Josh Mandel, State Treasurer of Ohio

Compliance 250:
The U.S. Federal Reserve
&
Interest Rate Policy

Center for Public Investment Management

CPIM Academy 2011

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Today's Agenda

- U.S. Central Bank History
- The FED's Basic Responsibilities
- FED's Tools to "Influence" Monetary Policy
  - How these tools have changed (and are changing).
- 2011 FED Forecasts and Resources

Today, we will refer to the U.S. Federal Reserve System as the "FED."

The FED Was Created After a Near Financial Collapse…

- During a period between October and November, investors panicked over the potential failure of two large brokerage firms.
  - This caused a 'run' on a number of banks as depositors clamored to draw their cash from potentially failing banks.
  - One of the world's wealthiest investors arranged for emergency financing for some of America's largest corporations.
- The Year was ***1907***…

Formal History

- Following the financial crisis of 1907, and a number of inquiries by Congress, the Wilson Administration recommended fundamental reforms.
- Founded by Congress in 1913, the U.S. Federal Reserve was created, and still serves, as the central bank of the United States.

Only Needed Four Pens…

President Wilson signed the "Currency Law" in 1913.

Aimed to "Make Prosperity Free…"

PRESIDENT'S SIGNATURE ENACTS CURRENCY LAW

Wilson Declares It the First of Series of Constructive Acts to Aid Business.

Makes Speech to Group of Democratic Leaders.

Conference Report Adopted in Senate by Vote of 43 to 25.

Banks All Over the Country Hasten to Enter Federal Reserve System.

Gov-Elect Walsh Calls Passage of Bill A Fine Christmas Present.

WILSON SEES DAWN OF NEW ERA IN BUSINESS

Aims to Make Prosperity Free to Have Unimpeded Momentum.

HOME VIEWS OF CURRENCY ACT

FOUR PENS USED BY PRESIDENT

President Wilson signed the Federal Reserve Act on December 23, 1913

Source: FED

Selected "Adjustments" Since 1913…

- Banking Act of 1935
- Bank Holding Company Act of 1946
  - As amended in 1970
- Employment Act of 1946
- International Banking Act of 1978
- Then, names became more creative…see next slide

More Recent Legislation

- Full Employment & Balanced Growth Act of 1978
- Depository Institutions Deregulation & Monetary Control Act of 1980
- Financial Institutions Reform, Recovery, & Enforcement Act of 1989
- Federal Deposit Insurance Corporation Improvement Act of 1991
- Dodd-Frank Wall Street Reform & Consumer Protection Act of 2010

Global Trivia…

- Riksbank (Sweden) created in 1668
- Bank of England created in 1694
- Banqe de France in 1800 (Napoleon I)
- Bank of Canada 1935
- Bundesbank (Germany) shortly after WWII

Four Primary FED Duties

Currently, the FED is the principal agency responsible for:

1. Influencing monetary and credit conditions within the economy
   - "Dual" mandate of maximum employment, stable prices, and moderate long-term interest rates.
2. Supervising and regulating banking institutions
3. Maintaining stability of the financial system
4. Providing financial services to depository institutions
   - Government (U.S. and foreign); manage the national payment system.

Our Focus Today Is On Monetary Policy

- The FED's "dual" mandate has always been a source of some criticism.
- Maintaining full employment risks creating inflation.
- Maintaining moderate interest rates risks growing the economy at a rate that is below maximum capacity…
  - Potentially keeping employment less than "full."

Yogi Berra Has It All Under Control…

- In theory, there is no difference between theory and practice; practice there is.

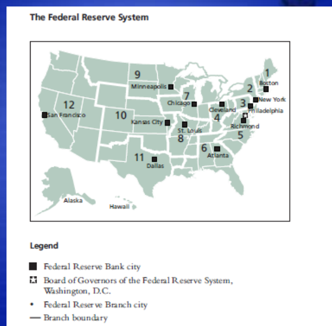
- It's tough to make predictions… especially about the future.
- We make too many wrong mistakes.

FED & Federal Open Market Committee (FOMC)

- The FED is controlled by the Board of Governors in D.C.
  - Supported by a 1,800 member staff.
- The FOMC sets monetary policy.
  - 12 Member Committee.
  - Members of the Board of Governors (Each appointed to a 14-Year term, staggered.)
    - Federal Reserve Bank of NY and Presidents of 4 other FED regional banks.
    - Remaining 7 Members are chosen from the Board of Governors.

The FED’s Twelve Regions

Each of the 12 regions (called “Reserve Banks”) is governed by a separate Board.



The FED’s Regional Banks

- Each Reserve Bank has a board of 9 Directors chosen from outside the bank, per law.
- 3 Directors represent commercial banks that are members of the FED system.
- The remaining 6 Directors are chosen from industry within the District Bank’s footprint.

FOMC’s Tools for Influencing Monetary Policy

- Open Market Operations (*i.e. actually buying and selling securities*)
- Setting (or Changing) Reserve Requirements for the Banking System
  - Rare, but very significant policy action
- Expanding Credit via the Discount “Window”

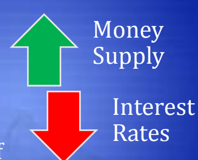
All of these variables have one common thread…the basics of supply and demand. In this case for “cash.”

Contrary to Popular Belief…

- The FED (and FOMC) generally do not seek to control the path of long-term interest rates.
- The ***MAJORITY*** of FOMC open market operations are at the *very, very short* maturity range.
- Excluding the "Great Recession," the discount window has been designed for last resort use.
  - It has received much use in recent months.

"Cliff Notes" of Monetary Policy Supply & Demand

- Generally…
  - An ***increase*** in the supply of money pushes the cost of money (interest rates) down.
  - A ***decrease*** in the supply of money pushes the cost of money (interest rates) up.



- However, it can take a tremendous amount of time for these trends to mature.

Monetary Policy Changes Over Time

The Disco Era (1970s)

- In the 1970s, the FED targeted the price (yield) of Reserve balances to control money supply (M1).
- Problems…
  - Large rate movements were needed to keep M1 in line with FED targets.
  - This became a visible flaw during the 1970s oil crisis as FED policy could not effectively control rapid inflation.

Monetary Policy Changes 1979

The FOMC began to target the quantity of reserves, or the sum of balances at the FED, and cash in bank vaults.

- If M1 (previous policy target) grew too fast, reserve balances would expand quickly.
- Those banks that had excess reserves could command a premium (yield) restoring equilibrium in the short-term markets.
- Over time, the historical link between M1 and FED target policies began to erode.

Monetary Policy Changes Mid 1980s

- In 1982, the FOMC needed to make more discretionary decisions about monetary policy.
- A split was engineered between the Federal Funds (FED Funds) target rate and the rate at which institutions could borrow from the FED via the "discount window."
  - *FED Funds*: Rates charged between banks for short-term loans.
  - *Discount Window*: Term used for direct borrowings, designed to be a 'last resort,' from the FED by member institutions.

Monetary Policy Changes Mid 1980s

- But, following the Savings & Loan crisis in the 1980s, banks became more reliant upon discount window borrowings as the perceived risks of lending to certain banks was deemed too great.
- We saw this repeat again during the Great Recession.

Monetary Policy Changes 1990s

- In July 1995, the FOMC decided to target the FED Funds rate (the same policy used today).
- In what was historically a very bold step, the FOMC actually announced its policy statement following each FOMC meeting.
  – Prior to 1995, policy was largely a secret.
- Today, the FOMC manages the FED Funds target rate, by primarily adding and/or taking reserves from the banking system.

Press Release

FEDERAL RESERVE press release

Release Date: March 15, 2011

For immediate release

Information received since the Federal Open Market Committee met in January suggests that the economic recovery is on a firmer footing, and overall conditions in the labor market appear to be improving gradually. Household spending and business investment in equipment and software continue to expand. However, investment in nonresidential structures is still weak, and the housing sector continues to be depressed. Commodity prices have risen significantly since the summer, and concerns about global supplies of crude oil have contributed to a sharp run-up in oil prices in recent weeks. Nonetheless, longer-term inflation expectations have remained stable, and measures of underlying inflation have been subdued.

Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. Currently, the unemployment rate remains elevated, and measures of underlying inflation continue to be somewhat low, relative to levels that the Committee judges to be consistent, over the longer run, with its dual mandate. The recent increases in the prices of energy and other commodities are currently putting upward pressure on inflation. The Committee expects these effects to be transitory, but it will pay close attention to the evolution of inflation and inflation expectations. The Committee continues to anticipate a gradual return to higher levels of resource utilization in a context of price stability.

To promote a stronger pace of economic recovery and to help ensure that inflation, over time, is at levels consistent with its mandate, the Committee decided today to continue expanding its holdings of securities as announced in November. In particular, the Committee is maintaining its existing policy of reinvesting principal payments from its securities holdings and intends to purchase $600 billion of longer-term Treasury securities by the end of the second quarter of 2011. The Committee will regularly review the pace of its securities purchases and the overall size of the asset-purchase program in light of incoming information and will adjust the program as needed to best foster maximum employment and price stability.

The Committee will maintain the target range for the federal funds rate at 0 to 1/4 percent and continues to anticipate that economic conditions, including low rates of resource utilization, subdued inflation trends, and stable inflation expectations, are likely to warrant exceptionally low levels for the federal funds rate for an extended period.

The Committee will continue to monitor the economic outlook and financial developments and will employ its policy tools as necessary to support the economic recovery and to help ensure that inflation, over time, is at levels consistent with its mandate.

Voting for the FOMC monetary policy action were: Ben S. Bernanke, Chairman; William C. Dudley, Vice Chairman; Elizabeth A. Duke; Charles L. Evans; Richard W. Fisher; Narayana Kocherlakota; Charles I. Plosser; Sarah Bloom Raskin; Daniel K. Tarullo; and Janet L. Yellen.

How detailed are the FED Meeting Notes?

Not very…

This is the *ENTIRE* text of the March 2011 policy release.

Monetary Policy Current Era

- This era is likely to be remembered as ***anything but normal***…
- That said, published policy continues to focus on a targeted FED Funds Rate.
- As of this writing (March 2011), this target range is published as between 0% and 0.25%.
  – This rate was established during December 2008.

What Is the FED Funds Rate?

- Basically, the FED Funds rate is the rate other banks charge one another for (usually) overnight loans.
- Those with surpluses seek to earn a "yield" on these excesses by lending to those that need to increase balances.
- How can a bank be short of reserves?
- Ever done a wire transfer?
- In 2008, the system averaged 521,000 wires per DAY; $2.7 Trillion "moved" around.
  - About 1/5th of U.S. ***annual GDP*** moved ***each day.***

FED Funds Longer Term Trading History

This is the historical target rate from March 2003 through March 2011.

Note the speed with which it fell in 2007.

Controlling the FED Funds Rate

- FOMC target rate is maintained, generally, through routine open market operations.
- The FOMC conducts open market operations almost every day.
- In "theory" the FED could purchase (or sell) any asset…
- Practically, these purchases and sales must be done on very liquid assets.

FOMC Open Market Operations

- Most FOMC activities remain in the U.S. Treasury securities market.
  - Great Recession notwithstanding.
- Actions (trades) managed through the Federal Reserve Bank of New York.
- Like almost all bonds, even these large trades are done "over the counter."
  - Buyers and sellers are not limited to the U.S. in either operation or domicile.

FOMC "Desk" Operations

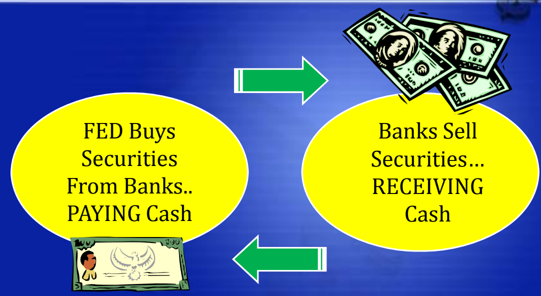
- Each day, the trading desk (the "***Desk***") at the NY FED must decide what, and what level, of open market actions are necessary.
- The Desk reviews system deposit, withdrawal, inter-bank activity and a host of proprietary information in this decision.

Desk Trades

What is the basic rule used to manage monetary policy?

- Supply and Demand…
- What does the Desk need to do if it forecasts that the demand for balances may exceed the supply?
  - It must BUY securities.
- Why?
- FED purchases put cash in the hands of the seller.

Desk Purchase Model Increases Liquidity…



Now the "Easy" Part…

- What if we have too much supply in the market?
- The FED (FRBNY) must be a SELLER of securities.
- Why?
  - By selling securities, it takes in cash and exchanges securities, reducing the supply of cash in the system.

Repurchase Agreements

- Historically, Repurchase Agreements ("Repos") have been one of the most effective tools to temporarily adjust the supply of liquidity.
- Repos (and Reverse Repos) are VERY common.
- Simple Rule:
  - FED Repos = Adding Liquidity
  - FED Reverse Repos = Draining Liquidity

Repurchase Agreement Anatomy

A Repo is just a confusing type of loan…

- **Step 1**
  - In a Repo, the FED makes a loan to a bank.
  - This loan puts cash in the hands of the bank.
    - Hopefully, the bank lends these funds, even if just for a short term.
- **Step 2**
  - The borrower (bank) agrees to pay off the loan in a short period of time, and the FED agrees to take it back.
- Repos are usually ***very*** short in maturity (1-14 days, generally).

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What If the FED Has to Drain the System of Excesses?

- It can execute a ***Reverse Repo***.
- Just like a regular Repo…except the roles are "reversed."
  - Banks make a loan to the FED.
  - Banks agree to "pay-off" the loan at date certain in the future.
- Banks, in this example, give cash to the FED… thus the system is 'drained' of excess liquidity.

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Reverse Repo Example…

- FED news release, March 30, 2011:

  "March 30 (Bloomberg): The Federal Reserve drained $750 million in reserves from the banking system when it arranged four-day tri-party reverse repurchase agreements."

- This press release (this was all of it…) is as detailed of a public announcement as is usually made.

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Quantitative Easing…

- During 2008, the FED set about deploying approximately $1.8 trillion in an unprecedented expansion of its balance sheet.
- The FED purchased traditional assets (Treasuries), as well as mortgage backed securities, agency securities, and other instruments.
- The goal of this policy was/is to artificially lower longer-term interest rates in an effort to stimulate economic growth.

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Quantitative Easing Part II (QEII)

- QEII built upon the $1.8 trillion "QEI" program by purchasing longer dated Treasury securities over the course of a number of months.
- QEII calls for the programmed purchase of instruments in an aggregate amount of $600 billion between December 2010 and July 2011.
- Potentially adding to this program could be interest and gains related to purchases from QEI.
  - These programs are well beyond Repos.

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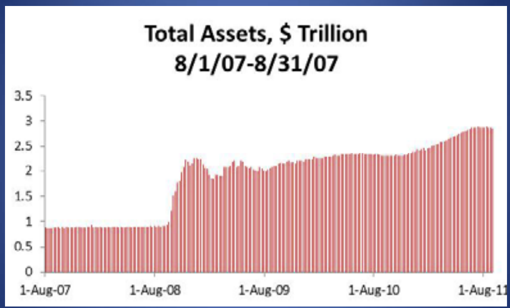
Growth of the FED's Balance Sheet



From 8/1/07 to 08/31/11 the FED's balance sheet grew by about 326%.

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FED Resources Available to You in the Budget Process

- The FED, nationally, produces comprehensive reviews and forecasts of items such as:
  - Inflation
  - Growth (GDP)
  - Employment
- Regionally, the Cleveland FED produces research that compares economic conditions within the region; Examples include:
  - Employment by region and city
  - Building permit changes
  - Employment trends in the region

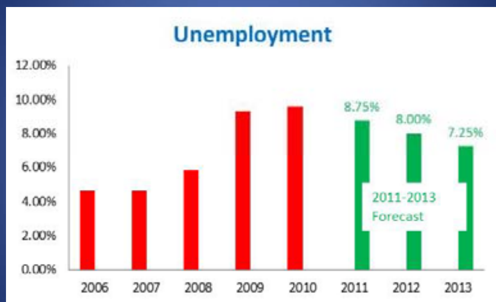
FED Economic Expectations for 2011-2013

- The FED, these days, actually publishes its economic expectations.
- For 2011-2013, the FED is expecting:
  - Faster economic growth;
  - Lower unemployment; and
  - Very modest inflation
- Basically, the best of all worlds.
- We shall see…

FED Forecast: Real GDP

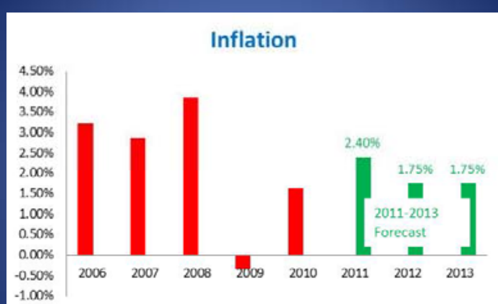
Current FED Forecasts Call for Accelerated Growth in GDP.

FED Forecast: Unemployment



The FED Now Expects Unemployment to Fall Materially in the Next Few Years.

FED Forecast: Inflation



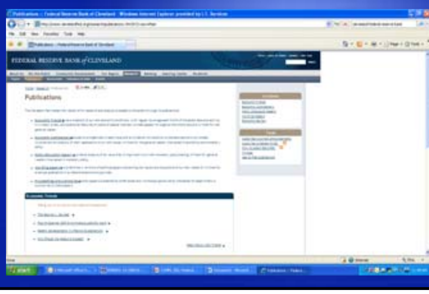
The FED Expects Inflation to Remain Well Contained Through 2013.

Cleveland FED Background & Resources

- The Cleveland FED has an interesting history and remains one of the more substantial regions in the system.
- They publish an intense amount of material on the region's economy, ranging from employment trends and forecasts to real estate expectations and tax forecasts.
- In case any of your revenues depend upon income taxes, real estate taxes, and so forth.

What Do They Publish?

Macro and Micro Economic Summaries of all flavors… Here is a sample of current research:



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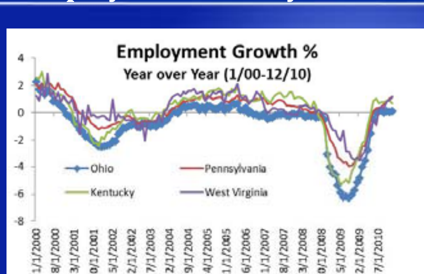
Cleveland FED Regional Employment History



Ohio has shown slower employment growth than the other states in the Cleveland FED region.

Data: Cleveland Fed

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Web Resources

- www.federalreserve.gov
  - Click on “monetary policy”
    - Current FED Minutes
    - Beige Book (This is a report on current economic conditions.)
- www.clevelandfed.org
  - Click on “research” to see current white papers
    - Regional economy
    - Employment trends and updates

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