The Other Side of the Coin
... the FRS impact upon interest rates

Key Interest Rate Definitions
(remember handout from LF lecture!)

- Federal Funds Rate
- Discount Rate
- U.S. Treasury Securities Rates
- Prime Rate
- Corporate Securities Rates
- Municipal Note and Bond Rates
- Mortgage Rates
Net Effect of Open Market Operations

1. Increases Reserves
2. Increases Lending (Money and Credit)
3. Decreases Interest Rates

Loanable Funds – Case 2

The effect of FRS Open Market Operations

- $r_1$, $r_2$
- $e_1$, $e_2$
- $DF_1$, $SF_1$, $SF_2$
The Federal Funds Market

- At the end of the day
  - some banks have excess reserves
  - some banks with heavy lending have shortages

- In the Federal Funds Market
  - reserves are lent "overnight" (short maturity)
  - the interest charged is the Federal Funds Rate
    (always expressed as an annual rate)

The important effect? This keeps the system running tight.

... a general tightening after June 30, 2003, to forestall inflation and curb low interest speculation, then a severe reduction beginning September 2007 to curb effects of the credit crunch.
How OMOs *should* affect all rates ...

- Raising the rate (fed funds) at the short end ...
- ... is supposed to provoke a sympathy move at the long end, raising the entire structure of interest rates.

... but the influence may not be felt here.

- The FRS directly controls ....
- ... which in turn strongly influences ...
- ... which through competitive pressure *should* influence
- Federal Funds Rate
- Bank Lending Rates
- U.S. Treasury Rates
- Mortgage Rates
- Corp. Bond Rates
- Collateralized Rates
- ... other private Rates

... but sometimes they don't have much effect upon the separated rates (right column) because of perceived risk or other problems in that sector.
Select Interest Rates 2007 vs. 2013
(April comparisons)

Interest rates are lower, but more so short-term rates rather than long-term rates.
Look at the bottom end compared to the stuff at the top.

Source: The Wall Street Journal and finance/yahoo, select dates. FRM data are for conforming loans, no points, from SchoolsFirst FCU, a typical lender, for April 15, 2013.

The Term Structure of Interest Rates
(yield spreads)

When comparing different maturities of the same class of interest bearing securities, like U.S. Treasury securities, the yields (interest paid) of securities with longer maturities are normally higher than the yields of shorter maturities. For example, we would expect a 20-year bond to have a higher yield than a 26-week bill.

This is because there is a greater risk associated with holding a long-term security (such as the risk imposed by inflation).

The mapping of these yield spreads, shown in the next slide, is called the “term structure of interest rates,” and it normally slopes up.
The "term structure of interest rates" normally rises with longer maturities because of the higher risk associated with them.

This is a "normal" term structure, reflecting higher risk with higher yields.

The Treasury Yield Curve 2007 vs. 2013

QE2, QE3 and Operation Twist (now discontinued).

Normal yield curve shape but sharp reduction in all rates
Treasury Yield Spreads
(term structure of interest rates)

As can be seen, this Fed action is influencing only short-term rates.

This is a “normal” term structure, reflecting higher risk with higher yields.

The Trade-off between targeted interest rates and money/credit growth rates in monetary policy

M2 growth rate

Monetary Policy Tradeoff Line

MSo

Ro

Interest Rate
Meeting the targets

Mudd Economics

Remember, the FOMC will always desire net expansion of reserves and net expansion of any monetary or credit target. An expansionary policy might involve raising the reserve growth rate from 4% to 7%. A contractionary policy might involve lowering the reserve growth rate from 6% to 3%, but not reducing it below zero.

How does the FOMC contract, which will reduce the reserve growth rate and raise interest rates? By reducing the frequency and size of individual OMOs.

... think of this as regulating a flow through a faucet; tighten up a little and the flow slows down, ease up a little and the flow increases. But there is always a flow.
The subtlety of a "contraction"

The original simplistic loanable funds model suggested that to raise interest rates, the FRS contracted the supply of funds. In a robust economy where credit demand is always growing, as shown here, the FRS can and does raise interest rates by increasing the supply of funds modestly. Generally, if the FRS keeps reserve growth below the growth of credit demand, rates should rise.

Why FFR Targets are Emphasized over monetary targets

- You can't "see" money operationally, .. long lags in data
- Money growth rates wildly volatile, .. definitions imperfect
- .. fickle public use of monetary assets
- Endogenous money supply
Money Supply Growth Rates
Jan 1996 – Jan 2013, monthly, annualized previous 12 months, LN continuous, SA

No meaningful correlation is visible here – this is more the effect of things that matter than the cause of anything. Likewise, these current numbers have no capacity to predict inflation.

The Endogenous Money Supply
(your teacher’s contribution)

The use of freely-exchangeable monetary and financial assets have become so widespread and so easy to convert from one asset to the other, at low cost and online, that the growth rate of any single component can be very volatile and unpredictable.

For example, you can make an online or ATM transfer from your checking account (M1) to your savings account (M2), causing M2 to grow without causing M1 to fall.

Also, because of credit cards and the extreme liquidity of all financial assets, you are no longer constrained any longer by the size of your M1 or M2 monetary balances.
Policy lesson: Why it is harder to cure an existing inflation than prevent one

- The problem is seriously compounded by inflationary expectations
  - this inflation pushes interest rates up, building in an inflation premium, keeping real rates of return positive;
  - this also causes a decline in bond values and often stock values.
- In an extreme inflation (more than double digit) the correctional policy is necessarily Draconian and does severe damage to the economy.

Over Time..

.. policy abuse

The effort to keep interest rates artificially low can introduce inflationary expectations and eventually raise rates, contrary to your policy. This happened in the 1970s.
Inflationary expectation in the loanable funds model

The effect of inflationary expectations

The “inflation premium” on interest rates

Select Interest Rates and CPI

1970-2011

Inflationary period: note how bad it got and how long it took to correct!

Note that FFR and 3 Mo effectively 0.0% and inflation rate now above Treasury Rates.

The CPI, the 10 yr UST & 30 yr FRM

- Negative here
- Note the long lag in coming back down.
- Historical spread about 1.4% and fairly consistent. Max about 2.5%. This makes the 10 yr a Bellwether rate.

Important Theoretical Point

- IF inflation emerges ... .. and interest rates are rising as a result
- The only policy option is contraction ... which will cause rates to rise more!!
- The problem must be made worse to make it better.
The Volcker Correction of 1979

- Under previous FRS chairs FRS had been running a policy that was too loose and generous.
- Inflation, inflationary expectations, and interest rates were well into double digit levels.
- Policy activist Paul Volcker appointed FRS chair.
- October 1979 FRS enacted a severely contractionary policy, Fed Funds rate goes to 23% at one point.
- Banks finally crack down on credit in 2nd quarter 1980.
- Severe recession finally squeezes inflation out by 1982.
The Volcker Correction of October 1979

Note the long lag

Modern Policy Lessons from the Volcker Correction

- Inflation control is the primary goal
  - low interest rates are secondary
- Anti-inflation policy must be preemptive and preventive
  - tighten as you approach the inflationary region
- Err on the side of caution
- Recognize and respect the long lags between action and result
Primary long-term problems in monetary policy

1. Using expansionary monetary policy to offset problems being caused elsewhere
   • such as offsetting the interest rate effects of chronic budget deficits
   • bailing out screwups in the private sector
2. Targeting interest rates too low too frequently
   • which leads to too much debt formation

Loanable funds: "monetizing" the budget deficit

... and any other kind of spending that we want to "monetize."

One unambiguous result: a strong growth in credit & debt
How many times are you going to show this slide, Professor Evans??

“You were right – the debt was unsustainable,” Daniel Strenge (HMC class unknown, Cargill lead sugar trader).

The 80s
craziness

Stability

The 80s
discover
credit

Millennium
craziness

Final comment before we move into policy in 2012

We keep reading terms like "the FRS is printing money" and they are "monetizing the deficit" or "monetizing the crisis recovery." We now know that these are only metaphors. Once one insists upon a precise definition of money, and then measures whatever that happens to be, you realize that the wild fluctuations in "money" measures have nothing to do with what has happened recently or presently.

To be precise, when we now use the term "monetizing" we really mean that they are creating copious amounts of net new credit, which implies higher levels of indebtedness, even (especially) when normalized against our national output as represented by national income or GDP.

And when the Federal Reserve System is doing it, the credit is being created from nothing - erasing a number and writing a bigger number in its place.

Is this undesirable? Only if it is done to excess. Has it been done to excess?