



JSPS Grants-in-Aid for Creative Scientific Research

Understanding Inflation Dynamics of the Japanese Economy

Discussion of *AK*, *HW*, and *KVJ*

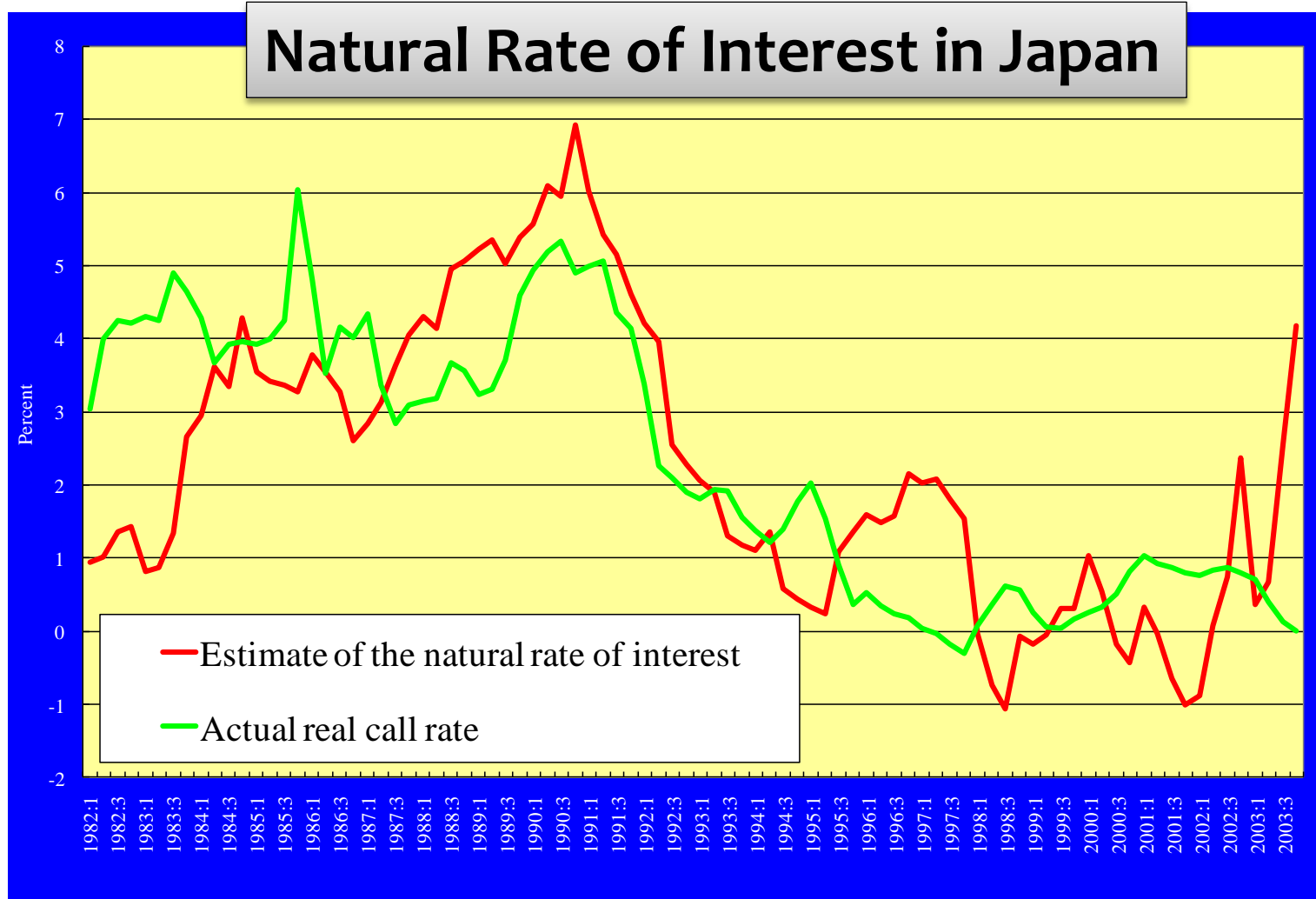
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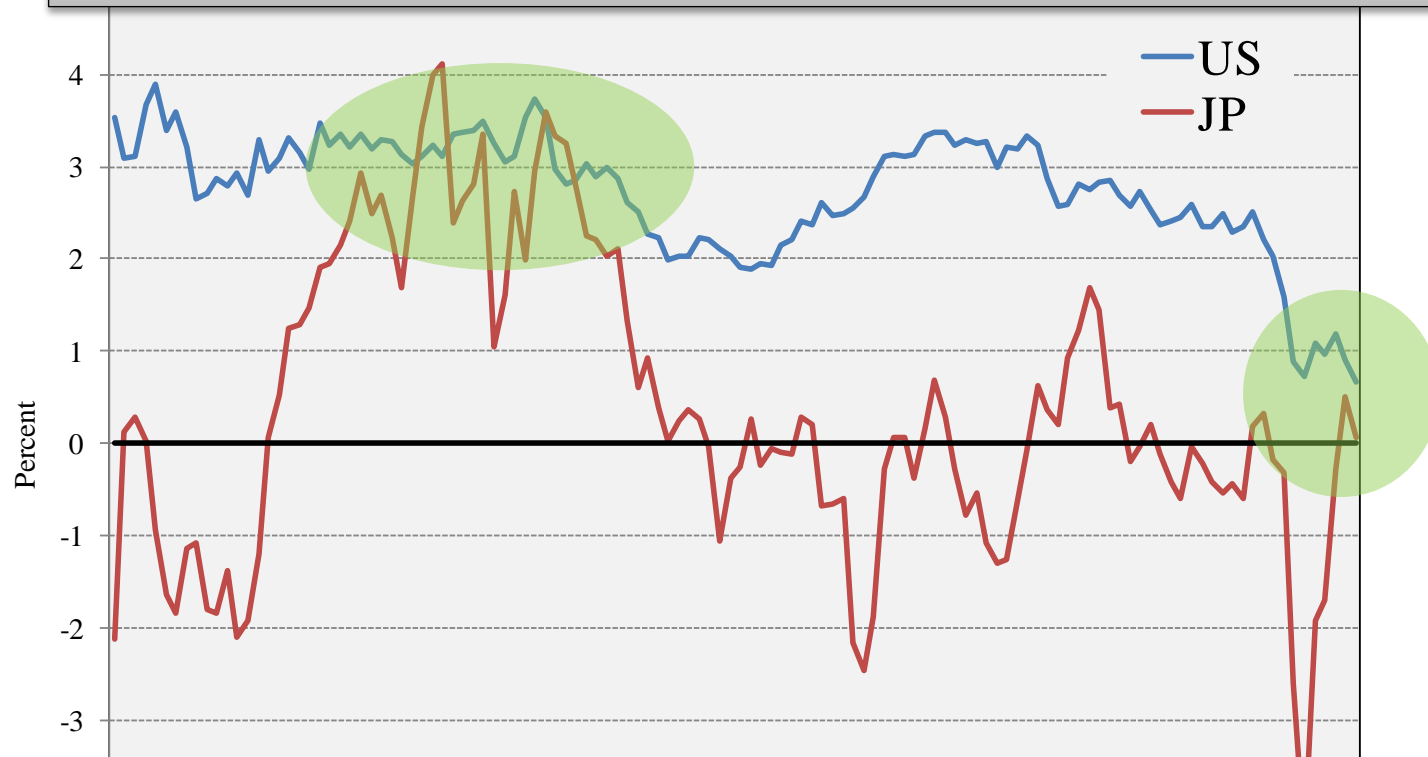
February 25, 2011

Slide I used at SF Fed conference in March 2005



Six years later....

Natural Rate of Interest in Japan and the US



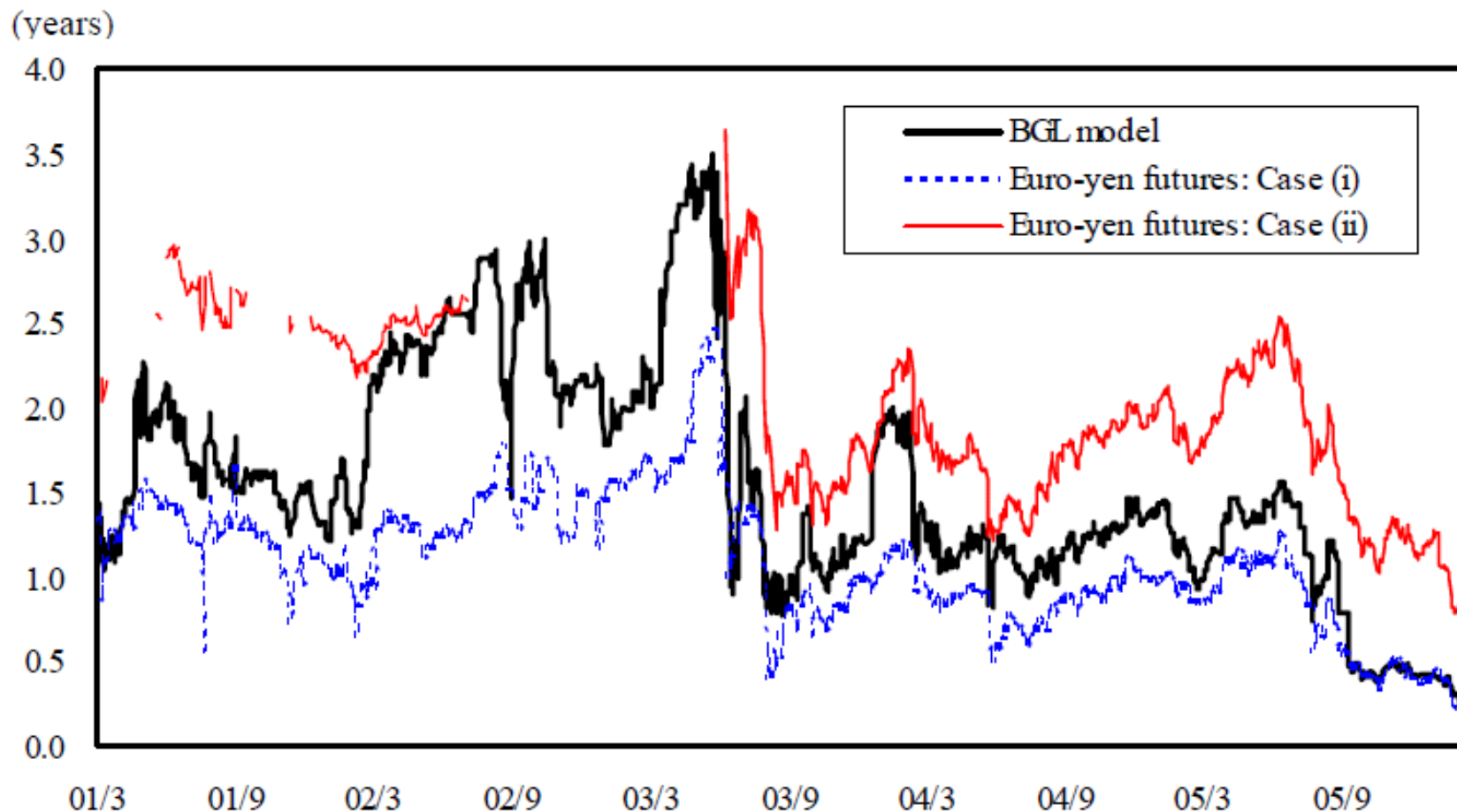
- The natural rate of interest in Japan is still close to zero, sometimes below zero, so that the BOJ continues to face the ZLB constraint.
- The US natural rate of interest was much higher in the 1990s than the Japanese counterpart. But the US rate has been approaching to the Japanese rate since 2008.

Comment #1 (mainly to HW)

Waiting time until the exit from QE

- HW assumes that arbitrageurs expect that the economy will remain at the ZLB in the next week at a **constant** probability π^Q
 - This implies that the exit from QE follows a Poisson process.
 - Their estimate from the QE2 period (Mar 2009 to Aug 2010) implies that arbitrageurs expect that quantitative easing will continue for 60 weeks in their baseline case, and 108 weeks in the other case with weaker parameter restrictions.
1. Their treatment does not allow for any changes in market expectations about the timing of exit from QE.

Japan's market expectations about the waiting time until the exit from QE, 2001-2006: Estimates from Euro-Yen Futures



Source: Ueno, Baba, Sakurai (2006)

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Waiting time until the exit from QE

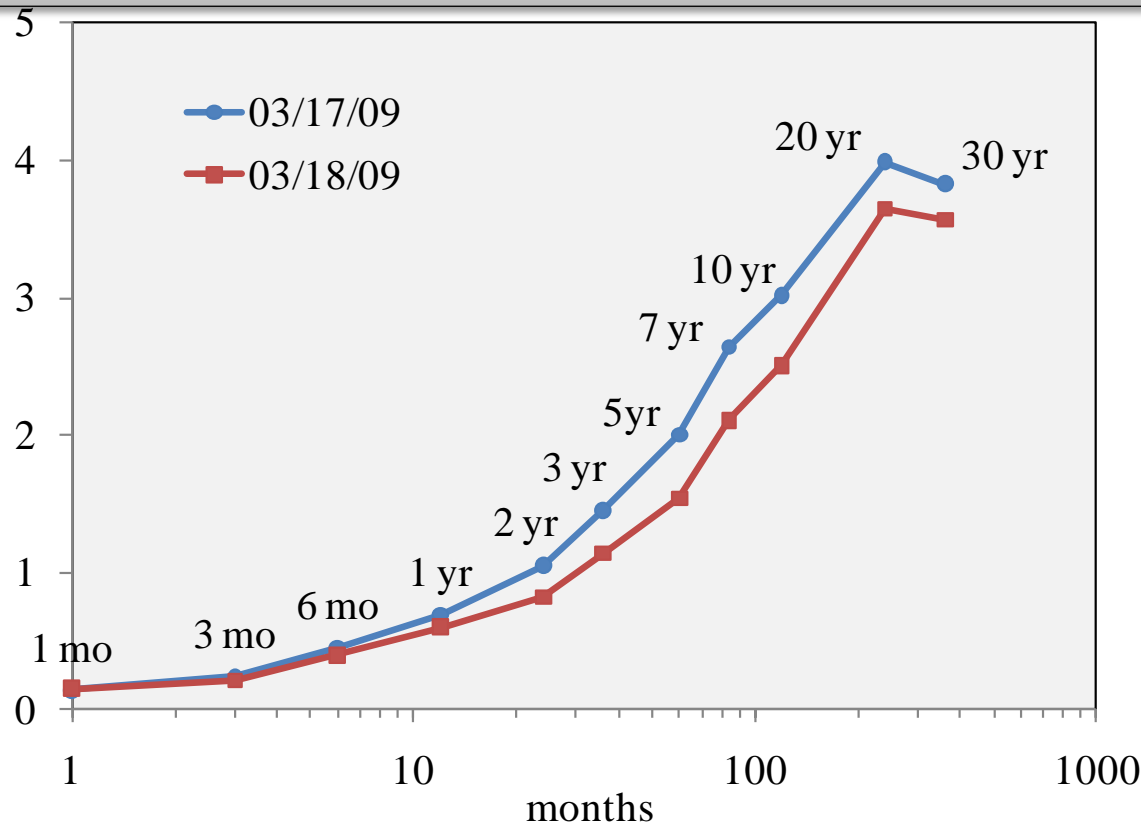
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 - Their estimate from the QE2 period (Mar 2009 to Aug 2010) implies that arbitrageurs expect that quantitative easing will continue for 60 weeks in their baseline case, and 108 weeks in the case with weaker parameter restrictions.
1. Their treatment does not allow for any changes in market expectations about the timing of exit from QE. This may not be an appropriate way to describe the way people form expectations about it.
 2. More importantly, their treatment implicitly assumes the absence of the signaling channel of QE. Throwing away this channel may not be appropriate.
 - Signaling channel of QE:
Fed purchase of Treasury securities $\rightarrow \pi^Q$ goes up \rightarrow Treasury yields fall

Comment #2 (mainly to KVJ, but related to HW and AK)

Portfolio rebalance channel vs. signaling channel

- “While we believe that this channel [portfolio rebalance channel] likely captures the first-order effect of LSAPs, **it does not rule out the possibility that LSAP purchases could also change expectations of short-term interest rates through a signaling channel.**” (AK, footnote 11, page 8)
- “Commitment to keep rates low channel” should “**lower intermediate maturity rates more than long maturity rates**, since the commitment to keep rates low only lasts until the economy recovers and the Fed can sell the accumulated assets.” (KVJ, page 6)
 - “Given forecasts of the duration of the current recession, such intermediate maturities will be in the 2 to 5 year range.”
 - They found through the event study that 1 year treasury yield declined only a little, while longer-term treasury yield (10 year and 30 year) exhibited a substantial decline. Based on this finding, they conclude that the signaling channel did not play an important role.

Treasury yield curves before and after the policy event on Mar 18, 2009



- It is true that long maturity rates decline more than intermediate maturity rates. But this may be simply reflecting the fact that intermediate maturity rates are closer to the ZLB.
- More importantly, there is an alternative interpretation that the yield curve shifts **horizontally** (rather than vertically), implying that market participants update expectation after observing the event and come to believe that the exit from QE is postponed by several months (i.e. π^Q goes up).
- Just comparing the responses of long and intermediate maturity rates may not be a good way to distinguish the two channels.

Comment #3 (to all of the three papers)

A brief comparison with Japan's QE in 2001-2006

Quantitative easing by the Fed

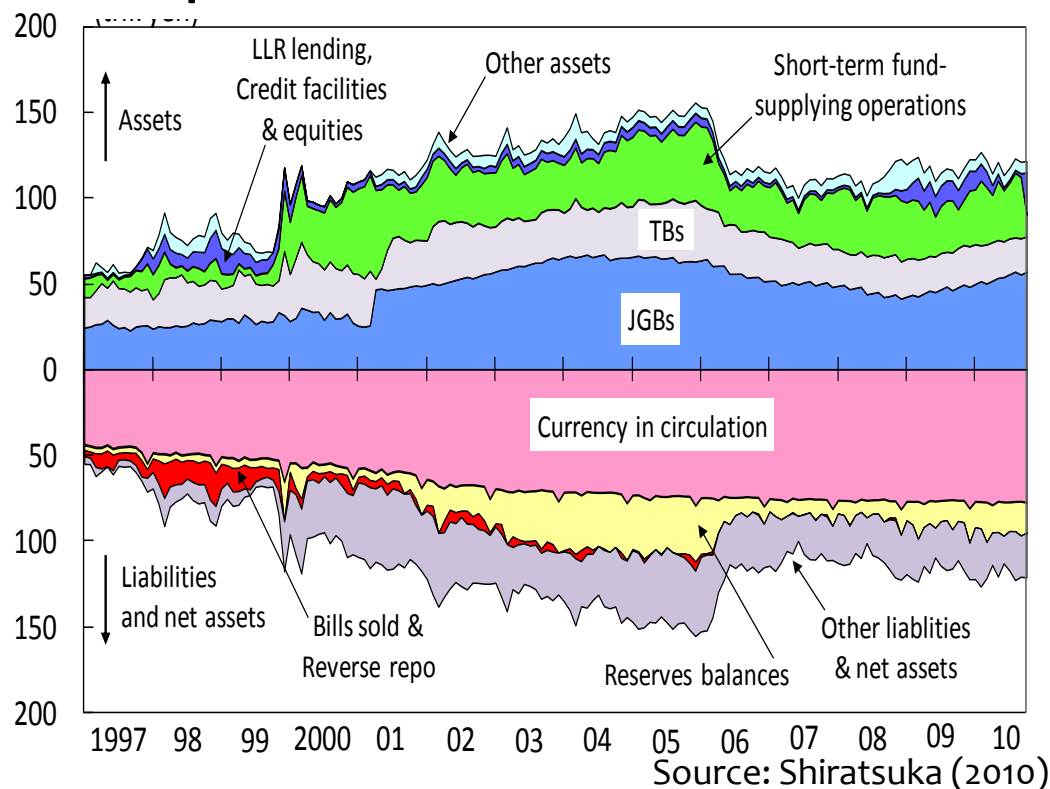
	Portfolio rebalancing channel	Signaling channel
AK	50 bps decline for 10yr UST	No discussion
HW	13 bps decline for 10yr UST	Assume its absence
KVJ	107 bps decline for 10yr UST	Negligibly small effects
Gagnon et al (2010)	91 bps decline for 10yr UST	Negligibly small effects

Quantitative easing by the BOJ

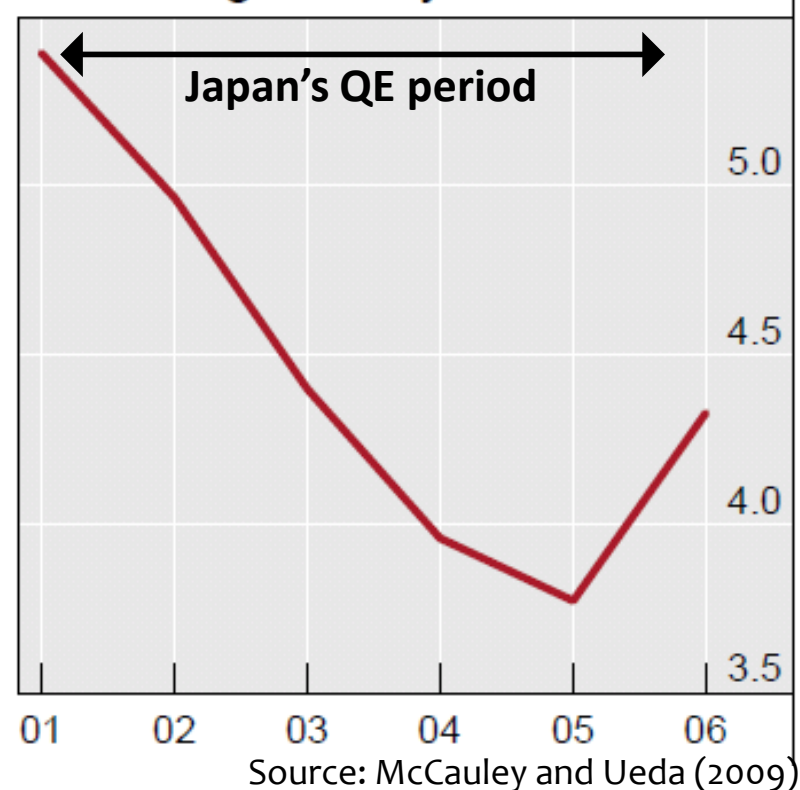
	Portfolio rebalancing channel	Signaling channel
Oda and Ueda (2007)	Fail to find any significant effect	30 bps decline for 10yr JGB
Kimura and Small (2006)	20 bps decline for Aa corporate bonds	No discussion
Baba et al (2006)	Fail to find any significant effect	20 bps decline for bank borrowing rates
Bernanke et al (2004)	JGB yield curve shifted down responding to policy changes	

BOJ's purchase of JGBs in the QE period, 2001-2006

Composition of the BOJ Balance Sheet

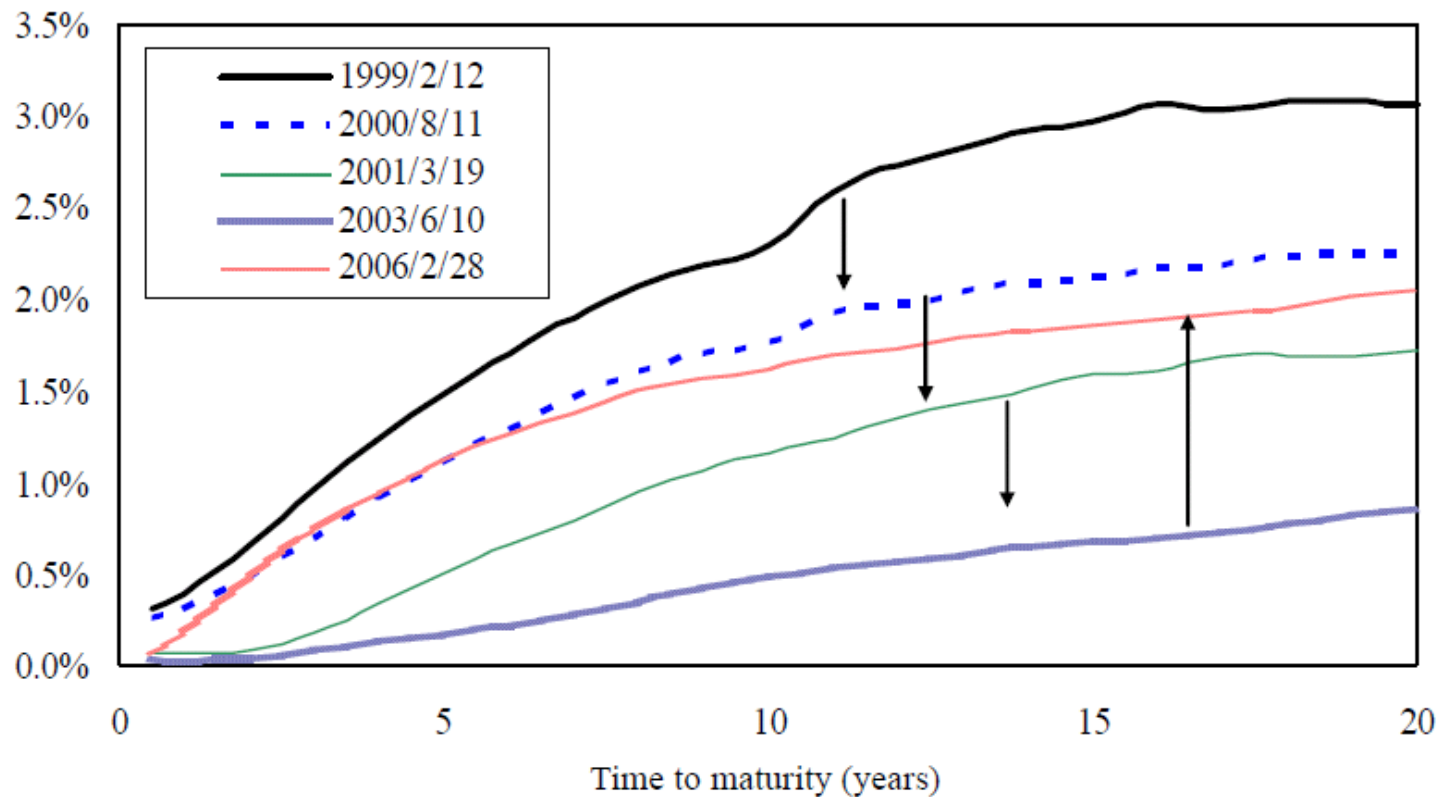


Remaining maturity of JGBs^{1, 3}



- The BOJ purchased 20 trillion yen (4 percent of GDP) over the five year QE period, which is small and slow relative to the Fed purchases.
- More importantly, the BOJ purchases were concentrated on JGBs with short residual maturities.

Evolution of the JGB Yield Curve



The existing studies on Japan's QE in 2001-2006 attempt to disentangle the change in the yield curve into the expectations component and the risk premium component. Given such decomposition, they tend to argue that shifts in the yield curve mainly reflect changes in market expectations about the timing of the exit from QE.

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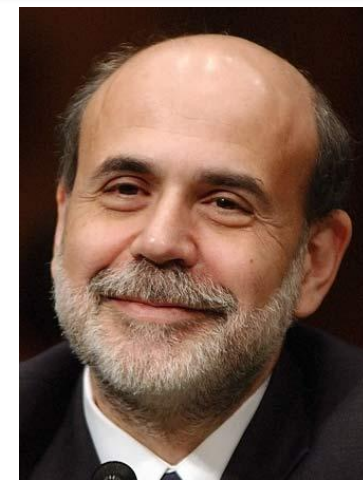
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Policy commitments by the Fed and by the BOJ during their QE periods

1. The federal funds rate is likely to remain at “exceptionally low levels for some time” (FOMC statement on December 16, 2008)
2. The federal funds rate is likely to remain at “exceptionally low levels for an extended period” (FOMC statement on March 18, 2009)



1. The BOJ will continue the Zero Interest Rate Policy “until deflationary concerns are dispelled” (Governor’s statement, April 13, 1999)
2. The BOJ will continue the Quantitative Easing Policy “until the core CPI records a year-on-year increase of zero percent or more on a stable basis” (MPM decision, March 19, 2001)
3. “It requires not only that the most recently published core CPI should register a zero percent or above, but also that such tendency should be confirmed over a few months.” (MPM decision, October 10, 2003)

