

Monetary policy, normal times and today

Financial Markets and Institutions

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► Current Situation

- Central banks playing immense role in advanced economies at present
- Much larger role than would be healthy in normal times
- And many folks believe they are playing a bigger role than is healthy now.
- Even well informed folks disagree fundamentally about what central banks should be doing

Negative rates good or bad? Do LSAPs work? Would raising the inflation target fix our problems?

- Disagreement is natural: we are in an unprecedented situation

If we'd done this 5 or 6 times before, there would be more of a consensus

► You

- As you go out in the world, you'll have to sort this stuff out for yourselves.
- Investment managers make or lose a bundle based on their understanding

You may be one of these or may consult one of these

- You'll (hopefully) be voters and asked to weigh in on this stuff.

► Me

- I am not inclined to give my version of 'truth' and force you to regurgitate it on the exam.
- I'll stick to informing you about stuff I'm pretty sure about
- You can form your opinion about the rest.

► Summary from last time

- Employment and inflation fluctuate around desired values
 - desired: full employment and 2 percent inflation.
- CB's goal is to smooth out these fluctuations as much as possible.

► **How to make monetary policy**

- Assess where you are relative to full employment and 2 percent inflation
- As a practical matter: typically economy too hot (employment and inflation high) or too cool (employment and inflation too low)
- Central bank should tighten (if too hot) or loosen (if too cool) monetary policy temporarily to nudge these variables more quickly back to desired values.

► **How affect tighten/loosen financial conditions?**

- Normal times: tighten by temporarily raising the federal funds rate relative to its normal value
 - Loosen by temporarily lowering.
- Unconventional policy
 - Forward guidance: tell folks where policy is going
 - LSAPs: push up the price of long-term bonds by buying a bunch of them.
- Even more unconventional
 - Negative nominal rates
 - Direct intervention in private credit markets
 - say, by buying corporate debt directly. The ECB has just started this.

► **O.K. That's it for quick review.**

► **A traditional mechanical view of normal times policy.**

► **Fact**

- The Fed sets the quantity of total reserves in the banking system
- Under some popular assumptions, this provides a direct link to 'setting' nominal GDP
 - These assumptions never held very well and, for reasons we'll discuss below are simply nonsense right now.

► **Assumptions**

- Assume that for some fixed m :

$$deposits = m \times required\ reserves$$

m is called the money multiplier

- Assume that for some fixed v :

$$nom.GDP = v \times deposits$$

$$PY = v \times deposits$$

v is called ‘velocity’,

- P is the price level and Y is real GDP so PY is nominal GDP.

► **Put ’em together:**

-

$$nom.GDP = m \times v \times required\ reserves$$

- Thus, by setting required reserves, we can set nominal GDP

But the Fed sets total reserves not required

► **Total, required and excess**

- The Fed sets total reserves
- The banking system determines which share become required by setting the level of deposits

The remainder of reserves become excess

- So generally setting total reserves won’t determine nominal GDP even under this simple scheme.

► **Scarce reserves**

- Add the assumption that the Fed is stingy in providing total reserves
- It is so stingy that the banking system always wants to turn ALL reserves into required.
- Remember that this *is* how the Fed behaved before the crisis.

Excess reserves were effectively zero.

► **If all reserves are total reserves...**

- We already derived

$$nom.GDP = m \times v \times required\ reserves$$

- Given the stingy Fed, required equals total reserves, thus,

$$nom.GDP = m \times v \times total\ reserves$$

- Now the Fed can control nominal GDP.

► **A quick version of monetarism**

- We want inflation to be 2 percent.
- And suppose we think potential real output growth is, say, 2.5 percent
- Milton Friedman (slight caricature): The Fed should always just mechanically raise total reserves at 4.5 percent a year.

This will promote steady real growth and steady inflation.

► **Aside:: k -percent rule**

- Friedman's advice famously called the k percent rule. You decide which k is appropriate for your economy based on desired inflation and growth in potential.
- Then set it and forget it: have total reserves grow at k percent.

► **Sad fact**

- Overwhelming evidence that neither the money multiplier (m) nor velocity (v) were constant.
- Note: One of Friedman's great contributions was showing that these were pretty constant over a particular period, which led to his theory.

Friedman was pretty explicit in acknowledging that he had no strong reason for predicting that they should always be constant.

► **But, up until the crisis, folks continued to argue that m and v were pretty constant, so that good policy wasn't much different from Friedman's advice.**

► **Pre and Post crisis**

- Before the crisis, no interest was paid on excess reserves.
- Banks had a collective incentive to minimize excess reserves

(they do this by turning them into required reserves)

- Now interest is paid on excess reserves.

excess reserves are just another interest bearing assets

- Banks are happy to hold any amount of excess reserves, regardless of deposits, so long as the return is sufficient.
- Thus, the simple link between reserves and deposits is completely gone

► **Aside:: Many monetarists**

- Many monetarists don't seem to get that paying interest on excess reserves fundamentally changes the relation between reserves and deposits
- Before the crisis, an immense reserve stock like we have today probably would have led to inflation

Banks turn the reserves into required by expanding deposits, and the deposit expansion boosts nominal GDP. But most of the boost goes into the price component of nominal GDP.

► **Aside::**

- Now: banks are happy to hold the reserves as excess reserves with no real implications for inflation or nominal GDP so long as the interest rate in excess reserves is high enough.

► **A more modern view**

- Both in the old days and now the Fed affects the reserve stock through open market operations
- In an open market operation, the Fed buys a government security from the private sector and it pays by crediting the reserve account of some bank

Fed gets a government security; private sector gets bank reserves.

- An open market sale involves the Fed selling a government security and deducting the payment from some reserve account in the banking system.
- Remember: the Fed never 'gives away' anything. It only swaps government securities for reserves at the going rate in the market.

► **Old days**

- In the old days, after an open market purchase the private sector has less interest bearing government securities, but more noninterest bearing bank reserves.
- Because there were no excess reserves, this increase in total reserves allowed the banks to expand deposits and this could stimulate spending.

► **In a world with immense excess reserves**

- An open market purchase today private sector ends up with
 - Less interest bearing government securities
 - But more interest bearing claims on the government in the form of reserves
- So why does this do anything?
 - Banking system already has so many excess reserves that this won't promote expanding deposits

- And the private sector as a whole doesn't really care whether their interest comes from one part of the government or another

Federal government as opposed to the Fed

- Thus, unless we add some detail, open market operations (even large scale purchases of government securities) will do nothing.

► **What is the detail?**

- In discussing LSAPs, I said that this acronym leaves out something important:

The key: large scale purchases of **longer-term securities**.

- Thus, the Fed is buying long-term interest bearing claims on the government (e.g., 10-year bonds) and paying with short-term interest bearing claims on the government (reserves)

► **Absolutely crucial**

- The quantity in QE is essentially irrelevant until you say quantity of what
- From the private sector perspective, QE or LSAPS leads to a large change in the maturity structure of the private sector's interest bearing claims on the government.

It shortens that maturity structure.

- Without this element, we would expect QE to have little effect

► **Aside:: Japan until recently**

- For many years, the Bank of Japan did QE swapping only short term claims
- Most everyone (even Milton Friedman before his death) said that this should have little effect

And it doesn't seem to have helped much.

► **Why does maturity structure matter**

- If the supply of longer-term debt to the public goes down, its market price will tend to go up.

That is, its yield goes down.

- Lower longer-term rates may stimulate economic activity

Through all the channels discussed before (asset prices, lending, the exchange rate)

► **But note**

- Most everyone agrees that if the large scale purchases are directed at short-term securities, the effect should be tiny

- But many argue that even buying longer term securities shouldn't have much effect.
- For various reasons, long-term and short-term securities may effectively be perfect substitutes.
- Many academics believe this; no central banker seems to
 - Thus, Bernanke (an academic and central banker) called this one of those cases of a policy that works in practice but not in theory.
- In reality, we have many economic theories in which LSAPs would work as the Fed describes
 - But the experience is very limited and so the evidence is ambiguous.

► **One thing everyone (sensible) agrees with**

- One thing everyone (sensible) agrees with is that expanding the quantity of excess reserves (sometimes called flooding the banking system with liquidity) is not the goal of LSAPs
- The goal is this shift in the maturity structure of private sector claims on the government.
- The persistence of confusion over the role of the quantity of reserves in QE is why the Fed hates that label QE.

► **Next**

- We turn to some political economy issues about monetary policy