

US Monetary  
Policy:  
Conventional or  
Unconventional?

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Conventional

Unconventional:  
Why?

Unconventional:  
What?

Unconventional:  
How?

# US Monetary Policy: Conventional or Unconventional?

Eupho Lin

Cathay United Bank

2012.4.25

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- Conventional
- Unconventional
  - Why?
  - What?
  - How?

US Monetary Policy:  
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Conventional

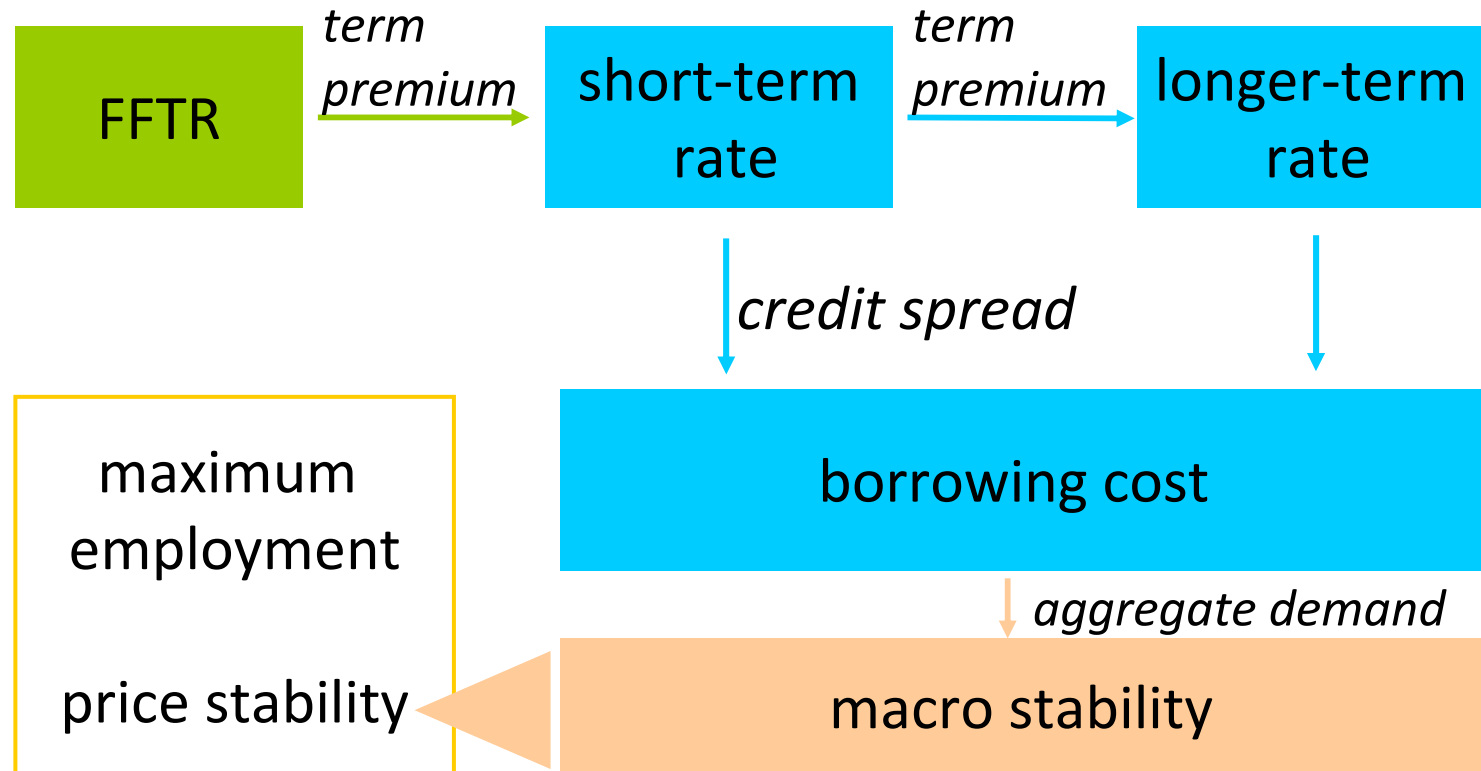
Unconventional:  
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# Conventional

- Federal funds target rate (FFTR)



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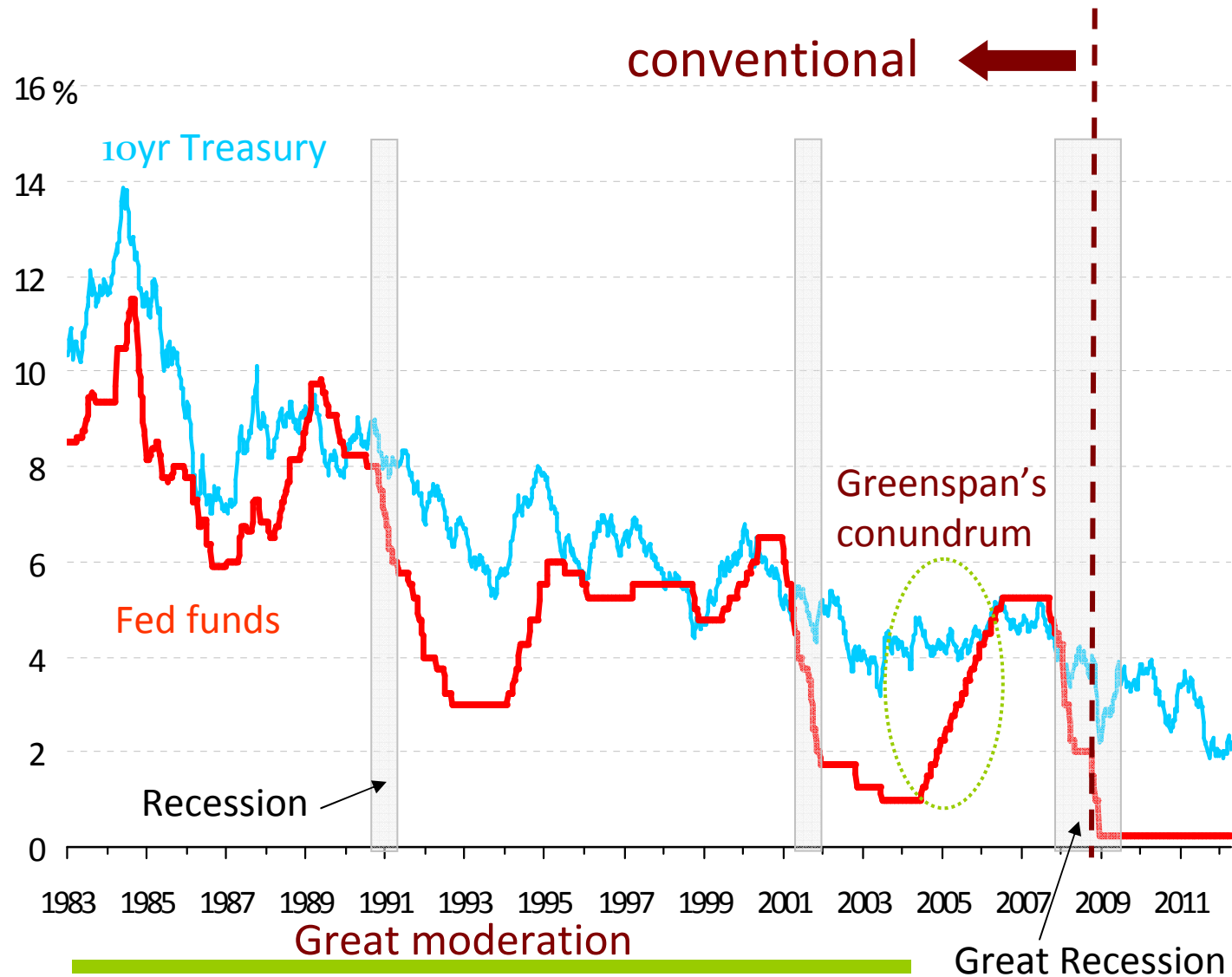
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# Fed Funds and 10yr Treasury



# FOMC

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- composed of
  - members (**voting**)  
governors (7) + Fed bank presidents (5)
  - meeting participants  
member (12) + Fed bank presidents (7)
  - staff (economists)
- how widely expressed a view
  - all, most, many, some, a number of, several, a few, a couple of, one
  - hawk vs dove

# Inside the FOMC

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- **SOMA** (by NY Fed SOMA Manager)  
financial markets and OMO
- **Greenbook** (by Econ & Stat/Intl Finance Division)  
US and Intl economic situation (FRB/US+DSGE)  
first Go-Round
- **Bluebook** (by Monetary Affairs Division)  
decision and scenario  
second Go-Round
- **Voting**  
Statement (press conference)  
Minutes and Transcripts

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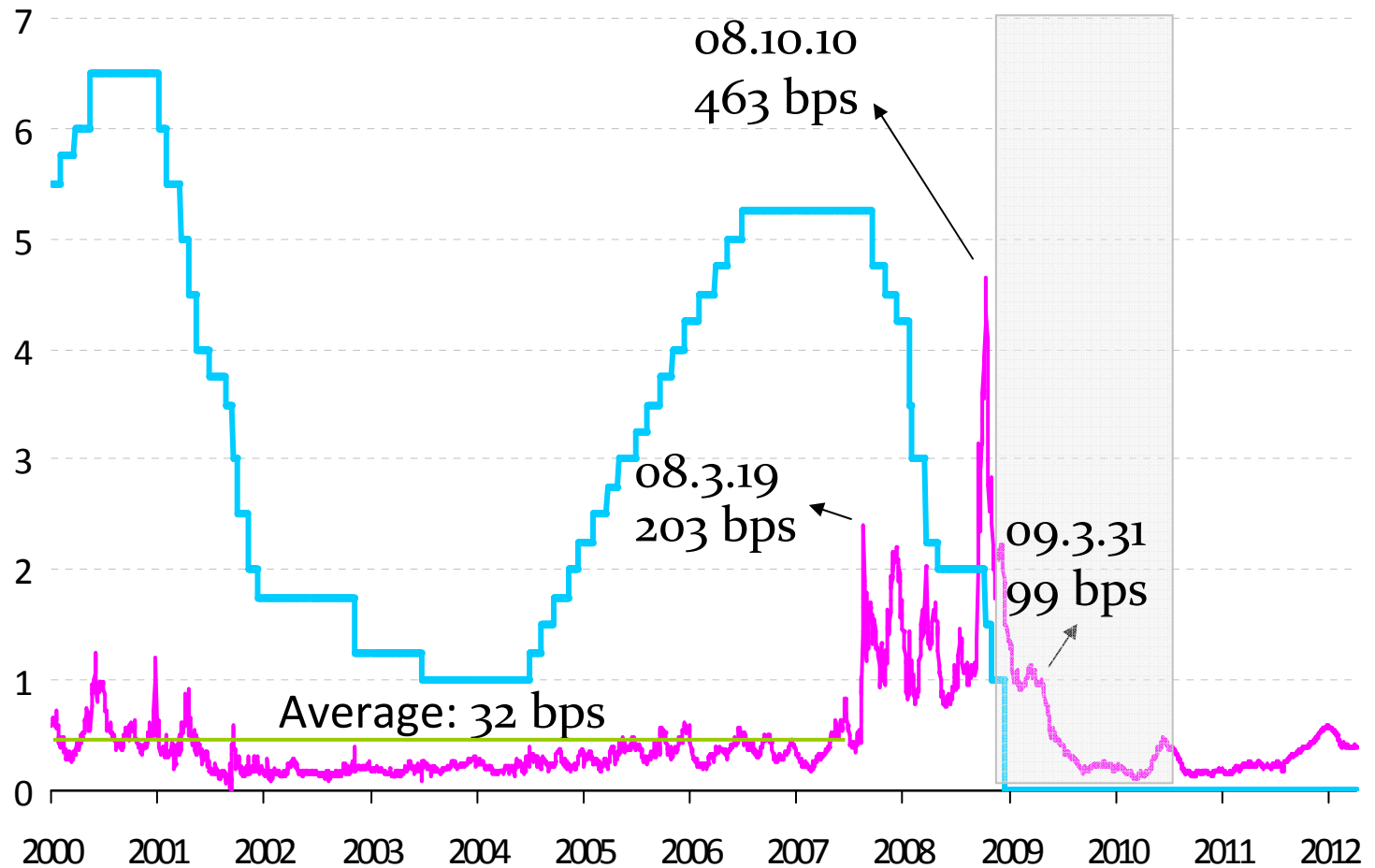
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# Liquidity Premium (TED)

Libor 3M — TBill 3M, %



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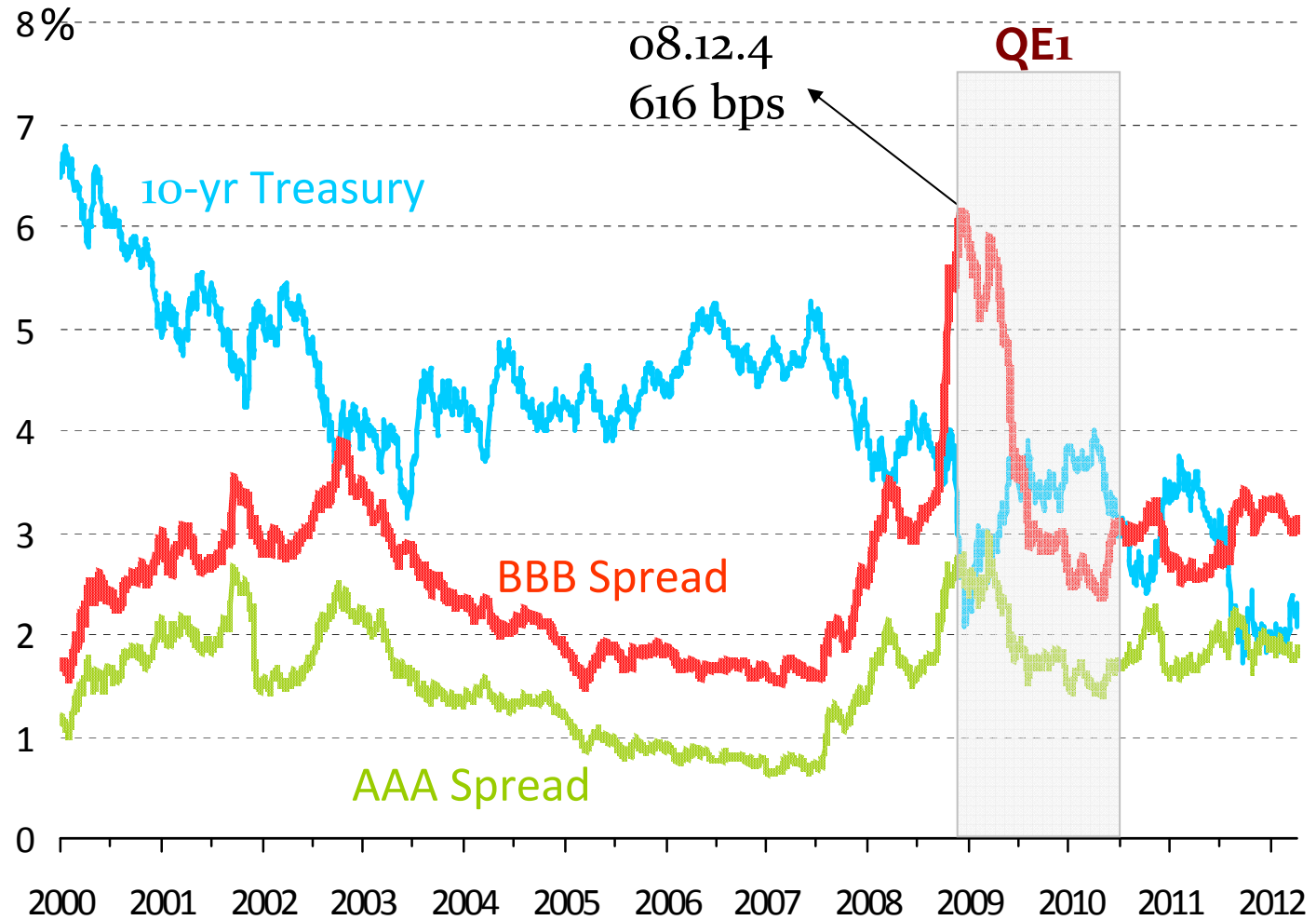
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# Credit Spreads





# Financial Condition Index

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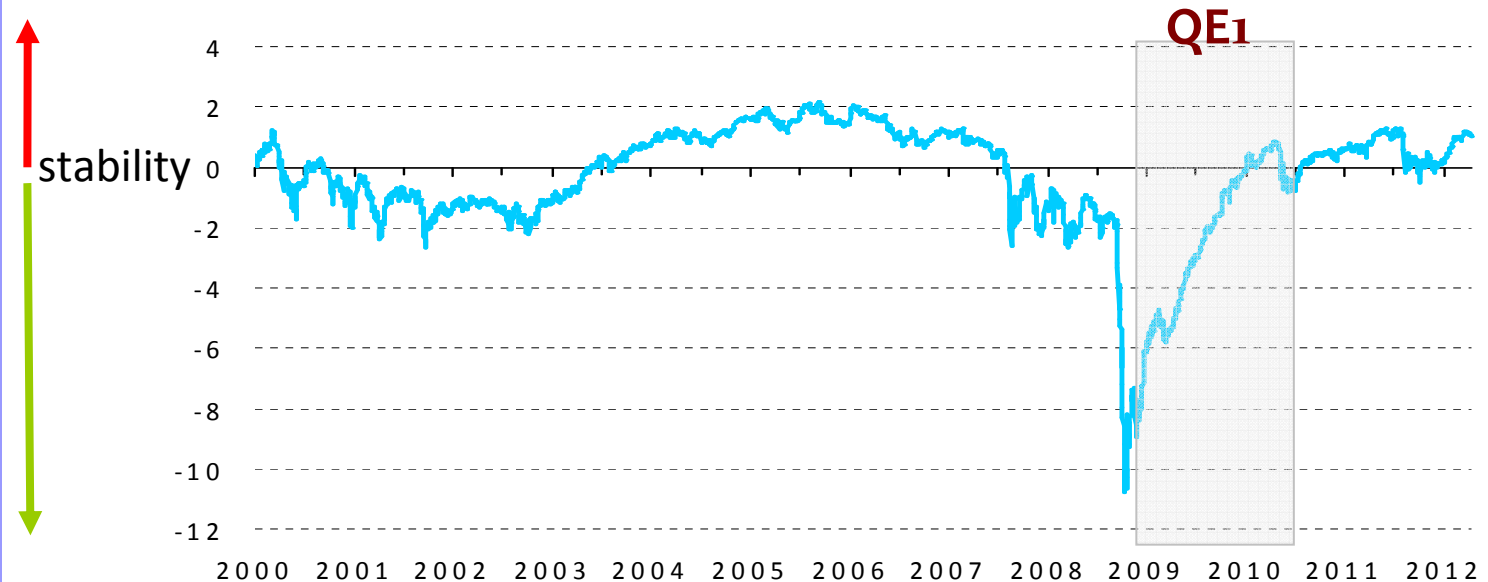
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- Hatzius et al (2010): FCI shows a tighter link with future economic activity than existing indexes

- Yellen (2010): Taylor rule + FCI?



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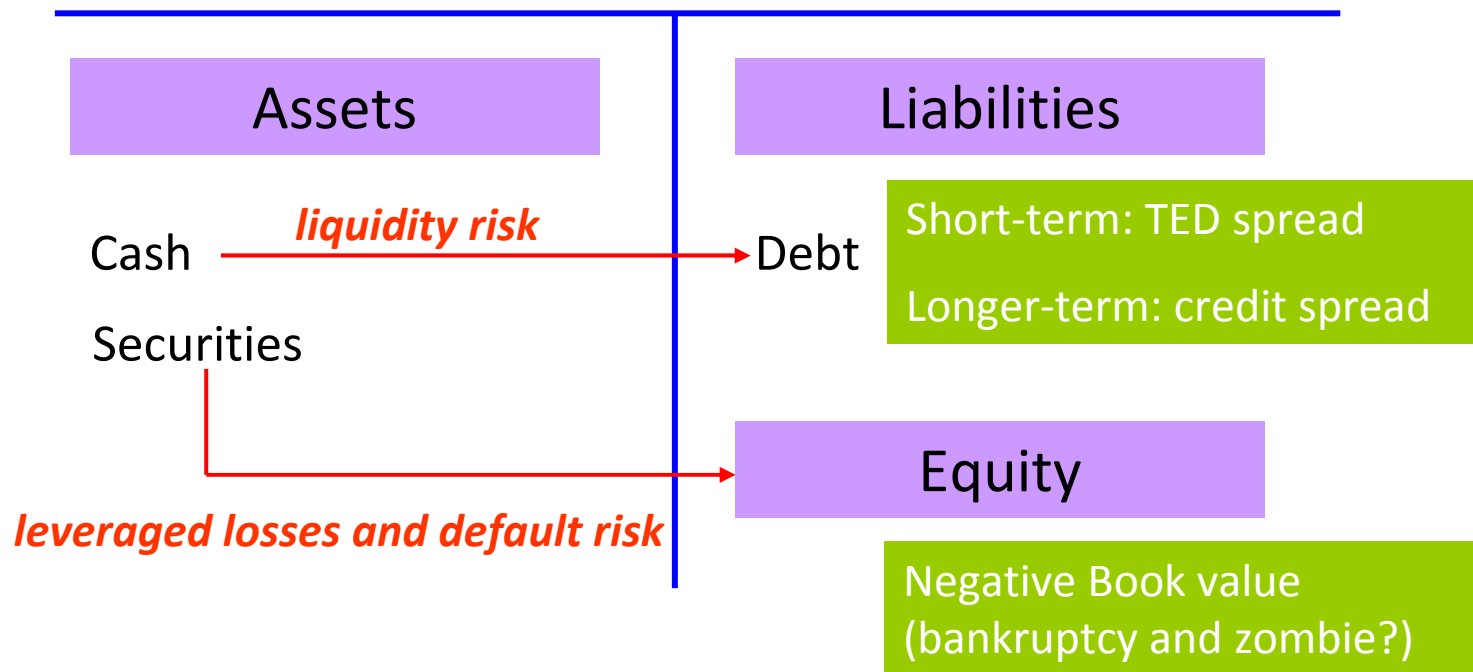
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# Financial Accelerator: I

- Bernanke et al (1996), Kiyotaki and Moore (1997), Bernanke (2007), Koo (2008), Greenlaw et al (2009)



# Financial Accelerator: II

- Leverage ( $L$ ) = Asset/Equity

$$L = \frac{A}{E}, \quad L' = \frac{A - m}{E - m}, \quad (m : \text{loss})$$

$$\implies L < L'$$

- Losses=20%,  $L > 5$ , Equity < 0 (bankruptcy)
- How to reduce Leverage?
  - Capital injection (difficulty, credit spread)
  - Reduce risky assets (loan, securities)
  - Balance sheet recession (deleverage)

# Dual Stability

## ■ Longer-run goals and policy strategy (2012.1.25)

- IT: PCE=2% (vs Core PCE=2%, comfort zone)
- Employment: the longer-run normal rate of unemployment (deviation)

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	Macroeconomic Stability	Financial Stability
Conventional	inflation targeting employment	liquidity provision to funding and credit markets
Unconventional	ZIRP	

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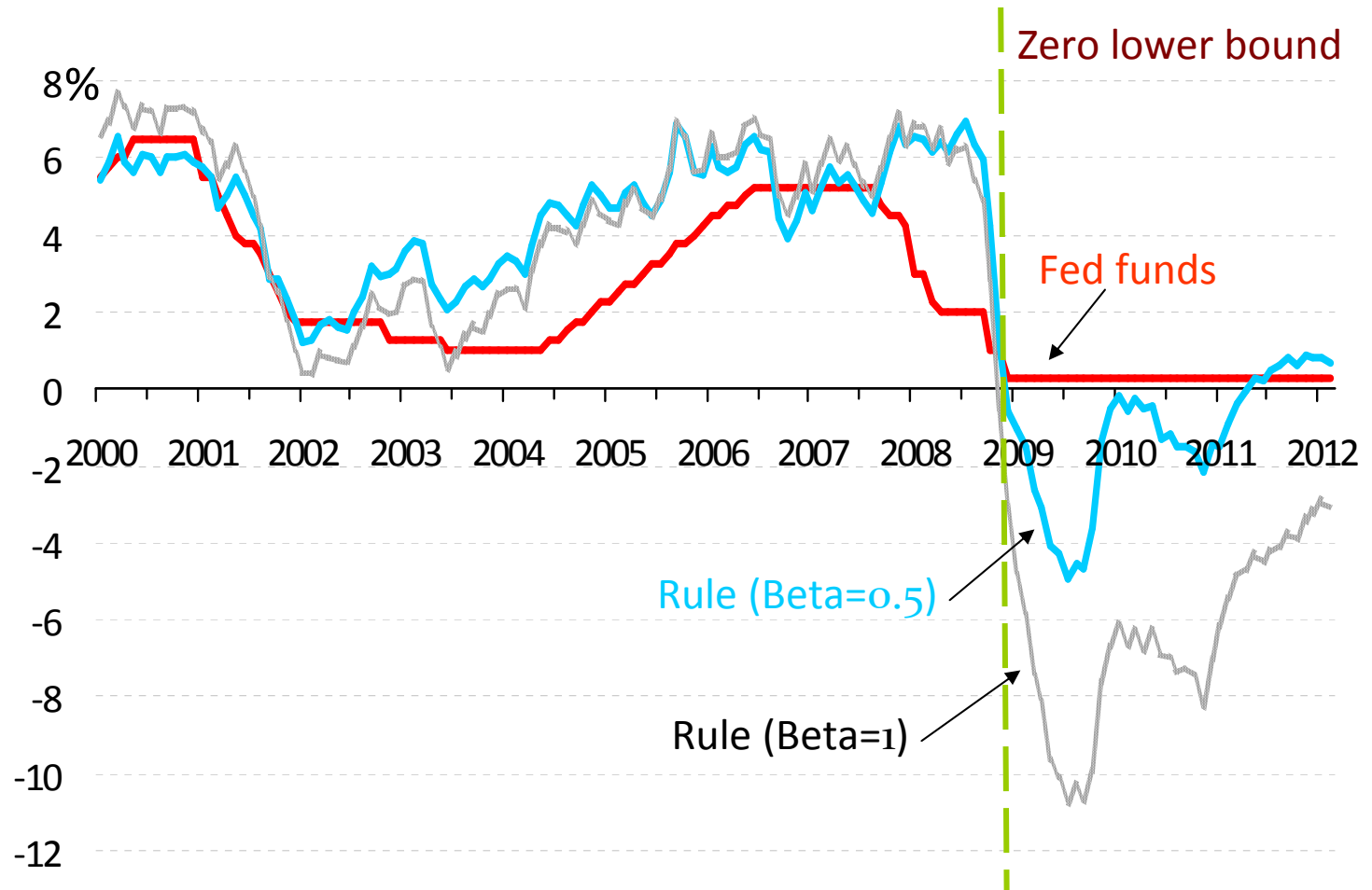
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# Rule and Zero Lower bound



$$\text{Rule-based: } R = r + \text{PCE} + \alpha(\text{PCE} - 2) + \beta\theta(\text{NAIRU} - U)$$

# Payroll

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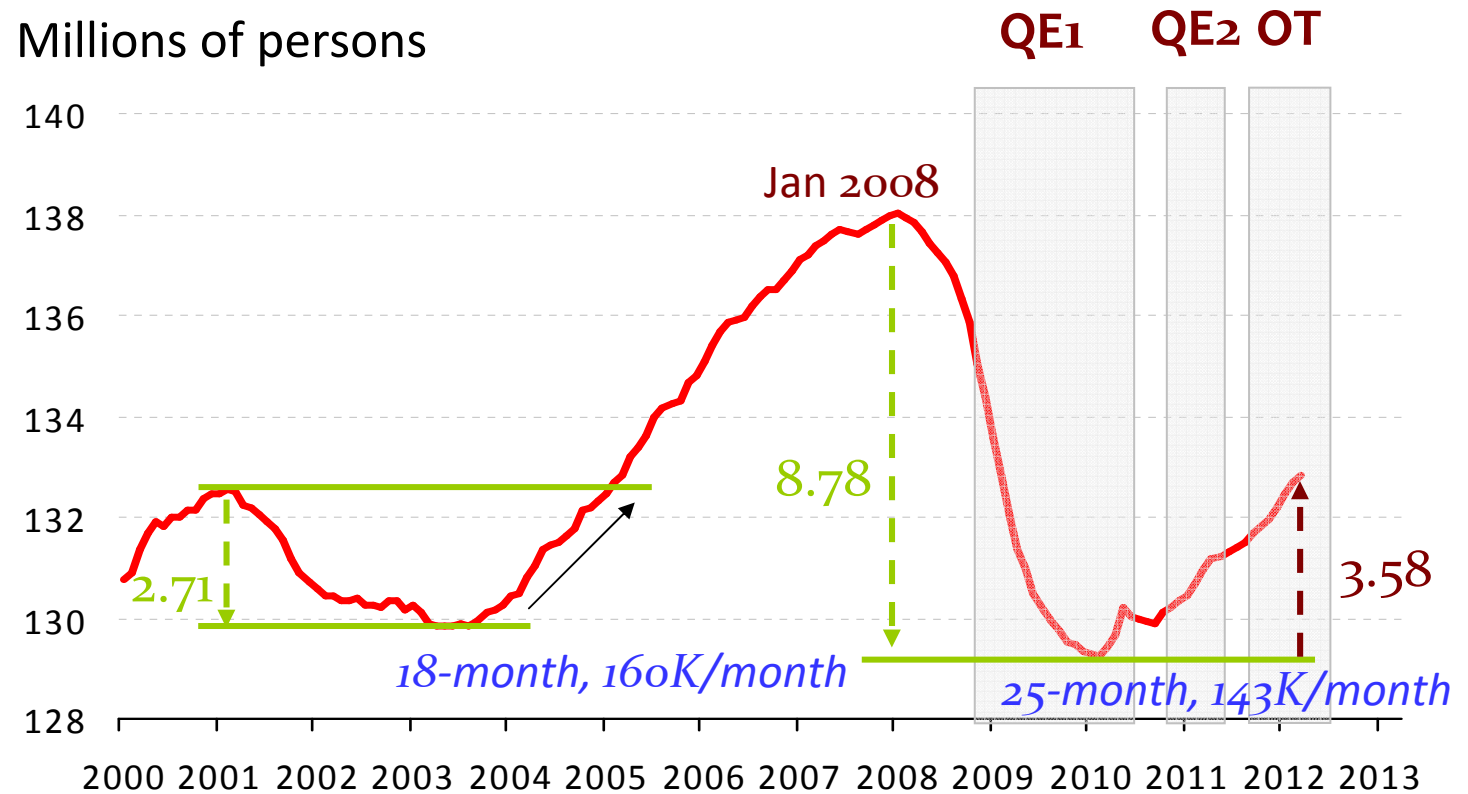
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Millions of persons



back to	Jun	Dec	Jun	Dec
Jan 2008 level	2013	2013	2014	2014
average per month, K	347	248	193	158

# Inflation

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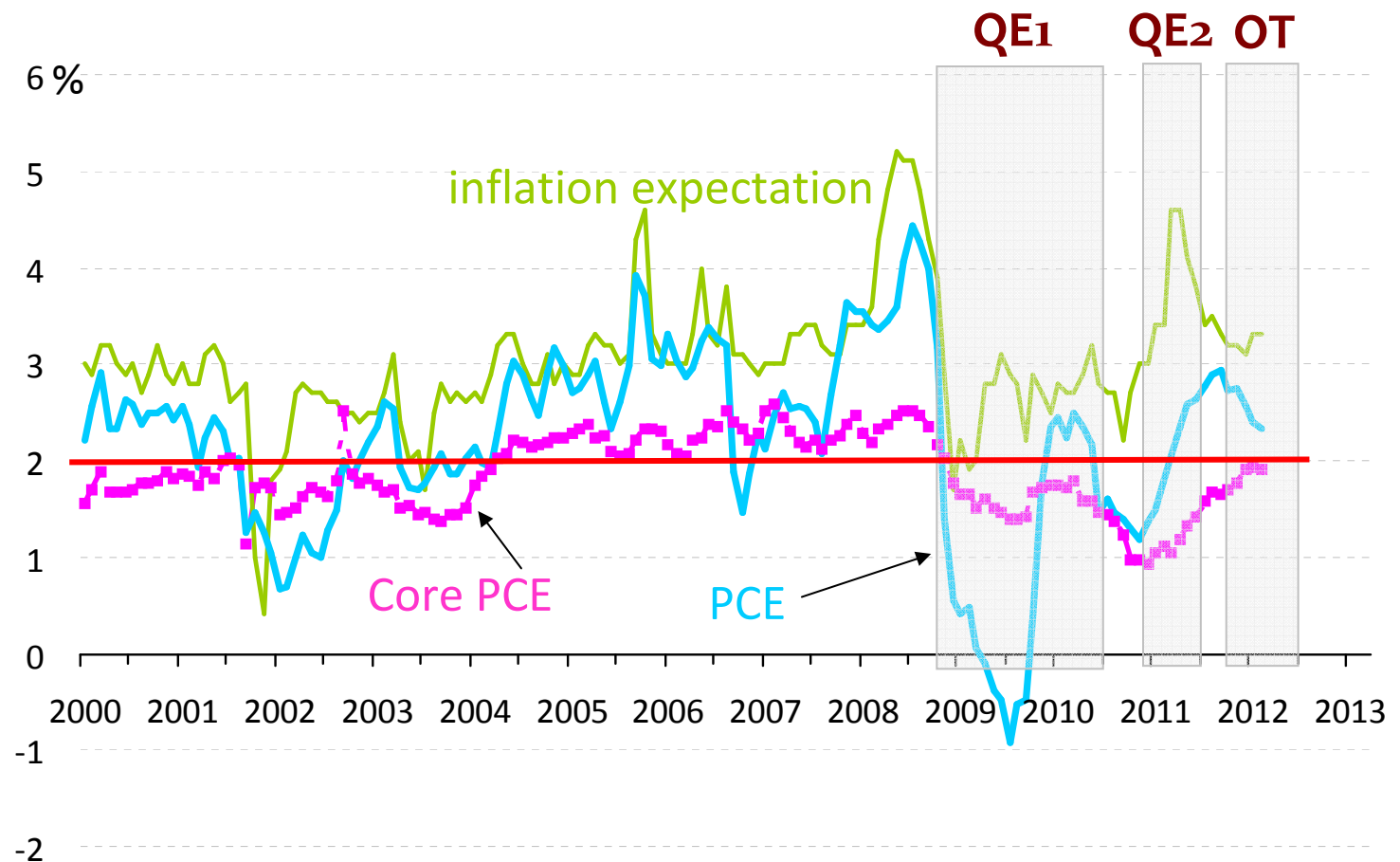
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## ■ Mishkin (2007): inflation dynamics

$$\pi = f(AR, U, \text{others}, \pi^e)$$



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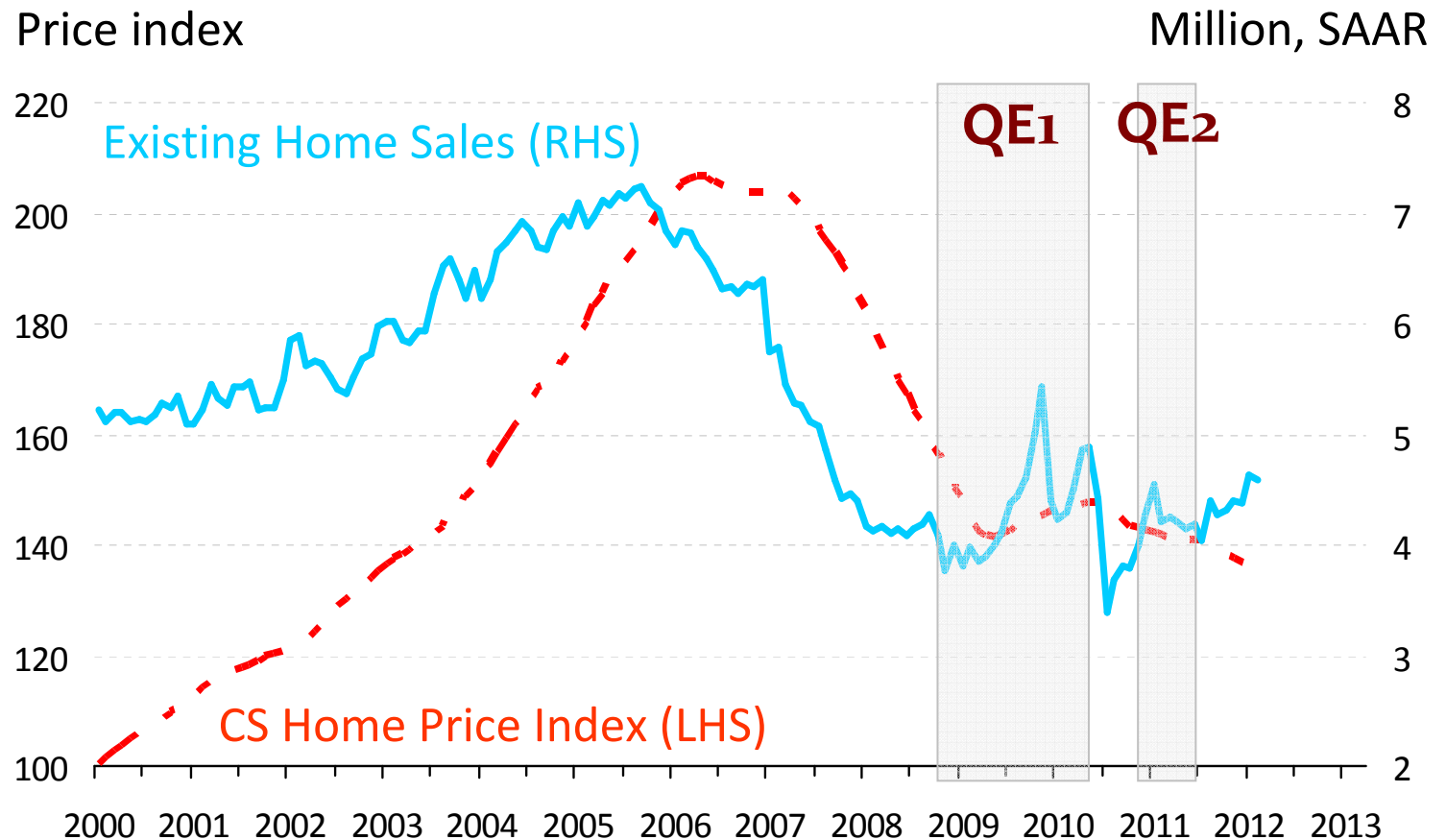
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# Housing Market

- house price have fallen 34% from their 2006 peak





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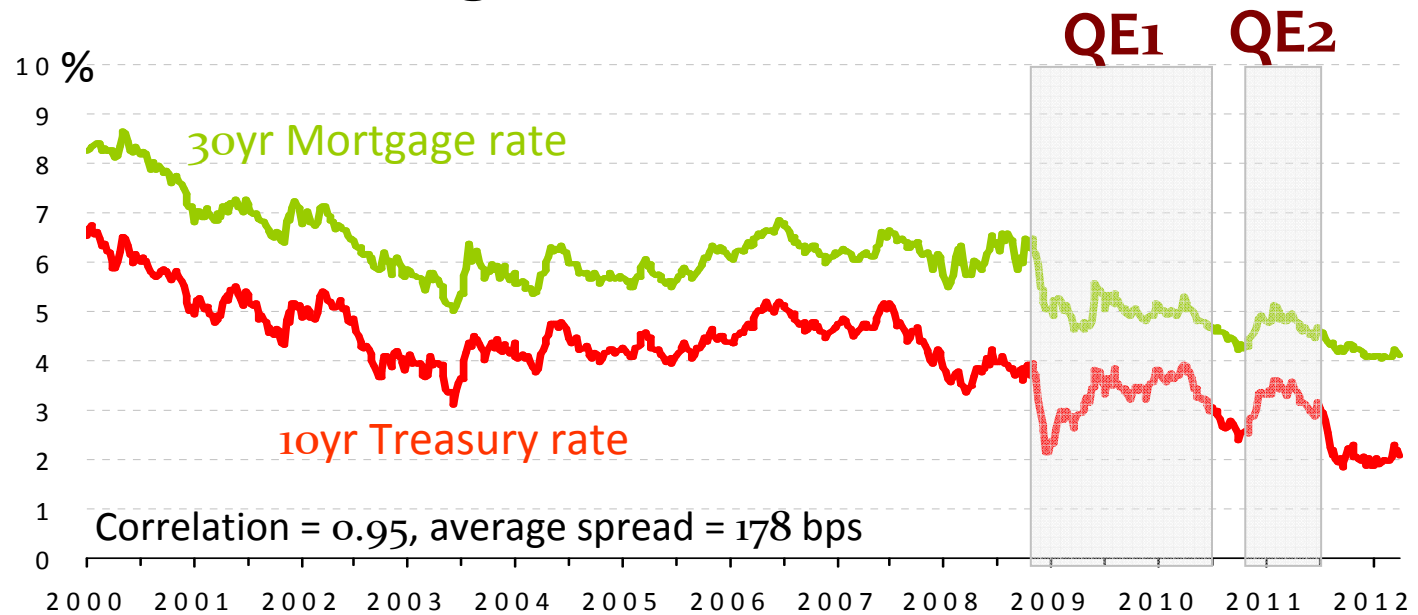
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# Mortgage Rate

- Fed increase its longer-term Treasury holdings in an attempt to lower mortgage rates, helping to stimulate the housing market at last



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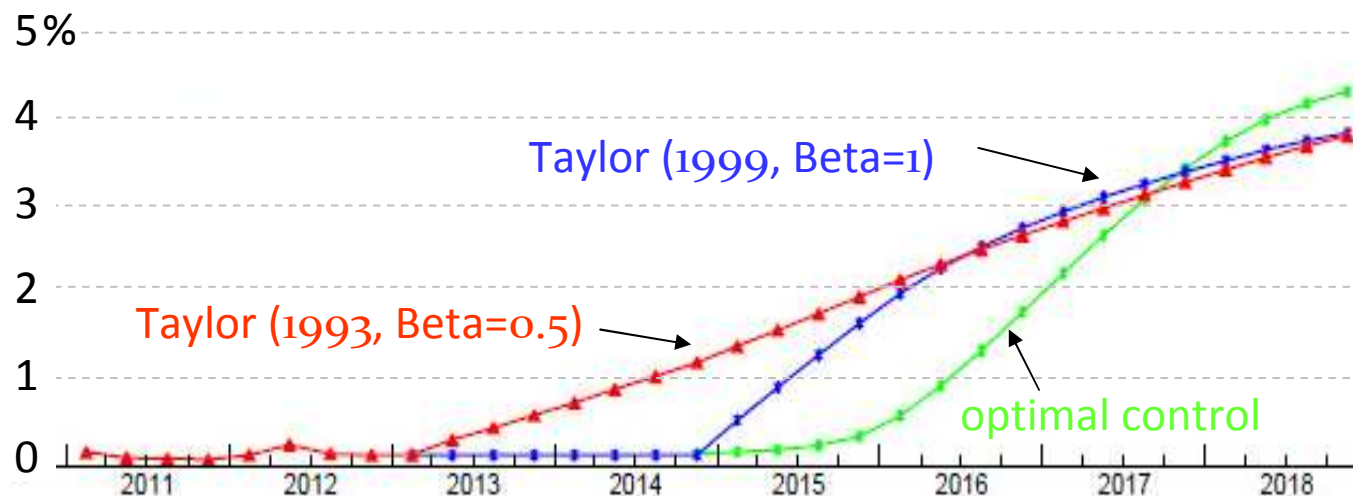
# Keep Zero Until Late 2015?

- optimal control (loss function)

$$\min_{\{R_t\}} \mathbf{E}_{t_0} \sum_{t=t_0}^n \delta^t [(\pi_t - 2\%)^2 + \lambda(u_t - 5.5\%)^2]$$

- rule-based

$$\begin{aligned} R_t &= 2\% + \pi_t + 0.5(\pi - 2\%) + 0.5(y - y^*) \\ &= 2\% + \pi_t + 0.5(\pi - 2\%) + 0.5 \times 2.3 \times (5.5\% - u_t) \end{aligned}$$



# Unconventional Measures

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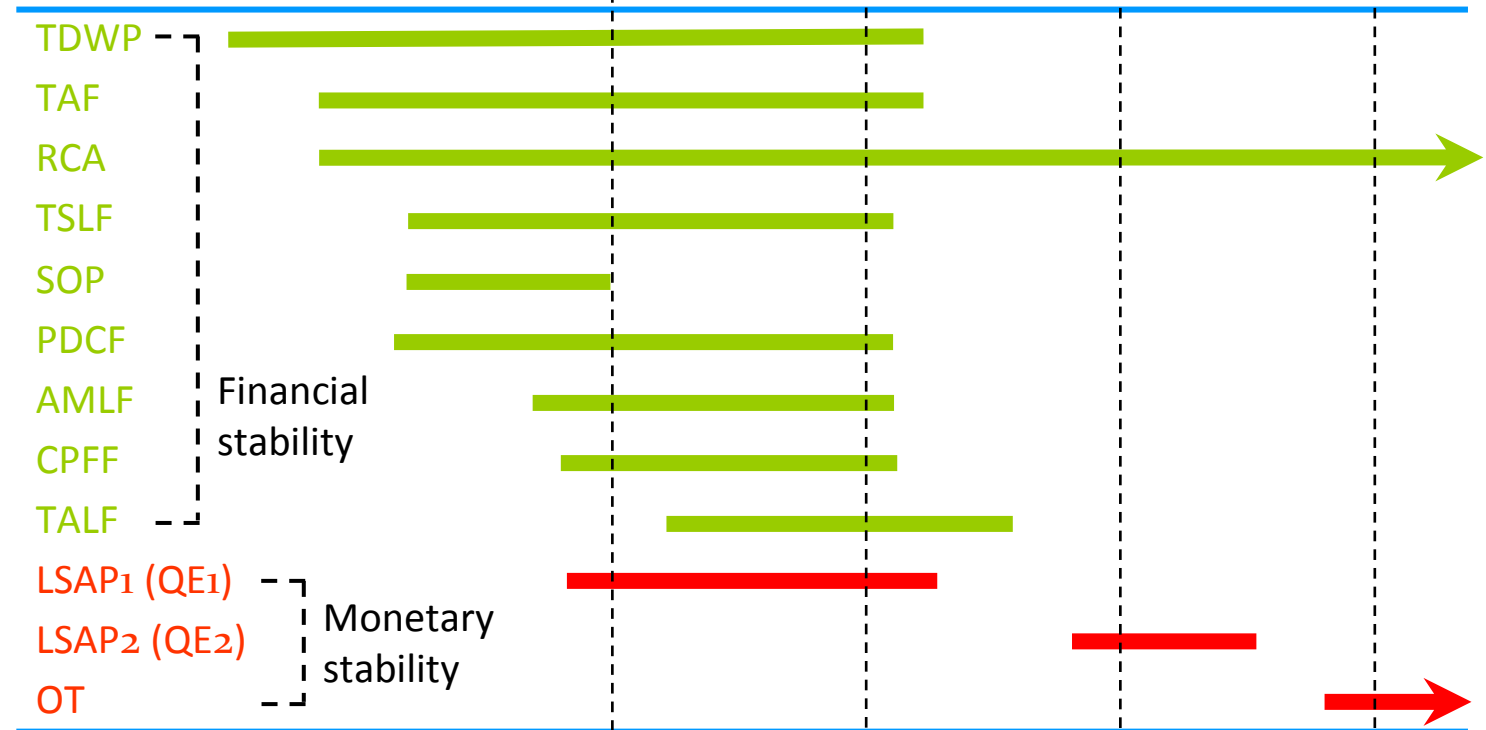
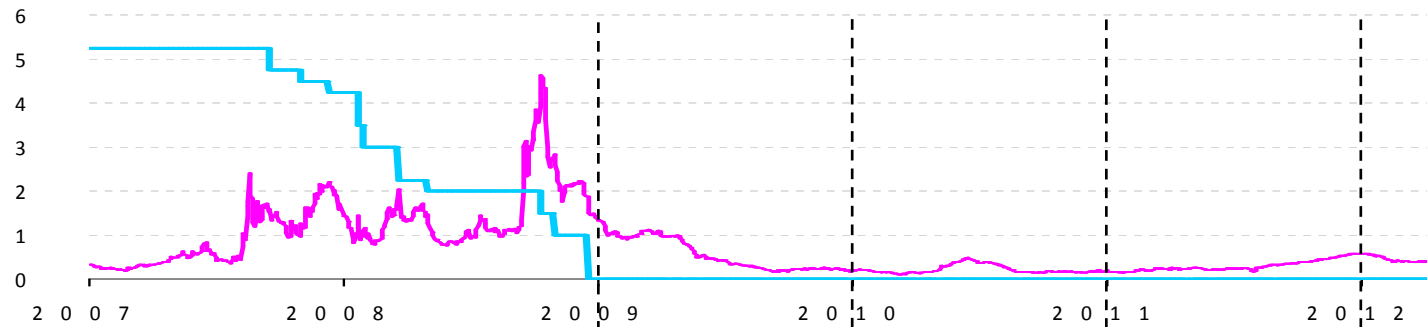
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Libor 3M – TBill 3M, %



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- Bernanke, Reinhart and Sack (2004):  
Should the nominal rate hit zero, what are the next steps for central bankers?
  - using communications policies to **shape public expectations** (*signalling effect*)
  - increasing the **size** of the central of the central banker's balance sheet (*portfolio-balance effect*)
  - changing the **composition** of the central Bank's balance sheet (*portfolio-balance effect*)

# Academic and Policy Works

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Bernanke et al (2004)

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using communications policies to  
**shape public expectations**

increasing the **size** of the central  
of the central banker's balance  
sheet

changing the **composition** of the  
central Bank's balance sheet

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FOMC Statement (2008.12.16)

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the Committee anticipates... are  
likely to warrant **exceptionally  
low** levels of the federal funds  
rate **for some time**

through open market operations  
and other measures that sustain  
the size of the Federal Reserve's  
balance sheet **at a high level**

will purchase large quantities of  
**agency debt and mortgage-  
backed**... evaluating...purchasing  
**longer-term Treasury securities**

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# BOJ's Experience

- Bernanke (1999): exceptionally poor monetary policy-making in Japan
- ZIRP (Ueda 2012)
  - commitment to zero rates for some time  
BOJ: zero rate until CPI inflation becomes stably above zero (inflation target vs price target)
  - the monetary authorities can issue as much money as they like  
BOJ: 量的緩和政策 (QE, 2001/3-2006/6)  
JGBs, JGB, Corporate bond, even equities
  - depreciation
- CE (assets side) vs QE (liabilities side)

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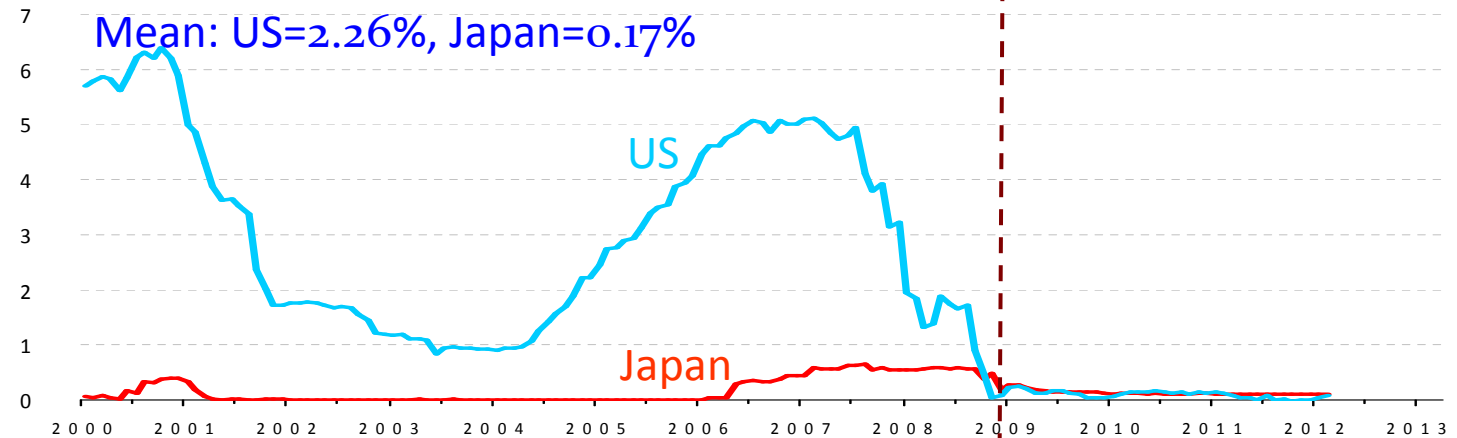
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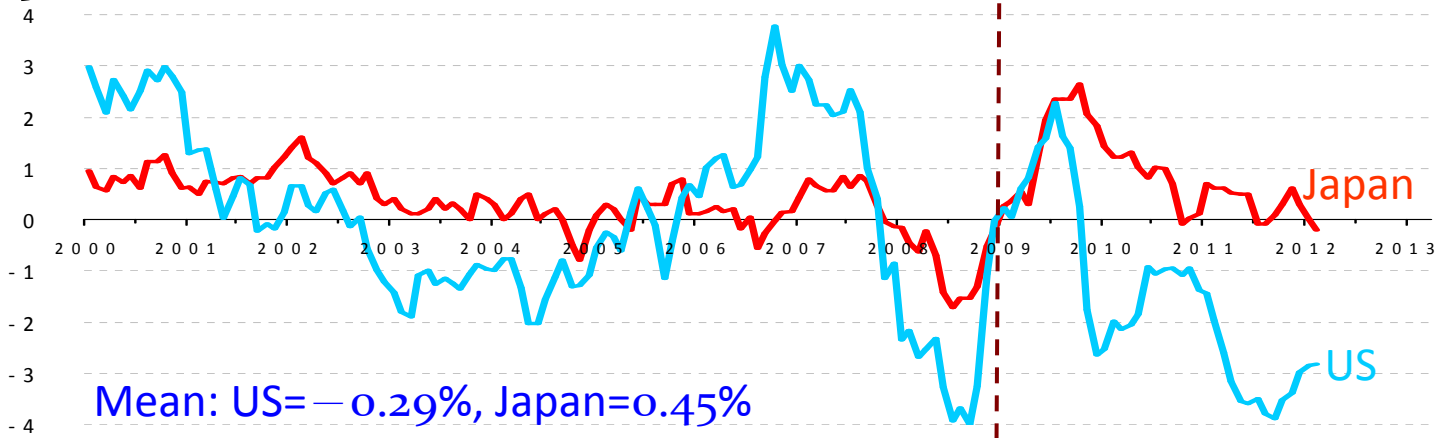
# US and Japan

3m T-Bill Rate, %

Mean: US=2.26%, Japan=0.17%



3m T-Bill Rate minus CPI, %



Mean: US= -0.29%, Japan=0.45%

# QE and OT

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Policy	Background	Assets Size (USD, Billion)
LSAP <sub>1</sub> (QE <sub>1</sub> ) 2008.11-2010.3	Lehman crunch	Agency: 200 MBS: 1250 Treasury: 300 <b>All: 1750</b>
LSAP <sub>2</sub> (QE <sub>2</sub> ) 2010.11-2011.6	disinflation	Treasury: 600 Treasury (Re- invest): 300 <b>All: 900</b>
OT 2011.10-2012.6	significant downside risks to the economic outlook	Buy 6-30yr Treasury: 400 Sell 0-3yr Treasury: 400 <b>All: around 0</b>



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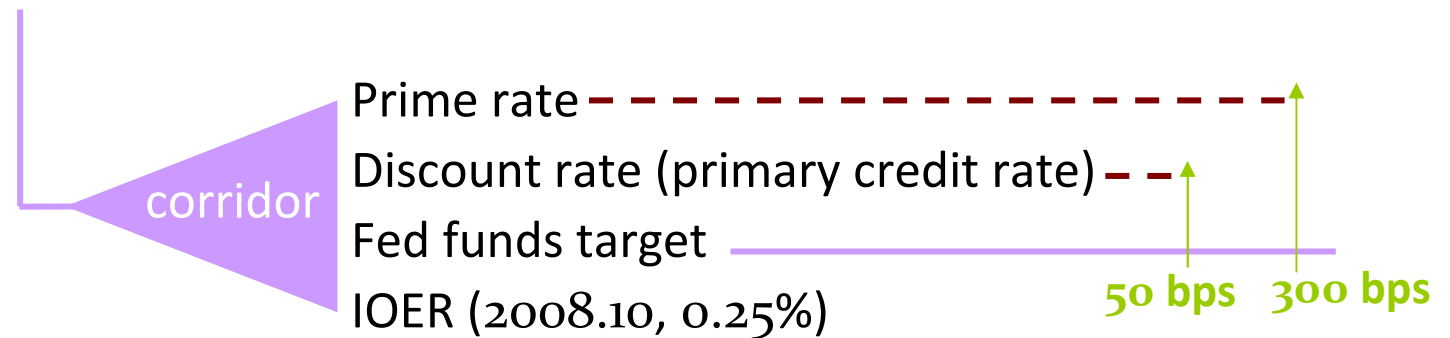
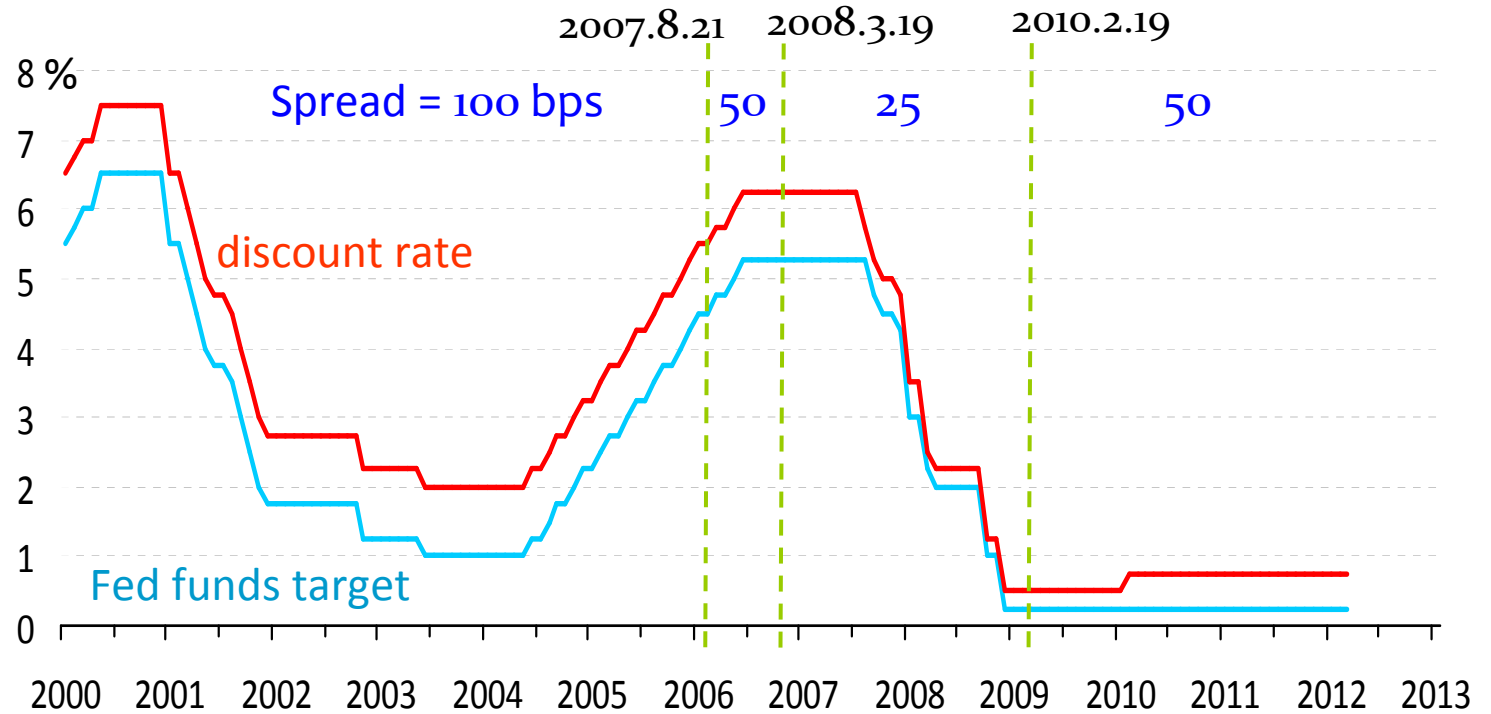
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# Fed Funds and Corridor



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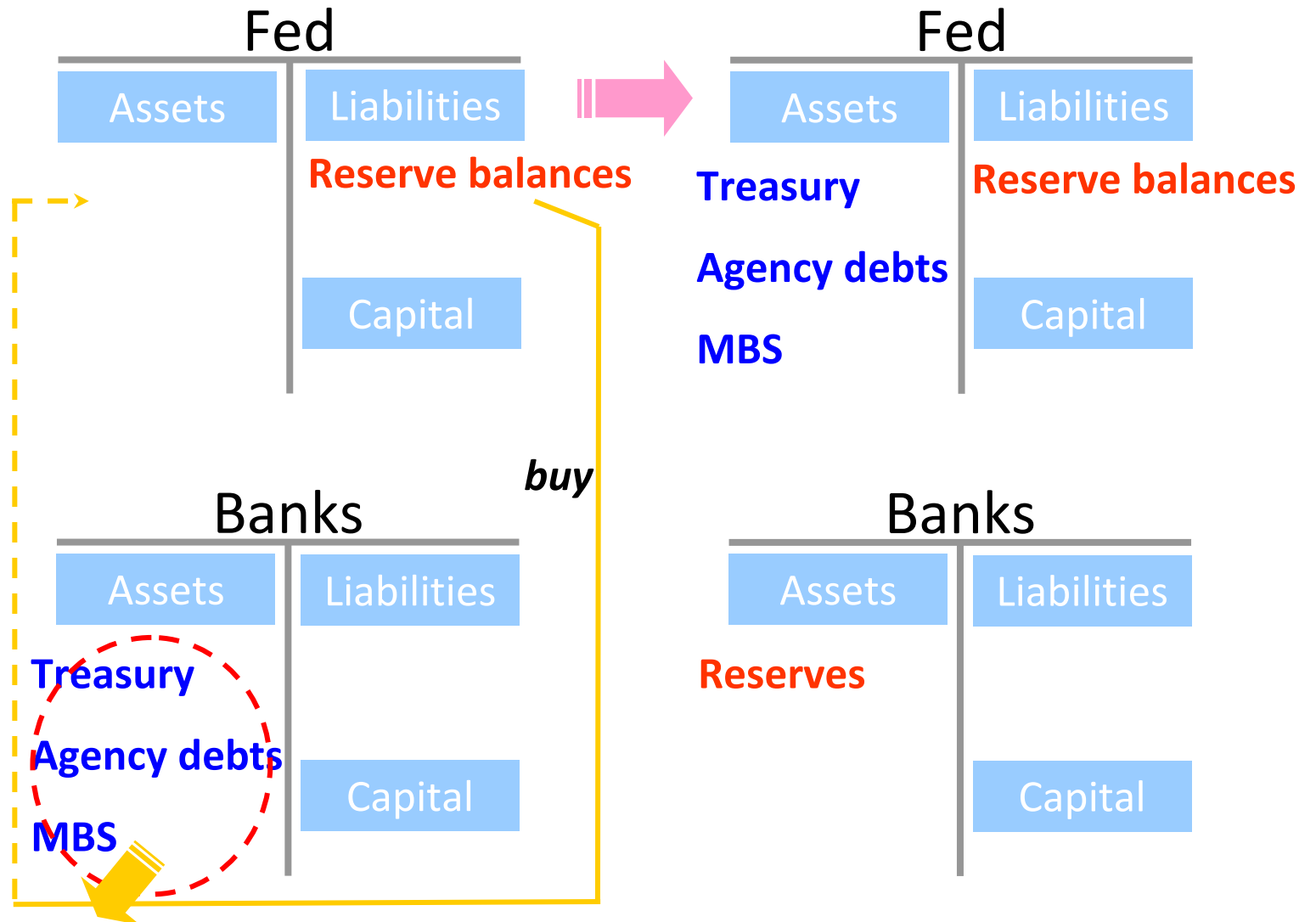
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# LSAP: QE1 and QE2



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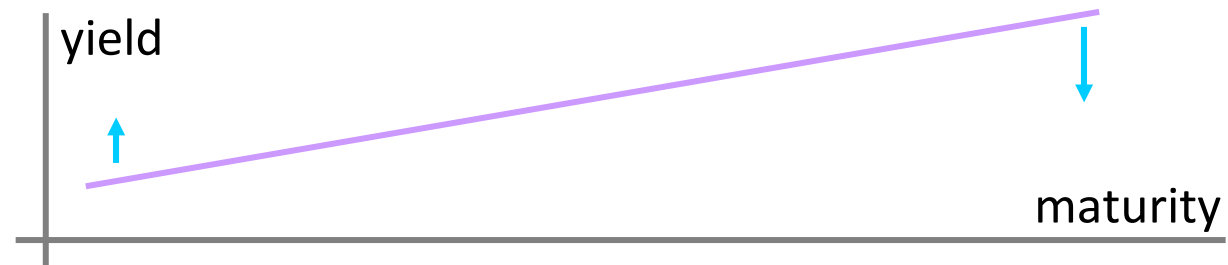
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# Operation Twist: Origin

- Kennedy (1961)
  - to increase the flow of credit for growth
  - *long*-term interest rates should decline
  - but declines in *short*-term rates would lead to a further outflow of funds abroad
- Fed (1961): operation 'nudge'
  - The King of 'Twist' Chubby Checker: "The Twist"



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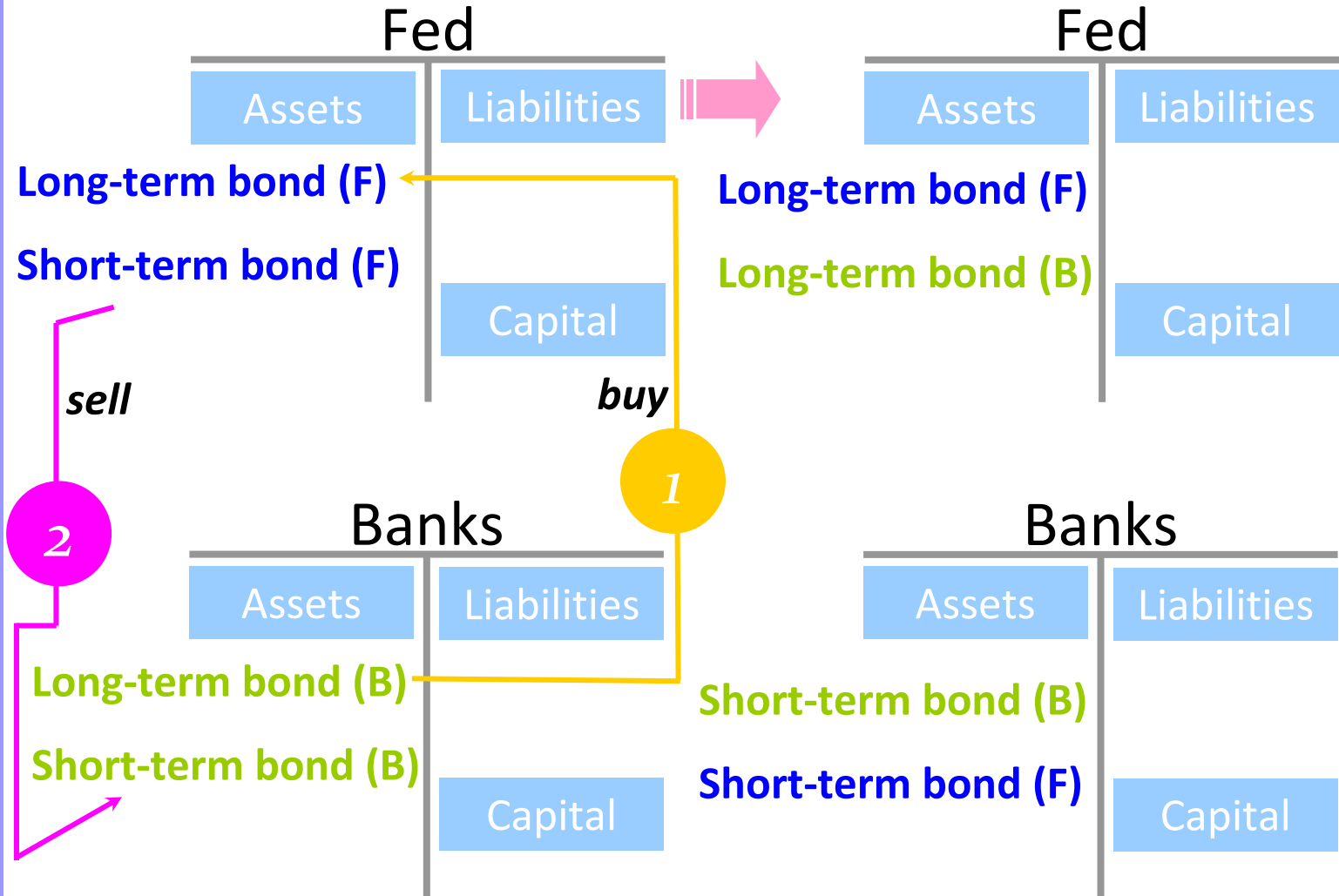
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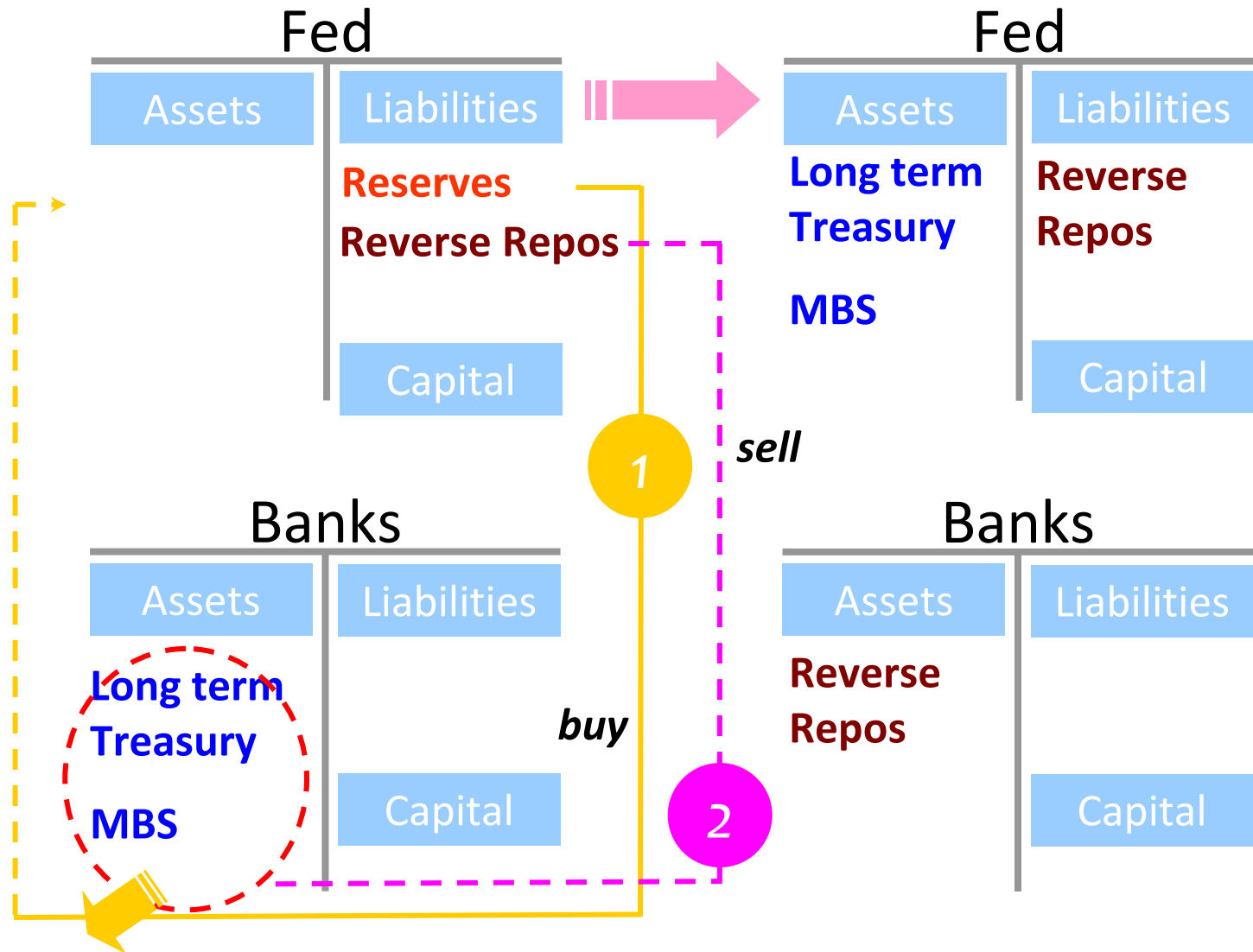
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# Next: Sterilized QE (QE+OT)?



# Balance Sheet and Duration

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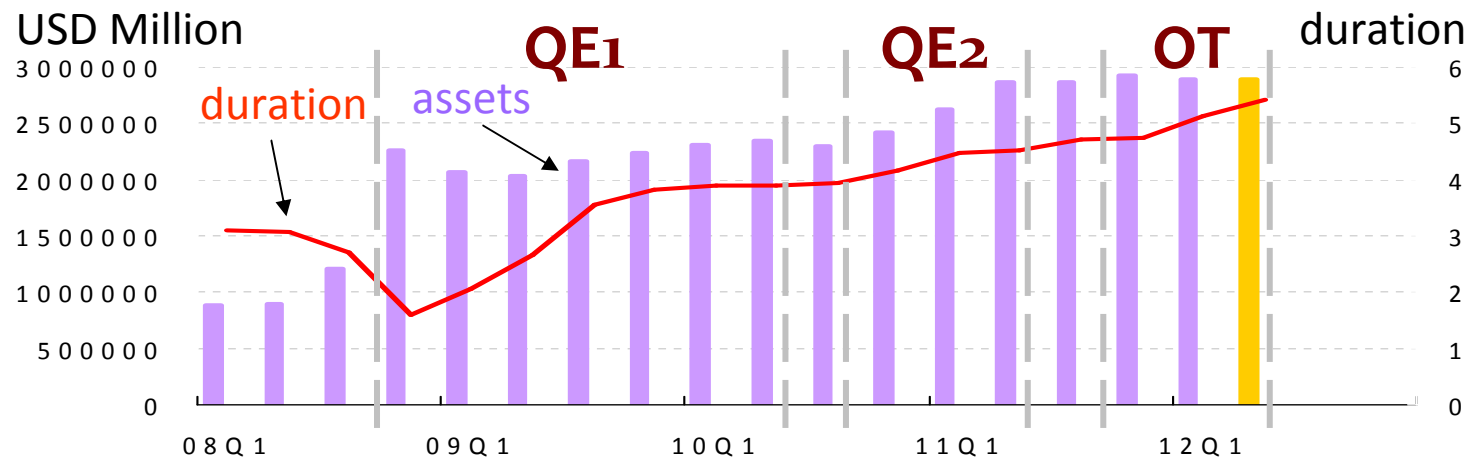
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Fed's Balance Sheet USD Million	2008 Aug	2010 Mar	2011 Jun	2012 Apr
<b>Assets</b>	908,991	2,310,533	2,869,167	2,867,800
<b>Treasury</b>	476,642	776,705	1,617,060	1,669,371
Agency debt	0	168,988	116,704	96,478
<b>MBS</b>	0	1,068,697	908,853	836,793
Others	432,349	296,143	226,550	265,158
<b>Liabilities</b>	868,202	2,258,294	2,816,193	2,813,366
Notes	795,694	894,146	985,788	1,059,520
<b>Reserve balance</b>	19,377	1,053,876	1,627,482	1,565,409
Others	53,131	310,272	202,923	188,437
<b>Capital</b>	40,789	52,239	52,974	54,434



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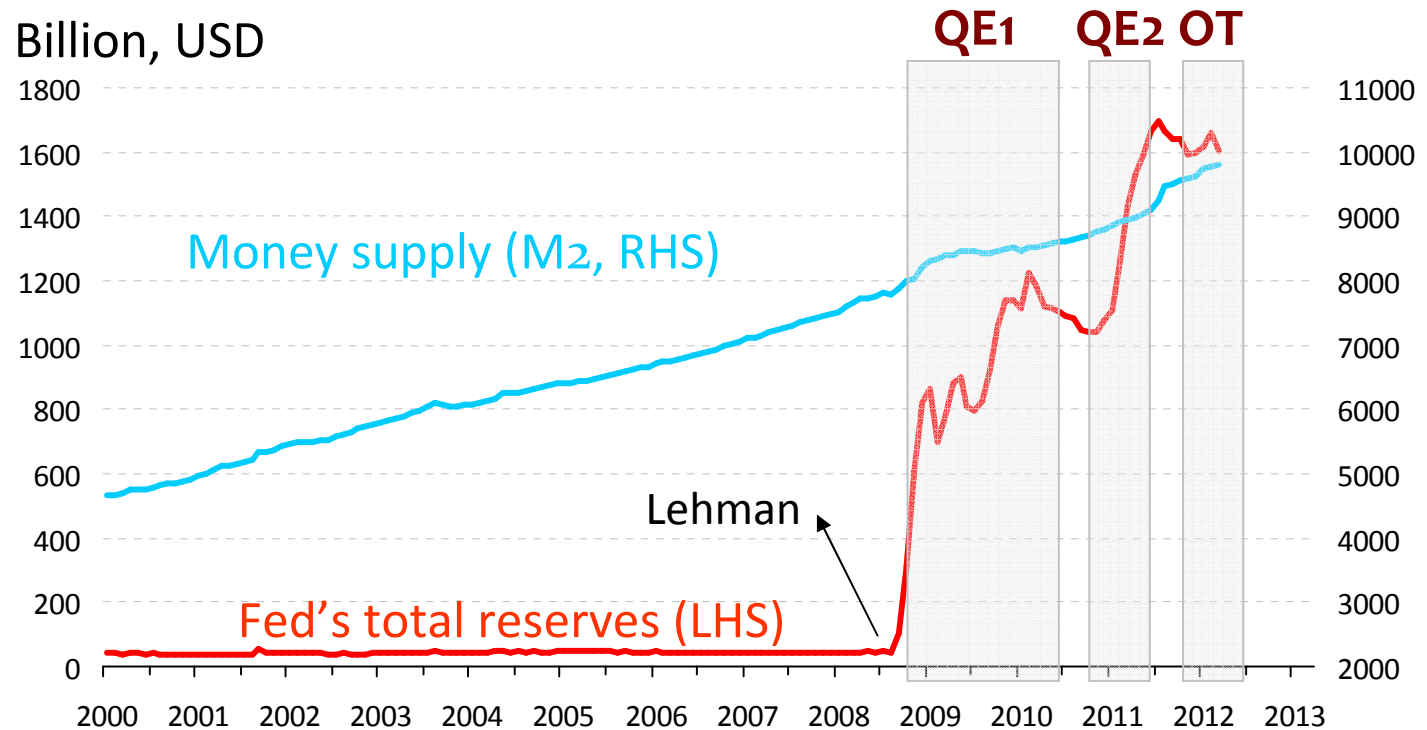
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# Liquidity and Inflation

- Money supply has grown only 26% since pre-Lehman, despite the 34-fold increase in reserve



# QE and OT Channels

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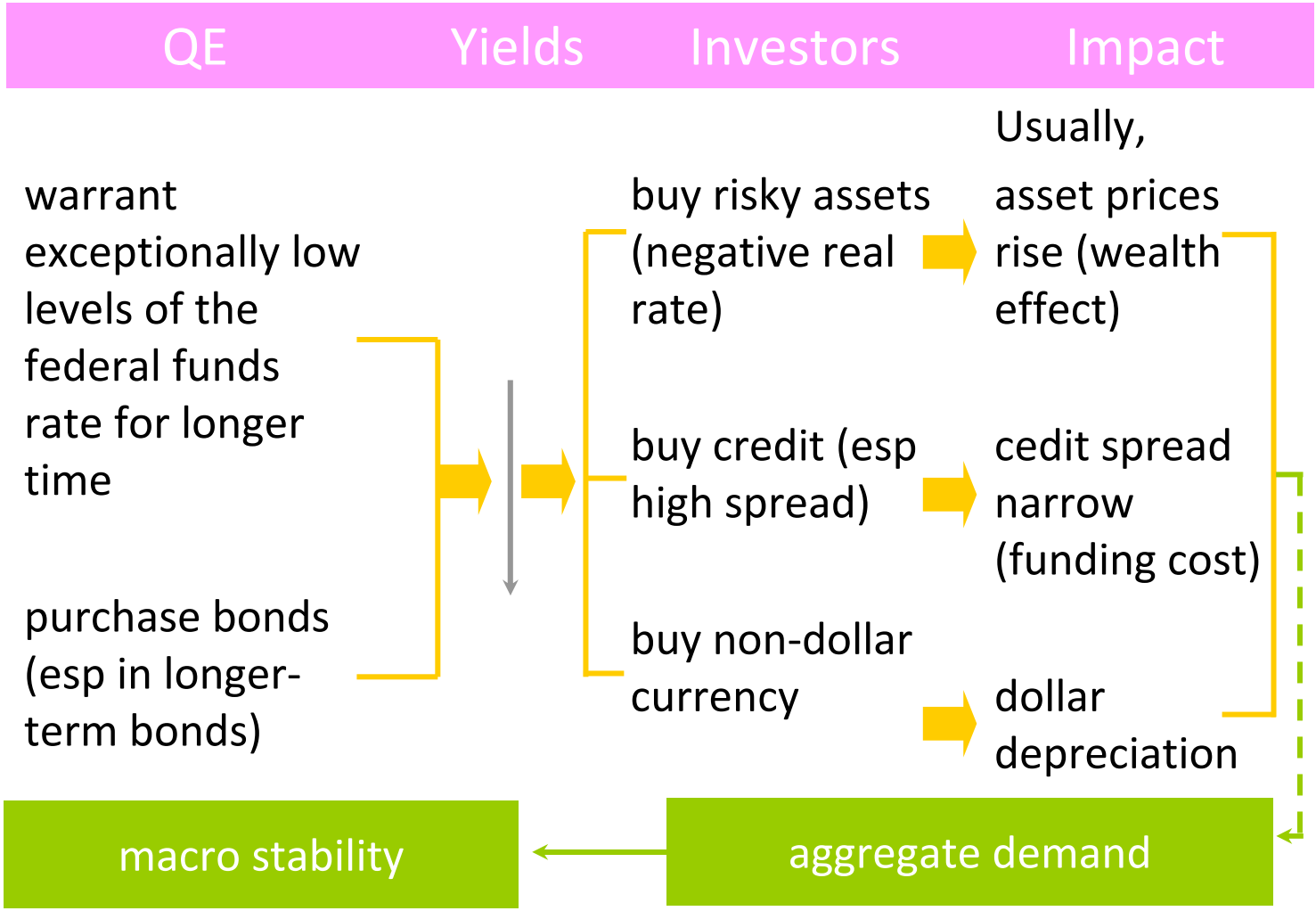
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# Bernanke's (Inertia) Put

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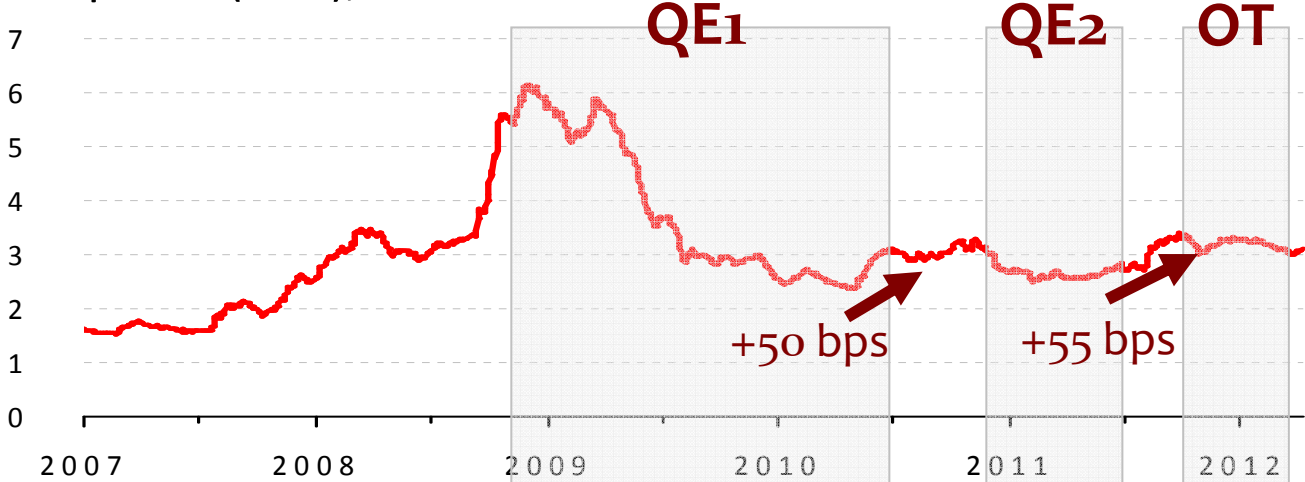
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Credit spread (BBB), %



Dow Jones



# QE and Treasury Yield

- The estimated effects roughly lie in 20 bps to 50 bps, but...

Independent Variable = 10yr Treasury	coefficient
intercept	0.68
Fed funds futures <sub>t+3</sub>	0.20
Unemployment rate	−0.10
Inflation expectation	1.42
VIX	−0.02
QE (dummy)	−0.44
adj R-sq	0.80

Sample period: 2000:1-2012:2, monthly data, OLS method.

All coefficients are statistically significant at 5% level.

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# Fed Focus More on

- Transparency
  - economic projection and IT
  - press conferences
  - shape the public expectation (QEn or exit?)
- DSGE
  - Minutes (2011.6.22)
  - Romer (2012) *Advanced Macro*, Ch7
- Macro Prudential
  - Mankiw (2012) *Intermediate Macro*, Ch20
  - systemic risk

# Macro Analyst Day to Day

- Roles (academic, thinktank, businesses)
- Sell-side: Influence
  - marketing your stories and ideas
  - show me the money
- Buy-side: support investment ideas
- Core: Econ and Econometrics
  - recommended: Mankiw, Krugman, Hamilton, Roubini, Wolf, FedSpeak
  - literature or music or ...latte factor