

34th Class

4/22/11

sign-ups for final times continue today; will post after class; sheets handed out on Mon. May 2

today is the second of three lectures on macroeconomic stabilization policy:
monetary policy

review basics, then consider some recent topics

[powerpoints]

the quantity theory of money equation:
 $MV = PQ$ or $MV = PY$

is velocity stable?

look at recent U.S. data:

http://inflationdata.com/inflation/images/charts/M1%20Money%20Supply/M1_Velocity.jpg

what is the federal funds rate? [and the discount rate]

currently: <http://www.ny.frb.org/markets/omo/dmm/fedfundsdata.cfm>

farther back in time:

http://en.wikipedia.org/wiki/Federal_funds_rate

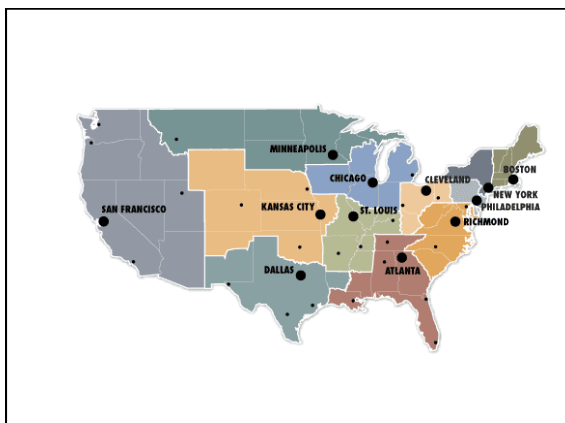
http://en.wikipedia.org/wiki/Discount_window

what does the Federal Reserve's balance sheet look like?

big change in response to the financial crisis

see slides from Hilton powerpoint

what is quantitative easing? basically it is open market operations, so expansionary monetary policy



Monetary Policy

- Who controls monetary policy?
- What is monetary policy?
- How does monetary policy work?

Who controls monetary policy?

- In the U.S., the Federal Reserve (the Fed), which is the central bank of the U.S.
- Many other countries have central banks
- They vary in how much independence they have from the rest of the country's government
- A central bank generally controls the supply of reserves in the country's banking system

Who controls monetary policy? (cont.)

- The Federal Reserve system was created on Dec. 23, 1913, by an act of Congress
 - seven-member Board of Governors serving 14-year terms
 - two members serve as Chair and Vice-Chair (4-yr terms)
 - twelve Reserve Banks
 - twelve-member Federal Open Market Committee (FOMC), comprised of the Board plus five Reserve Bank presidents
 - The President of the Federal Reserve Bank of New York is always on the FOMC
- The FOMC carries out open market operations, which is a main component of monetary policy

What is monetary policy?

- The actions of the government or central bank in affecting the level of the money supply
- Monetary policy is often used explicitly to influence the level of aggregate demand and thus national income/real output
- This occurs indirectly through manipulation of the market for bank reserves thus affecting money supply, thus affecting interest rates, thus affecting investment
- Keep in mind that money supply is a stock, while national income/real output is a flow

What is monetary policy? (cont.)

- Three main tools of monetary policy
 - reserve ratio requirements
 - the discount rate
 - open market operations
- Open market operations are the most frequently utilized
- All three of these tools affect bank reserves

The market for bank reserves

- Required reserves = $rr \times \text{Deposits}$, where rr is the required reserve ratio
- The supply of reserves comes from the Fed and from banks with excess reserves
- The demand for reserves mostly comes from banks who are currently below their required ratio
- Two "prices" in the market
 - the discount rate (for loans of reserves from the Fed)
 - the federal funds rate (for interbank loans of reserves)

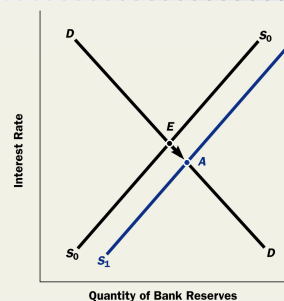
Open market operations

- Open market operations are when the Fed buys and sells government securities (bonds) on the open market
 - it pays for these securities by creating new bank reserves
 - this increase in bank reserves lowers the federal funds rate
 - the Fed normally has a target rate for federal funds, set by the FOMC

Open market operations

- Suppose the Fed buys securities:
 - this creates new bank reserves
 - this decreases the federal funds rate and increases the quantity demanded of bank reserves
 - this expands bank deposits and thus the money supply
- If the Fed sells securities, the opposite occurs and money supply contracts

Effects of an Open-Market Purchase



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Effects of an Open-Market Purchase of Securities

TABLE 1 Effects of an Open-Market Purchase of Securities on the Balance Sheets of Banks and the Fed			
Banks		Federal Reserve System	
Assets	Liabilities	Assets	Liabilities
Reserves + \$100 million		U.S. government securities + \$100 million	Bank reserves + \$100 million
U.S. government securities - \$100 million			
Addendum: Changes in Reserves			
Actual reserves + \$100 million			
Required reserves No Change			
Excess reserves + \$100 million			

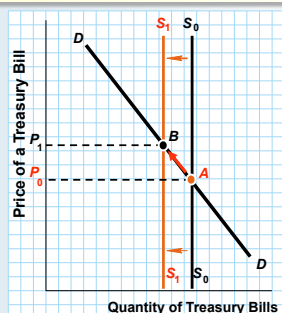
Annotations: Arrows show 'Banks get reserves' from the Fed's liability to the bank's asset, and 'Fed gets securities' from the bank's liability to the Fed's asset.

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Open market operations (cont.)

- This action can also be analyzed by its effect on the bond market
- If the Fed buys securities, the demand for bonds increases
 - this causes the price for bonds to rise
 - this causes the interest rate on bonds to fall
- If the Fed sells securities, the opposite occurs and the interest rate on bonds rises

Open-Market Purchases and T-Bill Prices



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How monetary policy works

- Imagine the Fed buys securities
 - this causes the money supply to increase
 - this causes the interest rate to fall
 - this causes investment to increase
 - this causes AD to increase
 - this causes GDP to increase
- If the Fed sells securities, the opposite occurs

How monetary policy works (cont.)

- Note that some of the effect on nominal GDP is to change prices (P) and some is to change output (Y , or real GDP)
- Thus one interesting question will be how much of monetary policy translates into inflation and how much into growth in real output

How monetary policy works (cont.)

- If prices rise, then the demand for money (transactions demand) may rise
- This causes interest rates to rise, and thus reduces investment
- Thus the change in investment and the multiplier effect from this change reduces GDP
- This is an important part of the Keynesian model and part of the Keynesian argument for why fiscal policy should be preferred to monetary policy

Exit Strategies from Credit Easing

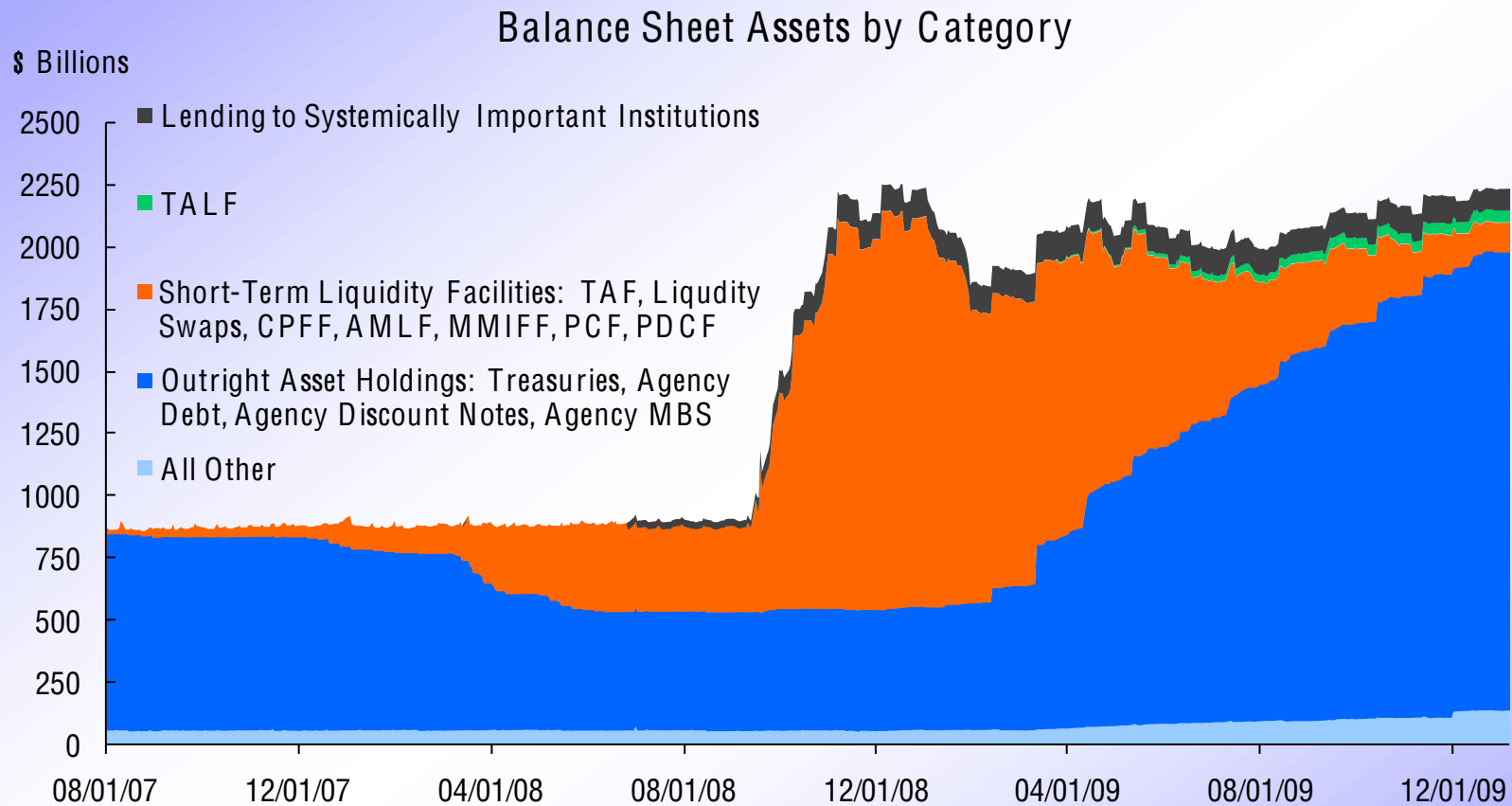


Spence Hilton

Federal Reserve Bank of New York

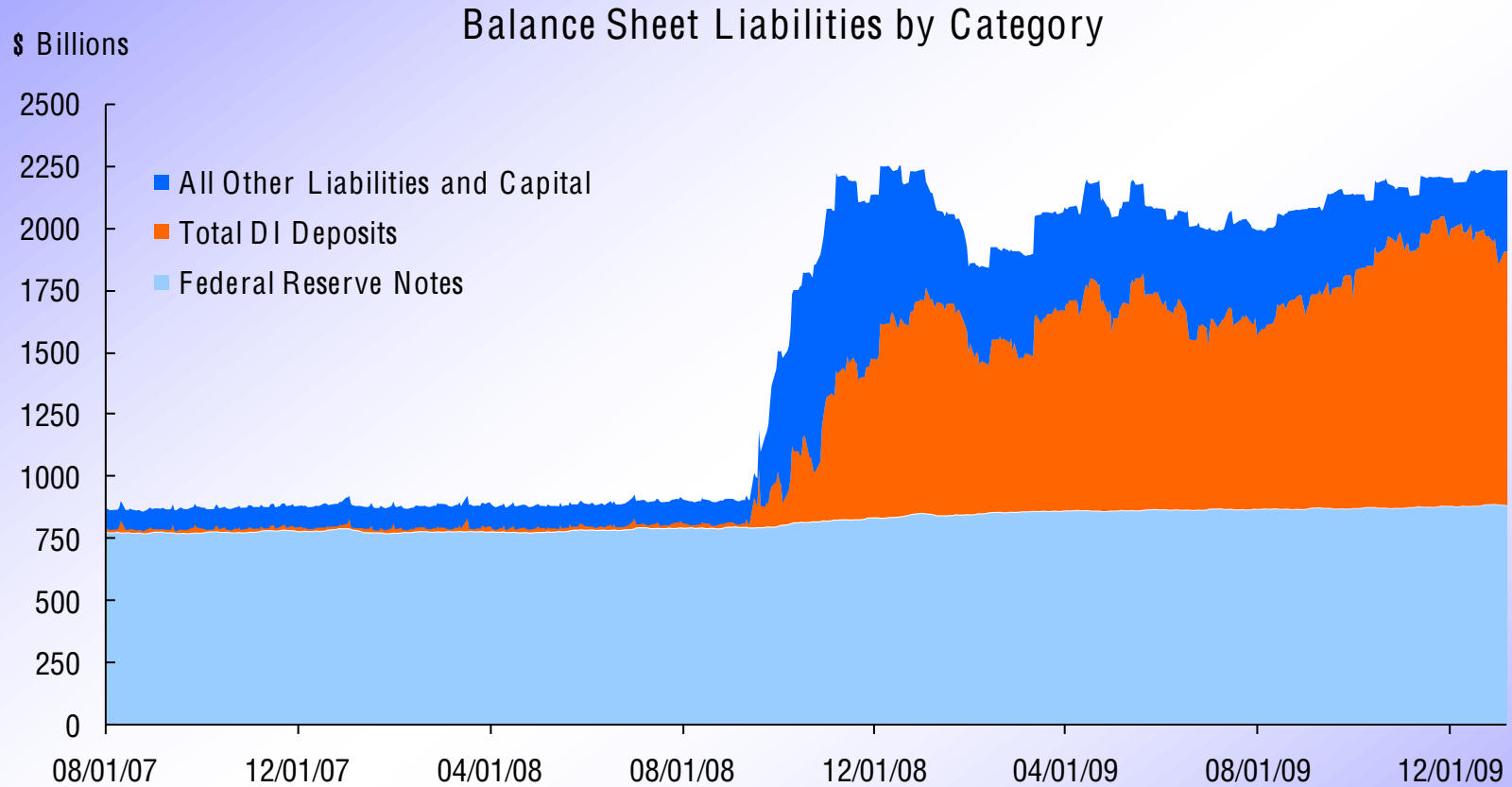
January 14, 2010

Impacts on the Federal Reserve Balance Sheet



Source: Federal Reserve Bank of New York

Impacts on the Federal Reserve Balance Sheet



Source: Federal Reserve Bank of New York

Federal Reserve Balance Sheet

December 2009

(billions of dollars)

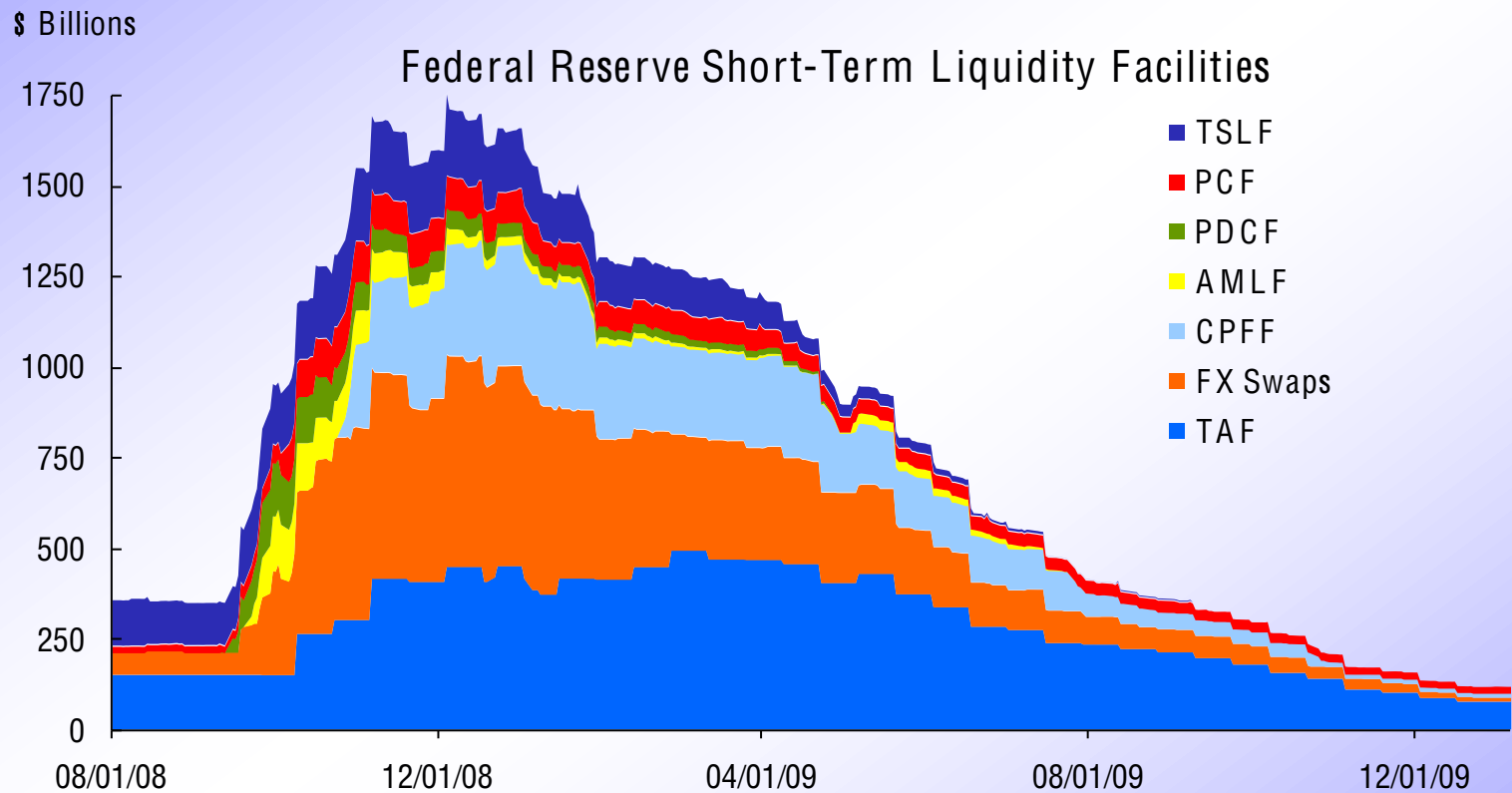
Assets

Outright Treasury, Agency, and Agency MBS	1845
Short-term lending (including PCF and RPs)	120
TALF	48
Lending to Systemically Important Institutions	111
Other assets	113
<i>Total Assets</i>	<i>2237</i>

Liabilities

Bank reserves	1025
Federal Reserve notes	890
Treasury deposits	155
Other liabilities and capital	167
<i>Total liabilities and capital</i>	<i>2237</i>

Outstanding Balances at Liquidity Facilities



Source: Federal Reserve Bank of New York

Long Run Portfolio Goals

- Return to previous size?
- Return to all Treasury holdings?
 - Composition of Treasury holdings too
- How quickly? Considerations include ...
 - Pace at which Committee wishes to undo the original LSAP effects
 - Pace at which market can absorb increased supply of securities without disruptions
- Tools for reducing outright holdings
 - Redemptions: slower pace
 - Sales: faster pace