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:

\[ r^* = r_{IOER} + \text{prob[reserve deficiency]} (r_{DW} - r_{IOER}) \]

or

depends on the supply of reserves

\[ r^* = r_{IOER} + p(R) \]

“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 $R$
  \[ r^* = r_{IOER} + p(R) \]
  scarcity value of reserves

- But term interest rates have a new component
  \[ r_T^* = r^* + s_T + \hat{p}(LCR) \]
  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

(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 $\Rightarrow$ 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 $r_{IOER} = \text{target rate}$, 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?