

**Discussion of**  
**“Time consistency and the Duration of  
Government Debt: A Signalling Theory of  
Quantitative Easing”**

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# Introduction

- During the financial crisis CBs provided forward guidance about the likely path of policy rates to promote economic recovery and price stability.
- No explicit commitment to the “irresponsibility principle” advocated by Krugman (1998).
- Conditionality: future official interest rate path would depend on the evolution of the macroeconomic outlook (or to some specific variable).
- Clarida (2010) argues that this type of commitment, if not properly qualified, may in practice be confused by the public with a policy of discretion.

# Introduction

- QE could act as an enforcement mechanism for forward guidance...
  - Bernanke, Reinhart and Sack (2004): QE may strengthen the promise to keep short-term rates low, as an increase in official interest rates may lower the health of CB's balance sheet.
- ... but CB's losses due to an increase in short-term interest rates may be too small to convince the Public (Rudebusch 2011) ...
  - Losses would only be realized on the share of the portfolio of long-term securities that is not held to maturity.
  - The central bank is not a private institution with profitability as its main objective.

# The Model

- ... But still QE could act as an enforcement mechanism ...
  - Bhattarai, Eggertsson, Gafarov (2014) show that shortening the duration of government debt, makes promises of expansionary future policy credible because it provides an incentive to the central bank to keep short-term real interest rates low in future to avoid **consolidated balance sheet** losses.
- ... to the extent that QE is able to shorten (permanently) the maturity of debt.

# The Model

- The key intuition for this result is that
  - If government bonds held by the public are in large part short-term then current real short term rate directly affects the cost of rolling the debt over period by period,
  - while the cost of rolling over debt is not affected as strongly period by period if government bonds held by the public are in large part long-term (since the interest rate on that debt is predetermined at the time the policy is set).
  - Therefore, policies aimed at shortening the average maturity of government debt held by the public may act as enforcement mechanism for policies that “promise” to held real interest rates low in the future.

# The Model

- **Very nice model, simple but innovative**

DSGE model with sticky prices

- + zero lower bound on interest rates
- + multi period debt (where maturity depends on a parameter)
- + consolidated government-CB
- + output cost of taxation
- + perfect substitutability between assets (no term premia)
- + rational expectations
- + optimal monetary policy under discretion

# The Model

- One thing that I would like to see in the paper is a comparison between
  - the equilibrium under discretion and the shortening of the maturity and
  - the one under commitment with a fixed maturity of debt,as the authors claim that their result is related to Persson, Persson and Svensson (2006) that shows that a manipulation of the maturity structure can generate an equivalence between discretion and commitment.

# From Theory to Practice

- Here, I think, the paper can be improved

1. The signalling vs portfolio-balance effects

*“In fact, arguably, much of the findings of the empirical literature on reduction of long-term interest rates due to quantitative easing can be attributed to expectations of low future short-term interest rates.”*

Many empirical papers, actually, claim the opposite: the larger impact is through the term premia

# From Theory to Practice

Figure 3: 10-year term premium

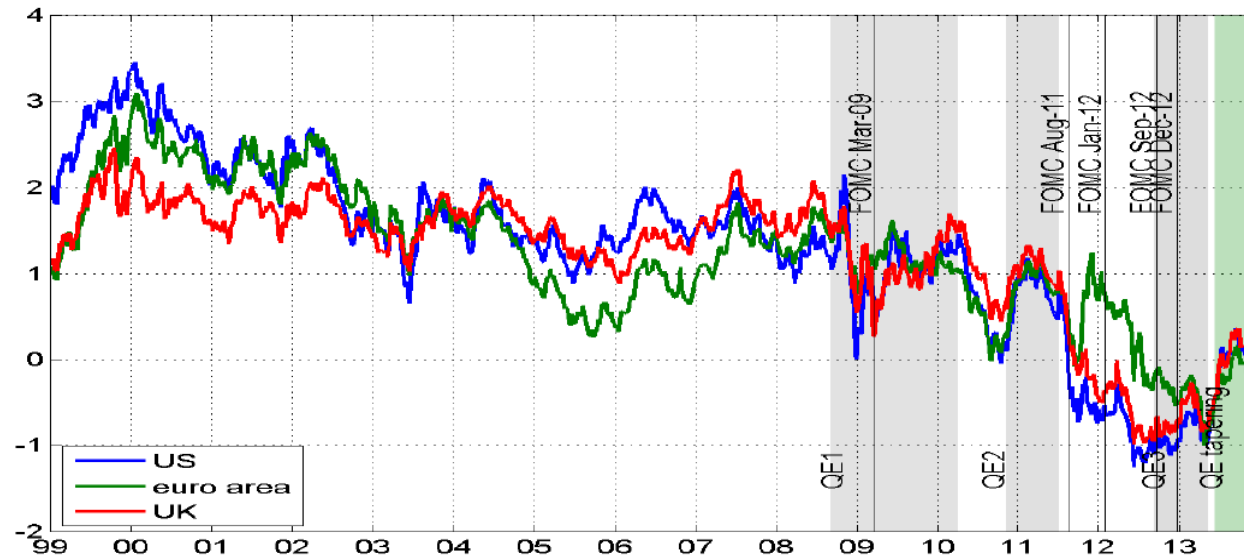
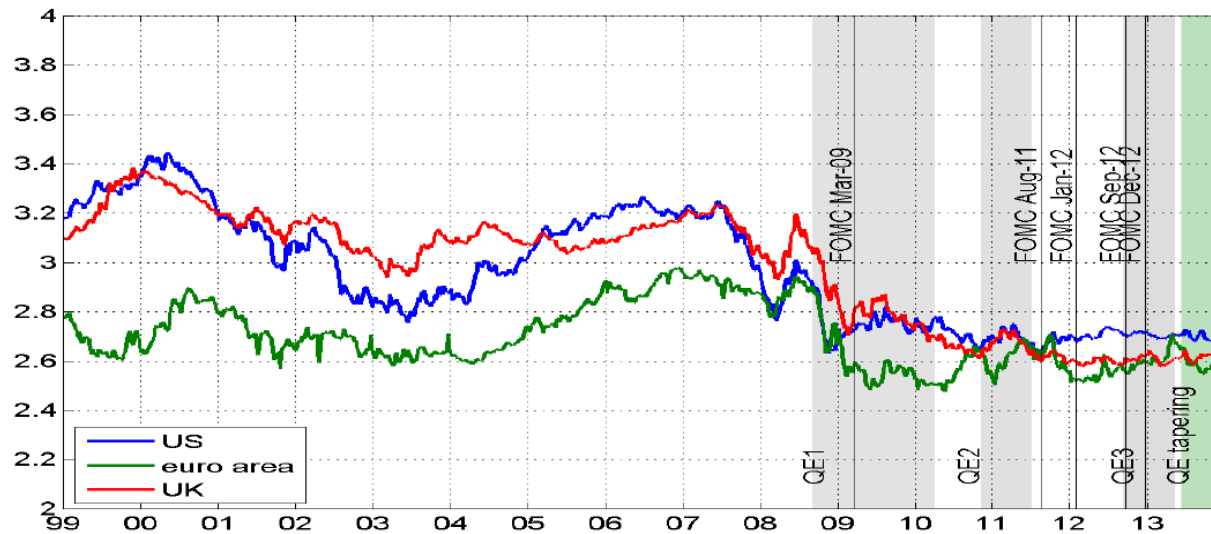


Figure 4: 10-year Expected short-term rates



Pericoli (2014)

# From Theory to Practice

2. Is debt management really the same as QE?

Two necessary conditions:

(1) The CB commits to hold bonds to maturity.

(2) The Government does not “arbitrage out” by issuing longer-term debt

3. Is short term debt really the same as CB reserves?

(1) the role of excess reserves in determining market interest rates

# From Theory to Practice

## 4. The “policy experiment”

- (1) in the first part of the paper: duration is a policy parameter. When you change the policy parameter in a model with expectations you are assuming that the policy change is unexpected and permanent. Is it realistic (since the paper is about the signaling role of QE)?
- (2) In the second part: optimal duration, but (after maximizing) you log linearize. Aren't you “killing” all the interesting part about the interactions between debt maturity and interest rates?

## 5. Concerning the zero lower bound

(1) what about the so called “bad” steady state that we usually have in models with zero lower bound and government debt? Are you just excluding it?

# Conclusions

Very nice model, with new insights on debt management.

But since the paper has very important policy implications, there are some issues when we move from the model to reality that should be addressed or clarified.