DISCUSSION OF

How Should Central Banks Steer Money Market Interest Rates?

Todd Keister
Rutgers University

SIPA/FRBNY Workshop on Implementing Monetary Policy
May 4, 2016

Steering interest rates

- Francesco's presentation nicely lays out:
  - the standard pre-crisis framework
  - the present (non-standard) situation
  - an interesting proposal for using derivative contracts to improve interest rate control
- I want to bring in another element into the discussion: liquidity regulation
  - creates some complications any operational framework will have to deal with
  - reminds us of the interaction between the operational framework and other objectives, including financial stability
  - may point to another advantage of the derivatives approach

Emphasize:

- The question of how to best steer interest rates is not merely a technical matter
- The implementation framework is inherently connected to:
  - fiscal policy, through the central bank's balance sheet
  - financial stability policy
- Determining how to balance these concerns is difficult
  - but seeing the potential conflicts and tradeoffs in a specific context is (hopefully) useful

Interest rates pre-LCR

- Start with Francesco's "fundamental equation" for the equilibrium interest rate on interbank loans

$$r^* = \text{prob[reserve surplus]}r_{IOER} + \text{prob[reserve deficit]}r_{DW}$$

where:

- r_{IOER} = interest rate paid on excess reserves
- r_{DW} = interest rate at the CB's discount window

- Rewriting:

$$r^* = r_{IOER} + \underbrace{\text{prob[reserve deficiency]}}_{\text{depends on the supply of reserves}}(r_{DW} - r_{IOER})$$

or

$$r^* = r_{IOER} + \underbrace{p(R)}_{\text{"scarcity value" of reserves}}$$

Repeating: $r^* = r_{IOER} + p(R)$

- Implementation: use R (and other tools) to change $p(R)$
  - corridor system: aim for a particular $p(R) > 0$
  - floor system: aim for $p(R) \approx 0$

Other interest rates

- For loans with longer maturity, more risk, etc.:

$$r_j^* = r^* + s_j$$

  - think of spread s_j as (roughly) independent of r_{IOER} and R
  - includes expectations of future interest rates, etc.
- Key point:

$$r_j^* = r_{IOER} + p(R) + s_j$$

  - by changing r_{IOER} and/or $p(R)$, CB moves all interest rates up/down

Liquidity regulation

- What changes with the Basel III liquidity requirements?
- Focus on the Liquidity Coverage Ratio (LCR) …
  - banks must satisfy:

$$LCR = \frac{\text{High Quality Liquid Assets}}{\text{Net Cash Outflows over 30 days}} \geq 1$$

- … and on two categories of interbank loans
  - overnight and term (> 30 days)
- Looking at excess LCR liquidity (that is, HQLA − NCOF):
  - overnight borrowing/lending has no effect
  - term borrowing raises it (and term lending lowers it)

Interest rates with an LCR

- Overnight interest rate is unchanged as a function of R

$$r^* = r_{IOER} + \underbrace{p(R)}_{\text{scarcity value of reserves}}$$

- But term interest rates have a new component

$$r_T^* = r^* + s_T + \underbrace{\hat{p}(LCR)}_{\text{scarcity value of "LCR liquidity"}}$$

  - where $\hat{p}$ = value of term borrowing for LCR purposes

- New premium depends on amount of excess LCR liquidity in the banking system
  - affected by fiscal policy, demand for bonds by non-banks, etc.

- Central bank can still move all interest rates up/down
- But … LCR introduces a new "wedge" in the monetary transmission mechanism
  - this wedge could potentially be large and variable over time

Q: What should a central bank do about the LCR premium?

(1) Simply adjust r^* to offset changes in $\hat{p}$ if desired

- similar to current approach when s_T changes

"passive"

(2) Manipulate $\hat{p}$ for monetary policy purposes

"active"

Potential problems with the passive approach:

(A) Variability in $\hat{p}$ may present communication problems

- could require frequent changes in announced target rate

(B) Steering rates may become more difficult

- the (near)-zero lower bound on r^* becomes more binding

(C) Large $\hat{p}$ represents an arbitrage opportunity

- shadow banks (or banks not subject to the LCR) could profit by doing very short-term maturity transformation
- note: this activity helps the transmission of monetary policy
  - from that perspective: might want to allow/encourage it
- but raises clear financial stability concerns
- an example of the tension between monetary policy and financial stability

Examples of active approaches

(A) OMOs against non-HQLA assets

- increase supply of reserves without removing govt. bonds

(B) Term lending to banks (against non-HQLA collateral)

- like the Term Auction Facility or a term discount window
- provides reserves to banks without increasing NCOF

- Both approaches will affect excess LCR liquidity
  - adding reserves this way should decrease $\hat{p}$
  - similarly, draining reserves should increase $\hat{p}$

- However …

- Note: these operations create *reserves*
  - and thus have spillover effects on $p(R)$
- Depending on timing and other factors, the CB may or may not be able to sterilize these effects
- If effects are not fully sterilized…
  - efforts to affect LCR premium $\hat{p}$ will alter the o/n rate r^*
  - this interaction can be intricate
  - controlling either rate can become much more difficult

Reference: M. Bech and T. Keister "Liquidity Regulation and the Implementation of Monetary Policy," Dec. 2015.

(C) Introduce a term bond-lending facility

- rather than increasing R when banks face an LCR shortfall …
- offer to lend bonds (against non-HQLA collateral)
  - like the TSLF or the Bank of England's Discount Window
- allows the central bank to change excess LCR liquidity in the banking system without affecting reserves (R)

- Notice the symmetry here:
  - central banks traditionally change R to affect $p(R)$
    - "to provide an elastic currency"
  - these facilities change LCR liquidity to affect $\hat{p}(LCR)$
  - in this sense ⇒ a natural extension of monetary policy

A proposal

- Discussion suggests some features that might be desirable for the CB's operational framework

1. Floor system: (interest on reserves policy)
   - set r_{IOER} = target rate, set R to aim for $p(R) \approx 0$
2. Set R (in part) based on payments needs (monetary policy)
   - assuming a range of values of R would deliver $p(R) \approx 0$
3. And a bond-lending facility (credit policy?)
   - shift composition of CB's assets to aim for a low, stable $\hat{p}$

- This framework neatly separates policy objectives
  - and provides distinct tools to address distinct objectives

Some (difficult) questions

(1) Should a central bank aim to influence $\hat{p}$?

- strengthens the transmission of monetary policy
- but raises a number of important issues (as we have heard)

(2) If so, how?

- aim to actively manage $\hat{p}$? Or only provide a cap?

(3) Does having the central bank "produce" LCR liquidity undermine the goals of liquidity regulation?

- what should a CB do if financial stability policy is weakening the transmission channel(s) of monetary policy?

(4) Can using derivatives help manage this tradeoff?