Non-Traditional Monetary Polices: G7 Central Banks during 2007-2009 and the Bank of Japan during 1998-2006

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The purpose of the paper

- Offer a typology of non-traditional policies currently pursued by major central banks in the light of the BOJ’s experience during 1998-2006.
- Discuss some of the characteristics of the policies currently pursued.
  - Common themes in the two episodes are central banks had to operate near the ZLB and also address serious problems in the financial system.
  - Many of the tools used had the dual purposes of stimulating the economy and mitigating strains in the financial system.

Policy Options at the ZLB

- Strategy 1: expectations management
  - Promise to keep the policy rate at a low level until some conditions are fulfilled.
  - Theoretically, this requires a higher inflation target or allowing inflation to overshoot the target, i.e., it has to change market expectations as to the future path of the policy rate.

Strategy 2: targeted asset purchases

- Buy some asset and sterilize the fund supplying operation.
  - Under imperfect asset substitutability, this will affect asset prices.
  - Central banks’ asset purchases may lower liquidity (or risk) premiums generated by a sharp rise in risk aversion or a sudden dry up of market liquidity (Credit Easing).
    - Central banks may lend against such assets.
  - Some borderline cases (expansion of the LLR function of central banks):
    - Lending against normal assets but for unusually long periods.
    - Lending to unusual entities.

Strategy 3: Quantitative Easing (QE)

- Expansion of CB balance sheet by purchases of “traditional” assets.
- Strong forms of QE:
  - Shifting policy instrument from a short rate to bank reserves or creating a target on some other measure of the quantity of money.

others

- Negative interest rates.
  - Beyond a certain point, requires taxing the currency.
- All three strategies can be adopted at positive levels of interest rates.
  - Also, they can be use to ease strains in the financial system.

The BOJ’s Non-Traditional Operations during 1998-2006

Strategy 1	Zero rate until deflationary concerns disappear (April 1999- August 2000)
	“zero rate” until CPI inflation becomes stably positive (March 2001-March 2006)
Strategy 2	CP repo
	Unusually long-dated fund supplying operations
	Purchases of equities from banks
	Purchases of ABCP/ABS
Strategy 3	Target for private banks’ current account balances at the BOJ (March 2001-March 2006)

Evidence on the effectiveness of the BOJ’s policies

Strategy 1	The strategy seems to have affected medium- to long-term interest rates.
Strategy 2	Large, long-dated fund supplying operations (including CP repo) seem to have contained risk premiums.
Strategy 3	No clear evidence on the effects of the expansion of the BOJ’s B/S. The efforts to hit the CAB target, however, increasingly required the use of non-traditional operations. Fiscal policy was contractionary.

Examples of Non-Traditional Policies during 2007-2009

Strategy 1	"The O/N rate can be expected to remain the same until 2010QII." (Bank of Canada) "economic conditions are likely to warrant low levels of the FFrate." (FRB)
Strategy 2	Purchases of nontraditional assets: corporate bonds (BOJ,BOE), CP & equity (BOJ), covered bonds (ECB), Agency Bonds, MBS, Treasury Bonds (FRB) Fixed rate full allotment fund supply (ECB, BOJ) Swap between government securities and other non-liquid collateral (FRB, BOE) US dollar repo (most central banks)
Strategy 3	BOE's asset purchase Facility The BOE hopes to see easing effects through expansion of the money supply Non-sterilization of strategy 2 (most central banks)

The focus has been on strategy 2

- Seems to reflect unparalleled seriousness of financial system problems and the resulting need to employ a wide range of credit easing policies (or expanded LLR).
  – The exact nature of easing reflected the characteristics of the country's financial system.
- Deflation has not been the most serious problem so far.
  – Use of strategy 1 and at the same time making promise to avoid inflation from rising are inconsistent.
- The unpopularity of strategy 3 may be a result of the BOJ's experience.

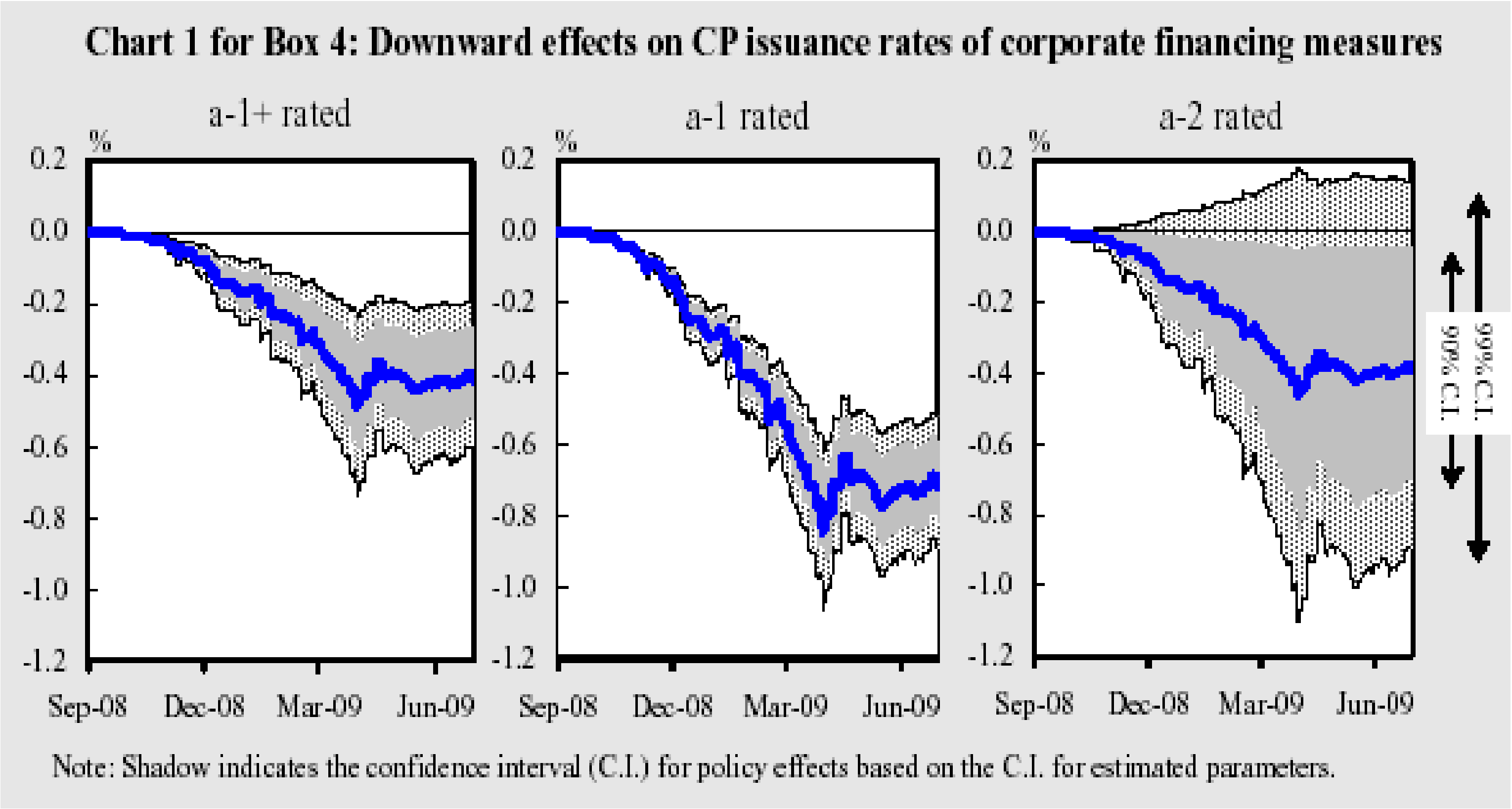
Also, a “zero” rate has been avoided

- None has gone to the extreme of O/N rate =0.001% as did the BOJ in 2002-05.
- Central banks seem to have been worried about the deterioration of the functioning of the money market.
- Unclear if this cost is very serious. May have been weighed against the small benefit of a zero rate.

There is already some evidence that credit easing measures have been effective

- BOJ(2009)
- Christensen, Lopez & Rudebusch (2009)
  - estimate a six latent factor model of the treasury yields, corporate bond yields and Libor. By interpreting movements in what they call the Libor factor after late 2007 to be the effects of the Fed's various liquidity facilities they show that the facilities have reduced Libor spreads significantly.
  - But, Taylor & Williams (2008)
- Dudley (2009a)
  - purchases of MBS have lowered their spreads, but the effects of government bond purchases on rates are unclear.

CP issuance rate= ..+a*(Implied stock market vol.)+b*(TIBOR-OIS)+c*(BOJ's fund supply through the corporate finance facilitating scheme/ CPs outstanding), daily data from 2008.9.

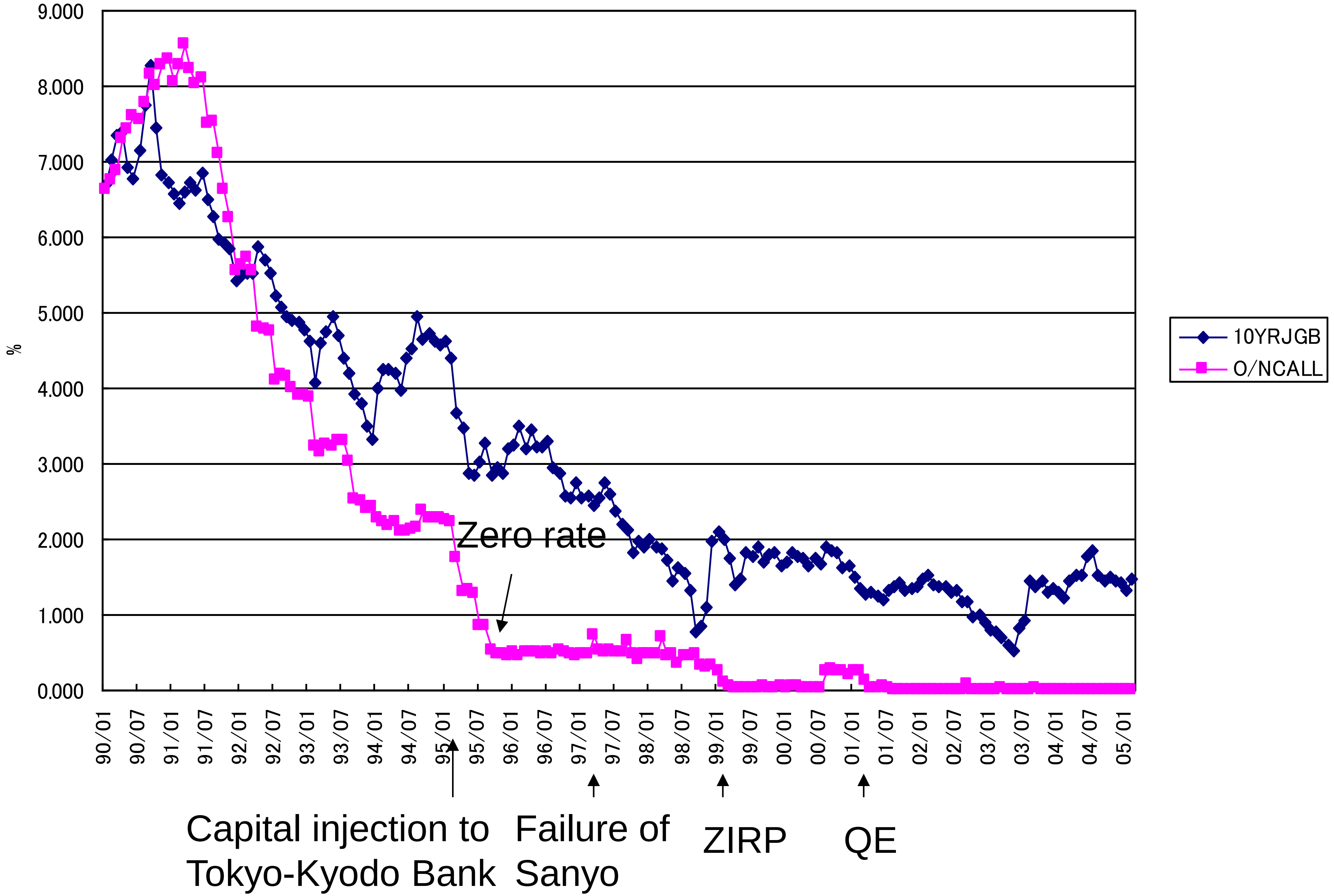


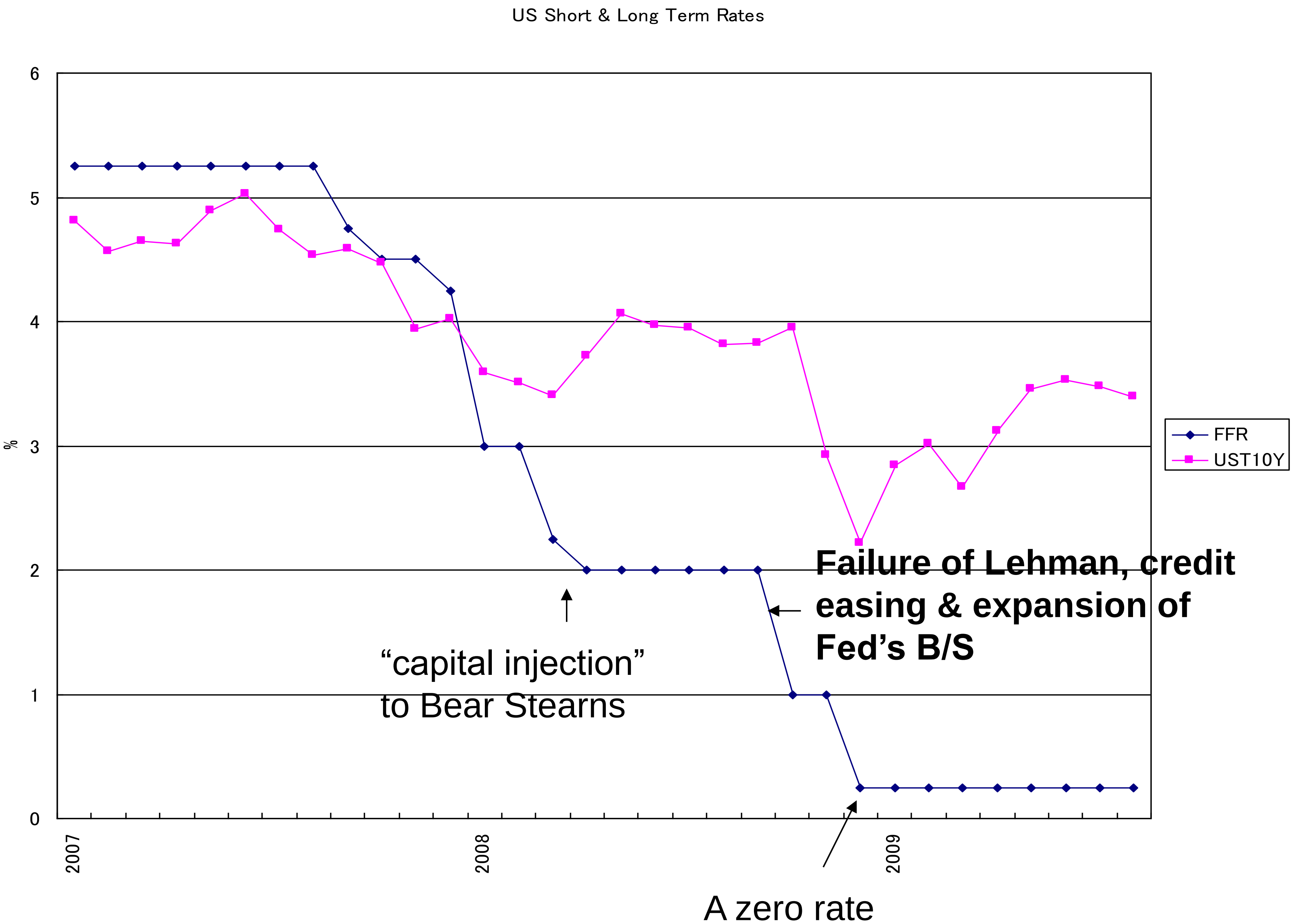
BOJ, Financial Market Report, July 2009

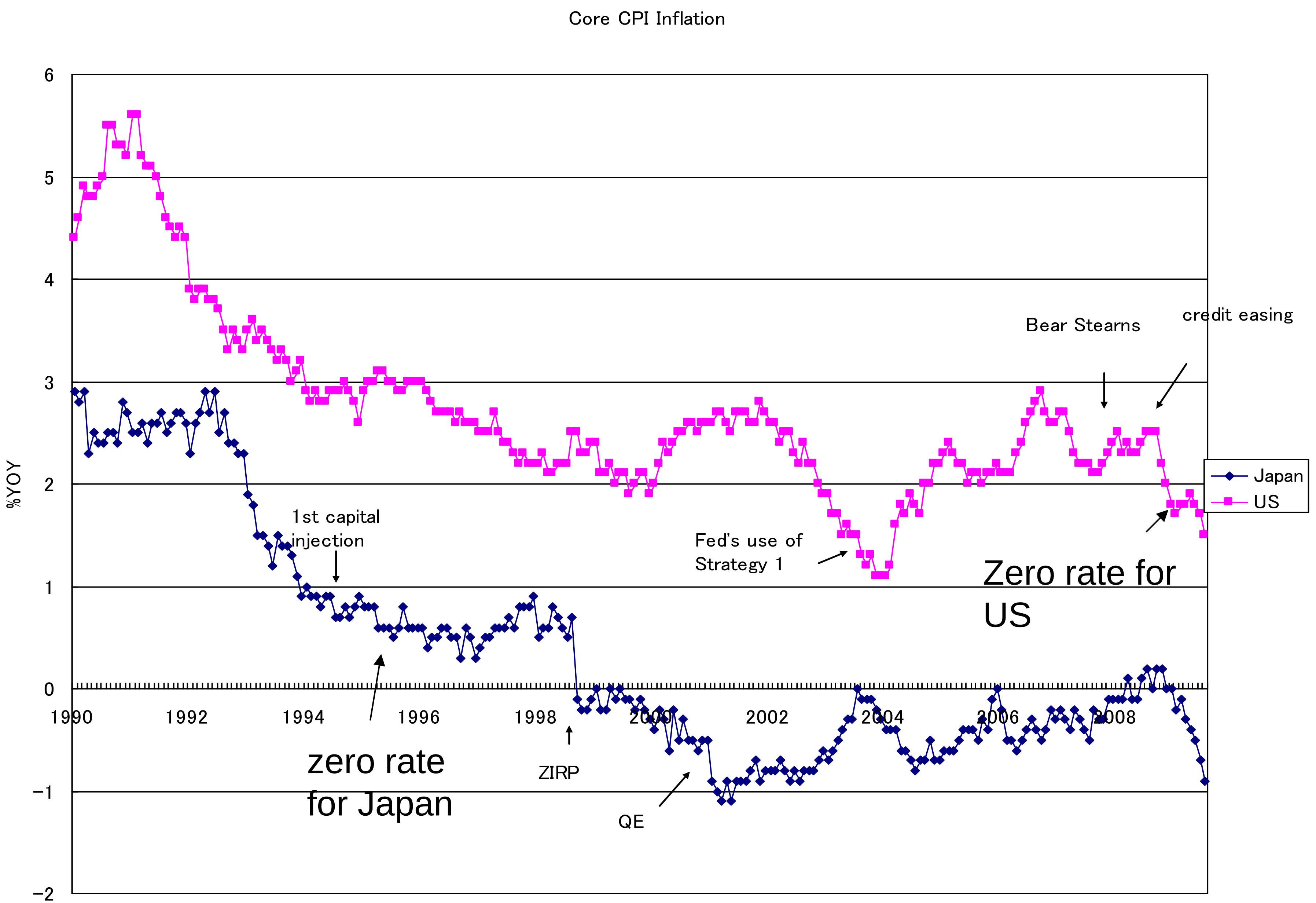
We might want to compare the current episode with Japan in earlier years

- Japan was completely in a liquidity trap during 1998-2006.
- The world during 2007-2009 may be closer to Japan 1991-1999.
  - In both cases policy rates were lowered aggressively from fairly high levels, reaching eventually near zero levels.
    - Japan saw a zero rate fairly early—in 1995.
  - The financial system was in serious trouble.
    - Japan reacted somewhat slowly to the problems.
    - G7 central banks were forced to respond quickly.
  - The major difference is a zero rate and other non-traditional policies have come earlier in US than in J <u>relative to inflation.</u>
  - Thus, they could be more effective.
- If the world fails to avoid deflation or near zero inflation, it may look like Japan 1998-2006 for years to come.

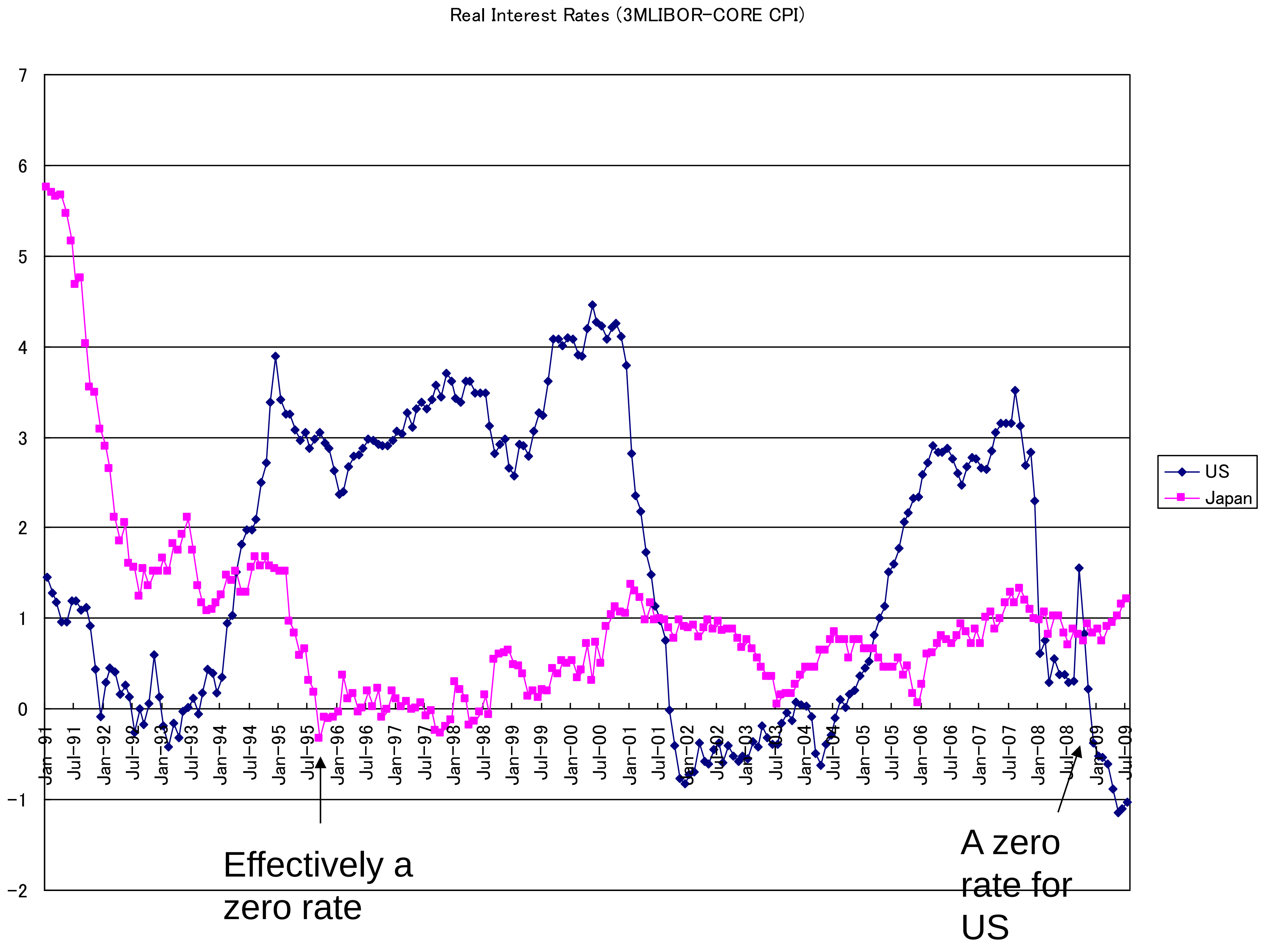
Japan's Short & Long Rates




US Short & Long Term Rates
6
5
4
3
2
1
0
%
2007
2008
2009
FFR
UST10Y
Failure of Lehman, credit easing & expansion of Fed's B/S
"capital injection" to Bear Stearns
A zero rate



Core CPI Inflation
%YOY
6
5
4
3
2
1
0
−1
−2
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Japan
US
Bear Stearns
credit easing
1st capital injection
Fed's use of Strategy 1
Zero rate for US
zero rate for Japan
ZIRP
QE


Real Interest Rates (3MLIBOR-CORE CPI)
7
6
5
4
3
2
1
0
−1
−2
Jan-91
Jul-91
Jan-92
Jul-92
Jan-93
Jul-93
Jan-94
Jul-94
Jan-95
Jul-95
Jan-96
Jul-96
Jan-97
Jul-97
Jan-98
Jul-98
Jan-99
Jul-99
Jan-00
Jul-00
Jan-01
Jul-01
Jan-02
Jul-02
Jan-03
Jul-03
Jan-04
Jul-04
Jan-05
Jul-05
Jan-06
Jul-06
Jan-07
Jul-07
Jan-08
Jul-08
Jan-09
Jul-09
US
Japan
Effectively a zero rate
A zero rate for US