Discussion of "Bubbly Recessions" Conference in Honor of Tim Fuerst and Charles Calstrom

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Because of his many connections with the fiscal and commercial industries of his day, Matthew is the patron saint of bankers, economists, stock brokers, and financial entities.

Ingredients

1. Collateral constraints

2. Bubbles

3. Dowward rigid wages

A model with collateral constraints

- Unit mass of homogeneous workers.

- Unit mass of entrepreneurs, heterogenous in productivity and in wealth.

- Key: **High** wealth-**Low** productivity and **Low** wealth-**High** productivity.

Entrepreneurs

- Productivity and wealth of entrepreneur j are $z^j \in Z$, and $w^j \in W$

- Profits linear on capital

$$\pi(z^j, k^j) = \rho z^j k^j$$

- ad-hoc borrowing constraints:

$$d^j_{t+1} \le \theta_t k^j_{t+1}, \quad \theta_t \in [0, 1], \text{ for all } t$$

- Given an interest rate r, entrepreneurs chose to be inactive if

$$1 + z^j \rho - \delta \leq 1 + r,$$

- They lend all their wealth.

- Entrepreneurs become active if

$$1 + z^j \rho - \delta > 1 + r,$$

- They will borrow till they hit the collateral constraint.

Modelling a credit crunch

- Reductions in θ_t

- Generate

  1. Disintermediation: drops in credit *and* in real interest rate

  2. Drop in TFP, investment, the real wage, labor and output.

Alternative 1

- Have a two good (consumption and capital) model.

- The collateral constraint becomes

$$d^j_{t+1} \leq \theta_t k^j_{t+1} p^k_t, \quad \theta_t \in [0, 1], \text{ for all } t$$

- Mendoza-Bianchi, several papers.

Alternative 2

- Have another asset that is part of the wealth.

- The constraint becomes

$$d^j_{t+1} \leq \theta_t k^j_{t+1} + a_{t+1} p^a_t, \quad \theta_t \in [0, 1], \text{ for all } t$$

- What if there is a bubble component in p^a_t?

- Martin and Ventura: isomorphic to a higher value of θ_t, so it is welfare improving.

- Too bad when the bubble burst, but nothing we can do about it.

- This paper: add downward wage rigidity.

- The welfare results of Martin and Ventura do not hold any longer.

- Firms do not internalize, when increasing wages during the boom, that wages will not fall in the bust.

Policy

- Imagine that the asset a_t is just a risky stock. Prudential regulation? (Mendoza and Bianchi)

- How do you distinguish if there is a bubble or not?
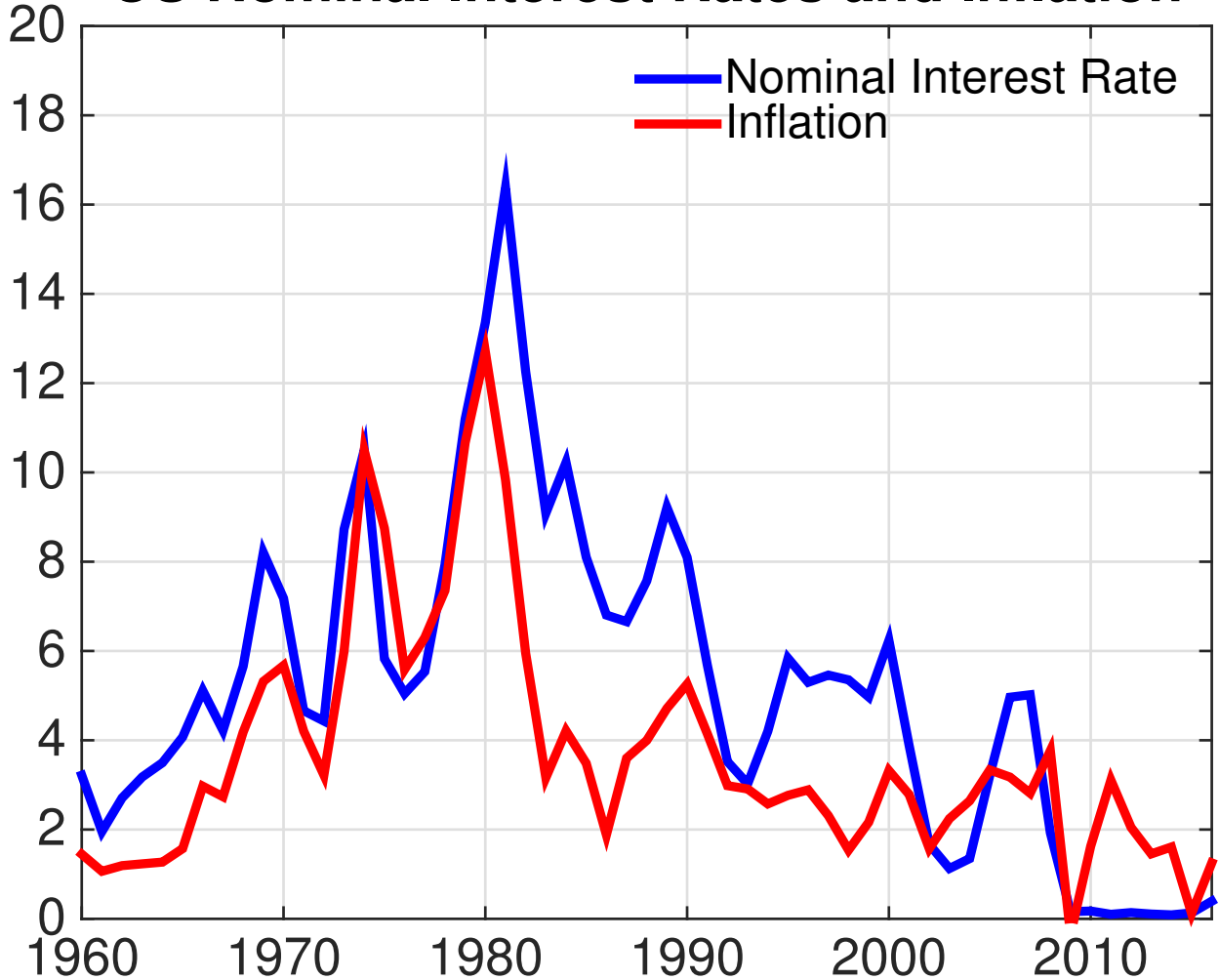
- Does it matter?

The monetary version

- Add money and a Taylor rule.

- Hell may unleash...

- Liquidity trap, deflation interacting with price rigidities for long.....

- Really....??
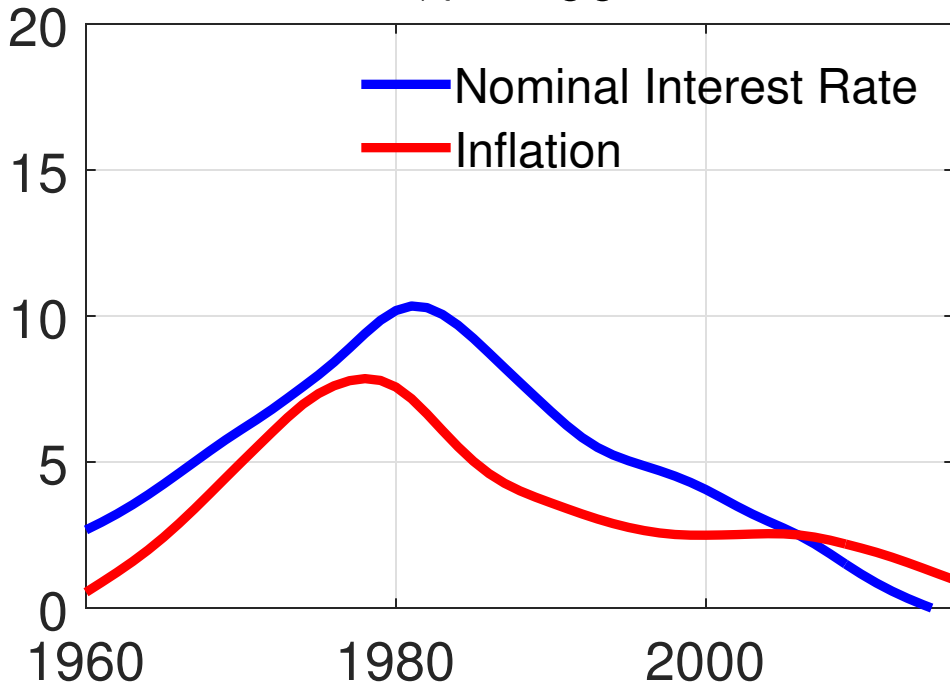
- Consider the following equation(s)

$$i_t = r_t + \pi_t + \varepsilon_t$$
$$m_t = y_t f(i_t)$$
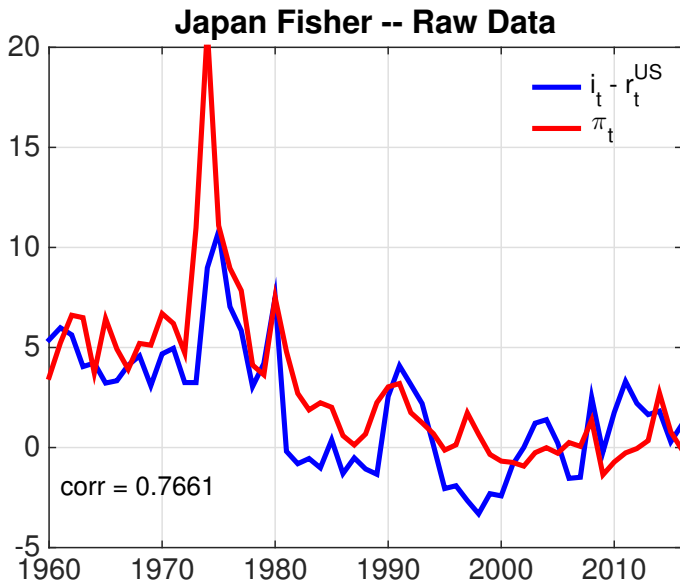
US Nominal Interest Rates and Inflation
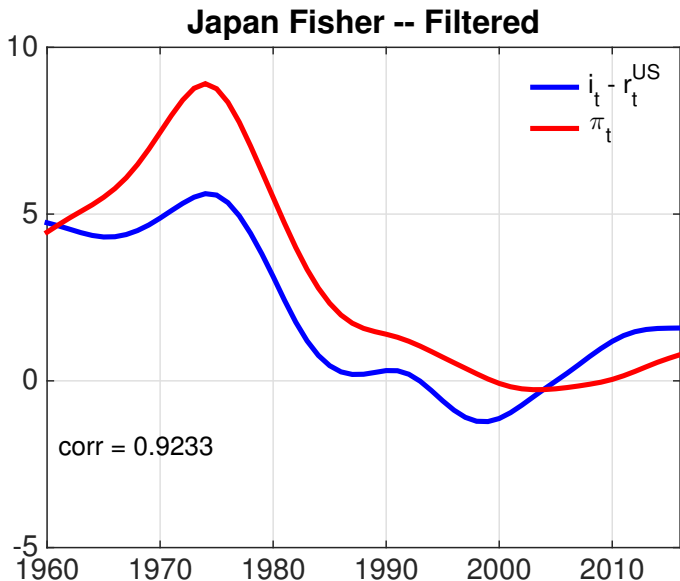
Legend:
- Nominal Interest Rate
- Inflation

US Nominal Interest Rates and Inflation
λ = **100**

Legend:
- Nominal Interest Rate
- Inflation

Fisher Equation – Raw Data

Japan Fisher -- Raw Data

Legend:
- $i_t - r_t^{US}$ (blue)
- π_t (red)

corr = 0.7661

Fisher Equation – HP Filtered

Japan Fisher -- Filtered

Legend: $i_t - r_t^{US}$ (blue), π_t (red)

corr = 0.9233

- At the trap, the CB is stubbornly following the Taylor rule.

- A policy trap? (Uribe's recent beautiful paper)

Cyclical Component of Nominal Interest Rate

Legend:
- $\lambda = 6.5$ (red)
- $\lambda = 100$ (black)