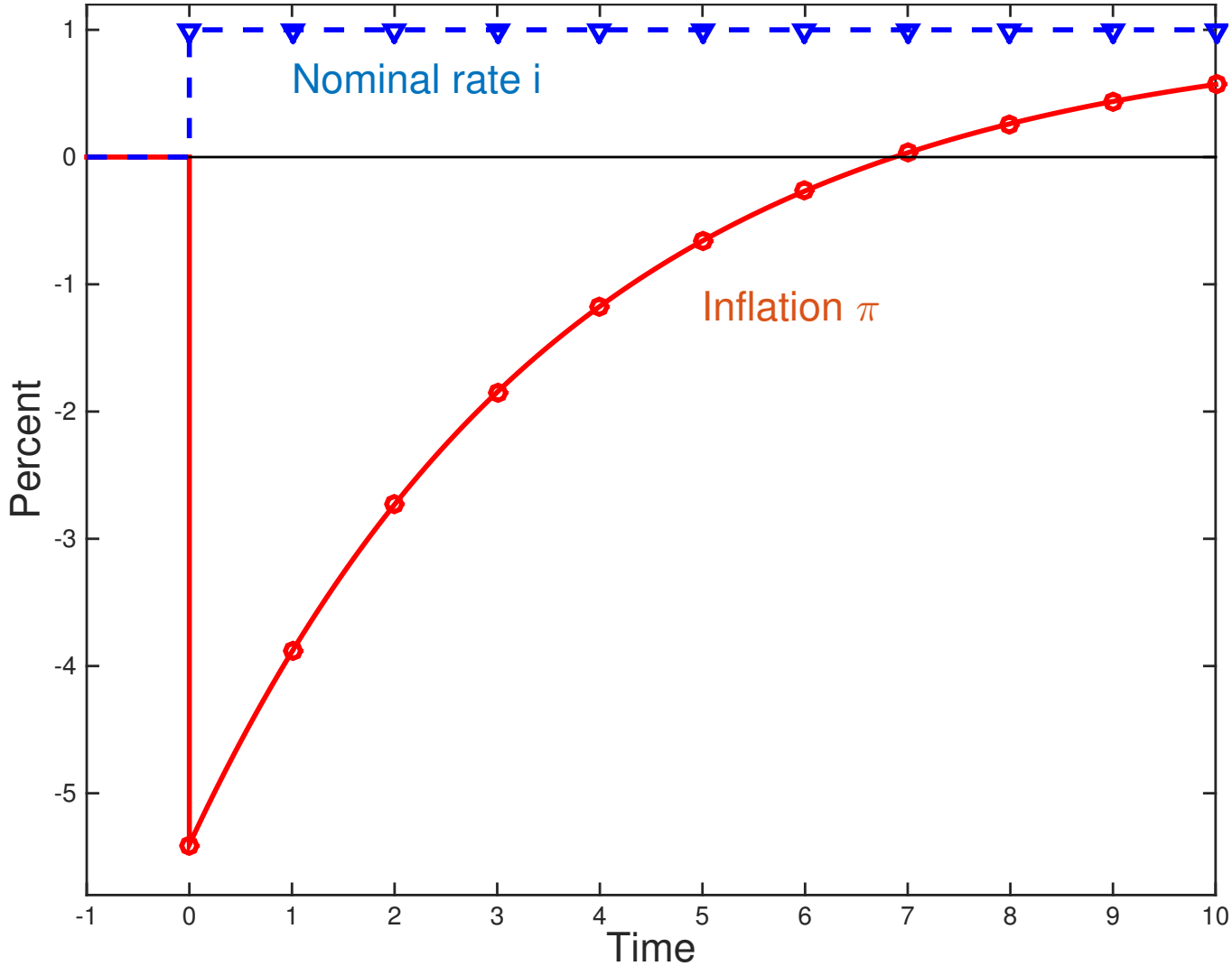


FTMP, long-term debt → negative short run response



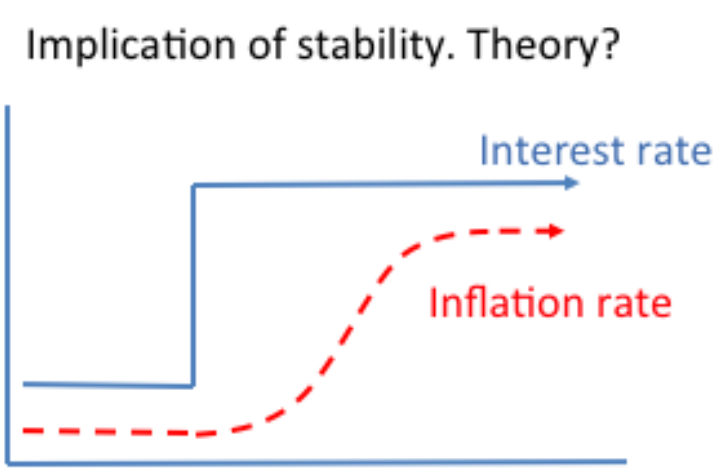
- $i_t = E_t \pi_{t+1}$; Nominal market value of debt / P_t = EPV surpluses.
- Higher $i \rightarrow$ lower bond price $\rightarrow$ lower P.

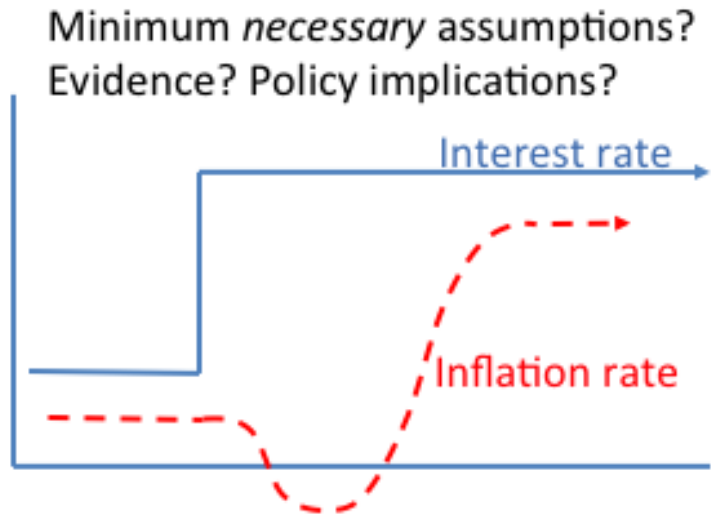
FTMP, long-term debt, sticky prices $\rightarrow$ realistic response



- NK IS *and Phillips*, FTPL, long term debt, no Δs, i peg rises.
- Negative only for unexpected i + long term debt.

Neofisherism?





- Long-run: An inescapable result of stability.
- NK+FTPL = FTMP gives temporary negative response with long-term debt and unexpected shock.
- $\rightarrow$ Schmitt Grohé: Gradual, expected rise!
- US vs. Europe & Japan. Neo-Fisher at work?
- Turkey, Brazil, Venezuela, Argentina? Needs fiscal foundation!

Advertisements

- "The New-Keynesian Liquidity Trap" 2017 *Journal of Monetary Economics* 92, 47-63.
- "Michelson-Morley, Fisher, and Occam: The Radical Implications of Stable Inflation at the Zero Bound" Forthcoming *Macroeconomics Annual* 2018.
- "Stepping on a Rake: the Fiscal Theory of Monetary Policy" January 2018. *European Economic Review* 101, 354-375.
- How FTMP provides a simple unified framework for interest rate policy, quantitative easing, and forward guidance, that works even in frictionless models. You add price stickiness to produce realistically slow dynamics.
- This talk and slides `http://faculty.chicagobooth.edu/john.cochrane/`