Discussion of:

Open Market Operations

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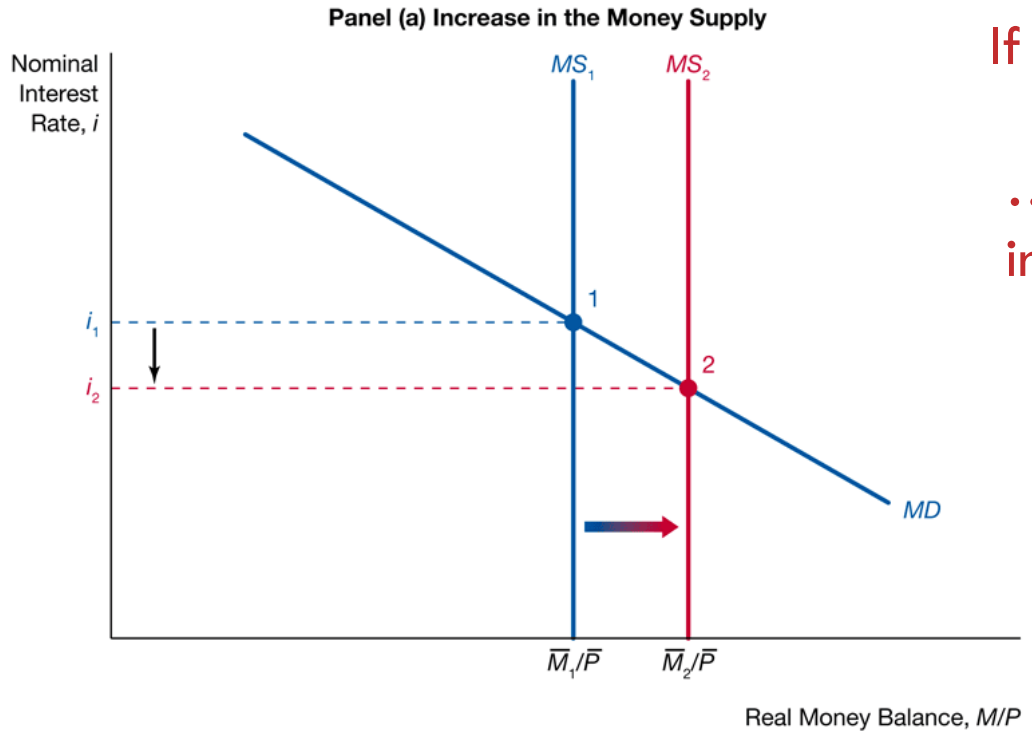
The issue

- What are the effects of an open market purchase?
  - central bank buys government bonds, pays with newly-created currency
- Undergraduate textbook story:

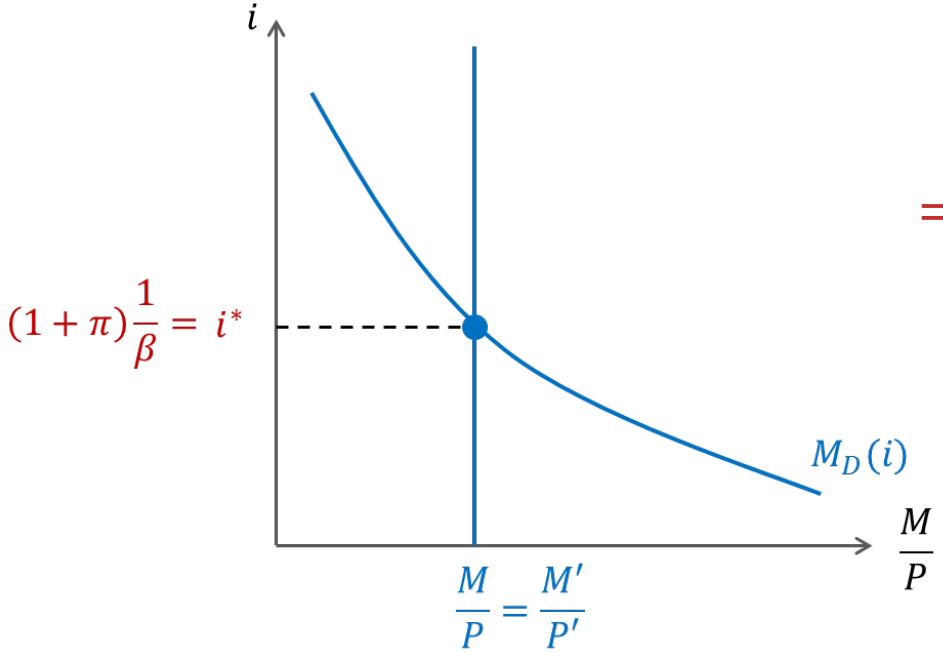


If P does not change …

… real money balances increase and …

the nominal interest rate must fall to convince agents to hold more real balances

- But … why should P remain constant?
  - isn't the point of monetary policy to affect the price level (and inflation)?
- In a standard GE model, the price level moves one-for-one with M
  - the quantity "theory" of money



⇒ open market purchase is completely neutral

- There is a large literature on possible resolutions of this "puzzle"
  - Price rigidities from various sources, segmented markets, distributional issues, etc.
- Suppose that, for whatever reason, we do not want to take that route
  - want P determined in a Walrasian market with complete participation and flexible prices
- Could open market operations nevertheless have real effects?
  - this is (I think) the central question in the paper

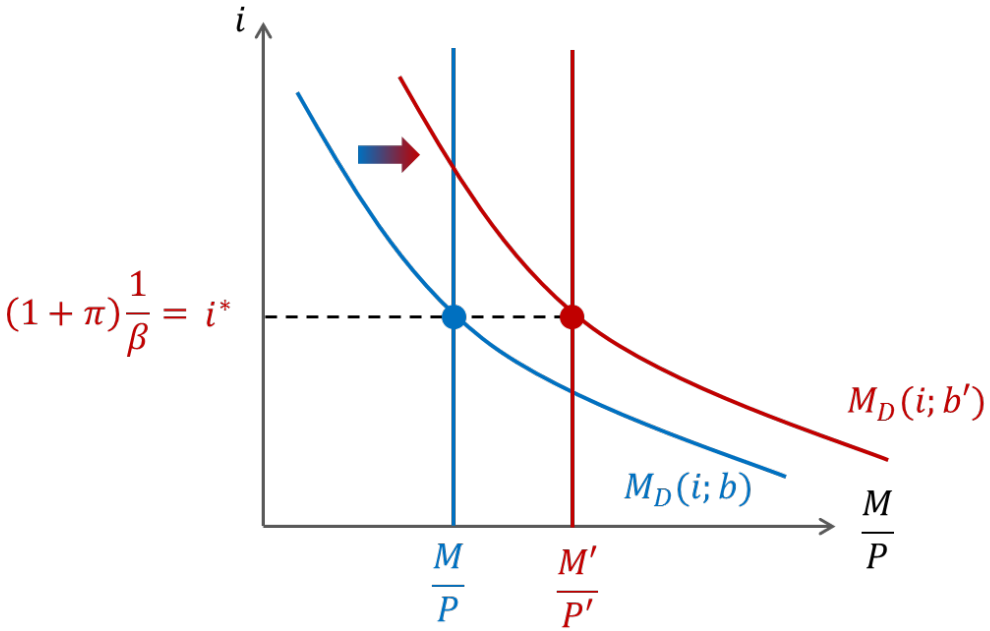
The idea: it's the B side

- An OMO has two sides (or "legs")
  - private sector ends up holding more money (ΔM) following a purchase
  - **and** fewer bonds (ΔB)
- Even if ΔM is neutral, ΔB may generate real effects
- Is this a crazy idea?
  - there is clear evidence that some bonds carry a liquidity premium (that is, have lower yields than other, similar bonds)
  - seems plausible that the size of this premium could be related to quantity
  - WSJ and others have claimed that Fed asset purchases have created a "squeeze" in the shadow banking system

  $\Rightarrow$ seems worth investigating

Results

- OMOs can indeed have real effects through ΔB in some situations
  - depends on the scarcity of real money balances, bonds
  - affects exchange involving bonds **and** exchange involving money
- In the textbook diagram:



- The model can generate some interesting patterns, including
  - negative nominal interest rates
  - a liquidity trap
  - incomplete price level adjustment

Comments:

(1) Negative nominal rates (or, the acceptability of money)

(2) The acceptability of bonds

(3) Who are these agents? (or, mapping the model to the data)

(4) Other actors

(1) Negative nominal interest rates

- Have appeared occasionally in U.S. and persistently elsewhere
  - does the model help us understand what is going on?
- The mechanism I have heard people talk about involves bonds as a **store of value**
- Suppose you want to save $100 million overnight (or for a week) and are very risk averse
  - safeguarding that amount of currency is fairly costly
  - could deposit in a bank, but it would be uninsured (risky)

$\Rightarrow$ You may be willing to hold govt. bonds even at a negative nominal rate

  - note: this argument assumes you do not have an account at the CB

- Mechanism in the paper is different
  - bonds can do something in **exchange** that money cannot
  - comes from $\alpha_b > 0$ and/or $\chi_b > \chi_m$

Questions:

(i) What is this something?

- I would like to understand better why a seller might not want cash

(ii) How can we distinguish the two stories?

- what would be evidence of the mechanism in the model?

(i) How could bonds be more useful than cash in exchange?

- Paper mentions collateral for deferred settlement, repos, etc.
  - but … if I borrow against collateral or do a repo, I get *cash*
  - if I need to post collateral in a derivatives trade, I can (usually) *post cash*
- Collateralized lending and repos can make bonds almost as good as cash, but I don't understand how they could make it *better*

  (of course, there are many things I don't understand)
- I would like to hear more details about the Swiss or other examples
  - might be more comfortable with the case of $\alpha_b > 0$ and/or $\chi_b > \chi_m$ if I understood better what it represents

(ii) What data would be evidence of the $\alpha_B > 0$ mechanism?

- The store-of-value explanation makes some predictions
  - commercial banks (who have an account at the central bank) should not hold bonds with a lower yield than reserves
  - lower bound on nominal interest rate = $-$(cost of storing currency)
    - estimated to be $\sim -1\%$ (?)
- Violations of either prediction might be evidence of an exchange role for bonds
- Does the exchange-role model make testable predictions?

(2) Acceptability of bonds

- $\alpha_m > 0 \Rightarrow$ some sellers do not accept bonds
- Why not?
  - paper suggests recognizability and pledgeability as underlying frictions
  - some sellers can recognize cash, but are not sure if the bond you are offering is valid or not
- Are these frictions important for government bonds?
  - Since 1986, all newly-issued U.S. Treasury securities are in book-entry form
  - I think the frictions are small (zero?) here
- These issues seem more important for other types of securities
  - the central bank may also use these types of securities in OMOs

- Consider an environment with government bonds and private debt
  - money and Treasury bonds are perfectly recognizable and pledgeable
  - valid mortgage-back securities (MBS) are risk-free (suppose)
    - but bad MBS can be produced costlessly
    - sellers pay a cost κ_i to be able to recognize valid MBS
- Straightforward extension of the model (I think)
- OMOs can be conducting using either Treasury bonds or MBS
  - effects of an OMO on prices and allocations depends not only on ΔB, but also on what type of asset is used
    - might be interesting

(3) Who are these agents?

- Much in the previous discussion depends on what, exactly, we consider to be the empirical counterpart of M
  - My arguments have been loose, but … I am only a discussant
- If the agents in the model are households, then perhaps M is currency
  - but not many households use bonds for exchange purposes
- If they are commercial banks, M is probably reserves (i.e., deposits at the central bank)
  - nominal interest rate on reserves need not be zero (unlike currency)
  - 0.25% in the U.S., -0.20% in the Eurozone, -0.75% in Switzerland
  - the "arbitrage relationship" should be adjusted in this case
    - if U.S. banks are holding bonds with yield $< 0.25\%$ ….

- For non-bank financial firms, I suppose M is a bank deposit
  - hedge funds, pension funds, money market funds
  - nominal interest rate need not be zero **and** the deposit can be risky
  - the "arbitrage relationship" is more difficult to evaluate

- Would it be interesting to have bank deposits circulating in the model?
  - there is already a natural role for banks here, allocating money and bonds according to agents' exchange opportunities
  - like Champ, Smith, and Williamson (1997), Williamson (2012)

(4) Other actors

(i) OMOs are not the only source of ΔB

- in practice, lots of factors affect public debt issuance
- in normal times, OMOs are small relative to these other factors (I think)
- might be difficult to detect the effects highlighted here in the data
- model is perhaps more relevant in recent times with QE, etc.
- title could be "Large Scale Asset Purchases" rather than "OMOs"?

(ii) Suppose a large agent (China) buys bonds and sits on them

- A_b decreases
- $z_m \uparrow, P \downarrow, q_m \uparrow, q_2 \downarrow, q_b \downarrow, s \uparrow,\ \phi_b \downarrow,\ \rho \downarrow$
- some of this looks like what people call the "global savings glut"