Monetary Policy at the Zero Bound: The Fed’s Response to the Financial Crisis

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Disclaimer

The views expressed are my own and do not necessarily reflect official positions of the Federal Reserve Bank of St. Louis, or the Federal Reserve System.
The Agenda

• Goals of monetary policy
• Channels of monetary policy
• Traditional conduct of monetary policy
• The zero-bound and liquidity traps
• Responses to the current crisis
• Quantitative easing versus credit easing
• Money and inflation
• Exit strategy
Monetary Policy Objectives

• Federal Reserve Act: Section 2a. Monetary Policy Objectives

• “The Board of Governors of the Federal Reserve System and the Federal Open Market Committee shall maintain long run growth of the monetary and credit aggregates commensurate with the economy's long run potential to increase production, so as to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates.”

Channels of monetary policy

• Interest rate channels
  – Direct effect on business and residential investment.

• Effects through asset prices
  – Increase net exports through currency depreciation.
  – Increase business investment through rising stock prices.
  – Wealth effect: Increase consumption/decrease precautionary savings, from a rise in stock and housing prices.
  – A rise in house prices increases demand for new housing.

• Credit channels
  – Reduce problems with adverse selection and moral hazard, making banks more willing to lend to firms and consumers with better balance sheets.

• All these channels require a change in interest rates.
Federal Reserve Operating Procedures

• Open Market Operations
  – The NY Fed’s Trading Desk buys/sells Treasury bills to influence the repo rate to target the federal funds rate.
  – Buying T-bills raises the MB and lowers interest rates.
  – This influences all short-term rates consistently and often influences long-rates, as well.

• Primary Credit Facility
  – The Federal Reserve Banks lend to commercial banks through the discount window.

• The main message: The Fed controls short-term interest rates by altering public holdings of money versus short-term debt.
The zero-bound and liquidity traps

• The Fed cannot make interest rates negative.
  – Who would lend money at a negative rate when you can just sit on the cash and earn zero?

• Traditional monetary policy tools cannot stimulate the economy below zero.

• The Fed can increase the relative quantity of M by buying short-term Treasuries, but this doesn’t change people’s economic behavior.
  – There is little difference between money and short-term Treasury debt when interest rates are almost zero.

• This situation is called a “liquidity trap.”
  – Traditional monetary policy doesn’t work.
Federal Reserve policy responses

- Federal funds and Discount Rate Cuts
- Swap lines with foreign central banks
- Term Auction Facility (TAF) 12/2007
- Term Securities Lending Facility (TSLF) 3/2008
- Primary Dealer Lending Facility (PDCF) 3/2008
- ABCP MMMF LF (AMLF) 9/2008
- Commercial paper funding facility (CPFF) 10/2008
- Purchase of Agency MBSs 11/2008
- Term Asset-Backed Securities Loan Facility (TALF) 11/2008
- Purchase of long-term Treasuries 3/2009

Credit easing.

Traditional Policy
From September 2007 to December 2008, the FOMC cut the funds target by 425 basis points and on Dec 16, 2008, it established a 0 to 0.25 b.p. ‘Target Range’.

FOMC brings borrowing rates way down.
Communication

• Influence long-term rates by discussing prolonged easing.

• Started with the December 2008 statement.

• Must be conditional to influence policy in the desired direction.
There are both USD and FX swap lines.

Foreign central banks can now provide USD liquidity; the Fed can provide foreign liquidity.

Swap lines started out small (ECB: $24b, SNB: $4b) and have grown enormously – include 14 countries/central banks.

The Federal Reserve is at very low risk in these swaps.
Term Auction Facility

• Lack of borrowing from the discount window.
• Bypass primary dealers; auction liquidity directly to 7000+ commercial banks.
• Substitutes for OMO.
• Allow banks to trade illiquid for liquid assets.

Mechanics:

– Let banks bid on borrowing biweekly.
– What interest rate will a bank pay for what quantity of funds?
– Bidding is anonymous, overcollateralized
– Assign collateral to Fed to receive funds.
Term Securities Lending Facility

• The scramble for safe, liquid assets made Treasuries scarce.
  – Overnight Treasury repo rate plunged.

• Solution was the TSLF
  – Grew out of an old program to lend particular Treasuries to Primary Dealers overnight.
  – Lend safe, liquid assets for illiquid collateral.
  – Reduce the risk premia for such collateral.
Primary Dealer Credit Facility

- PDs were not eligible for discount lending.
- PDCF goals:
  - Short-term funding for investment banks
  - Reduce interest rate spreads on ABSs.
- Allows PDs to post a variety of collateral.
- Created March 16, 2008 under Article 13(3).
  - Very popular. Spread between Agencies and Treasuries declined immediately.
Asset Backed Commercial Paper (ABCP)
Money Market Mutual Fund (MMMF)
Liquidity Facility (AMLF or "the Facility")

• Money market mutual funds
  – Borrow from consumers; lend to business by purchasing ABCP.

• Significant demands for redemption?
  – Can’t sell the ABCP; risks a run on MMMFs?

• The Fed (AMLF) loans depository institutions money to purchase ABCP, reliquifying the money market.
  – Begun September 19, 2008.
Commercial Paper Funding Facility

• Response to stress in MMMF (Sept 2008)
• Provide liquidity to term funding markets; indirectly purchase commercial paper.
• Bernanke: “The CPFF is regarded as a hallmark of success among credit easing policies.”
Term Asset-Backed Securities Loan Facility (TALF)

- Goal: support Households and Small Businesses
- Accept ABSs collateralized by consumer and business loans, including high quality commercial MBSs (as of May 19 2009)
- FRB New York will lend up to $200 billion, with $20 billion in credit protection from the Treasury
- First issued on March 25, 2009.
Purchase of Agency MBSs and Agency Debt

- Purchase up to $1.25 trillion of agency MBSs and up to $200 billion agency debt.

- Purchases done by external managers with a buy-and-hold strategy to ease credit conditions.
Purchase of long-term Treasury debt

- Purchase up to $300 billion of long-term Treasuries from March to November
  - Attempt to reduce long term rates, particularly in the mortgage market.
  - Purchases will be concentrated in 2- to 10-year securities, although TIPS and other assets will also be bought.
  - 10-year rates fell 50 b.p. on the announcement.
Quantitative vs. credit easing

- Chairman Bernanke distinguishes between Q easing and credit easing.
  - Q easing: Increase bank reserves.
    - Japanese strategy in the 1990s.
  - Credit easing: Ease credit conditions—risk spreads—in specific segments of the market.
    - Markets are segmented; dollars effects vary.

- It is difficult to communicate a target for credit easing.
Money and inflation

• The Federal Reserve injects money into the economy by purchasing assets.

• The Fed’s balance sheet provides another way of looking at monetary policy.

• The Fed’s assets—the monetary base—has more than doubled in size.

  – $MB = \text{domestic credit} + \text{international reserves}$
Composition of Federal Reserve Assets

Money and inflation: The base and aggregates

• The monetary base has grown enormously but the broader aggregates have not.
  – Money supply = f(M base, money multiplier)
  – Money multiplier depends on desired holdings of cash and bank reserves with the Fed.

• Commercial banks have greatly increased the reserves they hold with the Fed.
Money and inflation: M growth

- The broader aggregates have not grown in proportion to the base.
Money and inflation: An exit strategy

• There is little near-term inflation risk with modest M growth & a weak real economy.

• Over the longer term, the Fed needs to reduce the base dramatically.
  – Some positions, such as short-term credit facilities, will unwind quickly, naturally.
  – Other assets, such as long-term MBSs and Treasuries, must be actively reduced.

  • Outright sales, reverse repos, higher interest on bank reserves.
Money and inflation: Forecasts

• Macro Advisors sees little near-term inflation risk.
Summary

• The zero bound for interest rates has spurred the Fed to deploy an unprecedented toolkit for easing credit conditions.
  – Traditional interest rate tools.
  – Communication about monetary policy.
  – Direct lending to financial institutions.
  – Purchases of ABSs.
  – Purchases of long-term securities.
Summary

• The M base has grown enormously but the M aggregates have not because banks are holding lots of reserves with the Fed.

• There is little near-term risk of substantial inflation.

• The Fed will have to carefully watch the stance of M policy, including the size of the M base, in the longer term.
Sources on the Policy Responses


Web Resources

- Swap lines: http://www.federalreserve.gov/monetarypolicy/bst_liquidityswaps.htm
- TAF: http://www.federalreserve.gov/monetarypolicy/taf.htm
- Commercial paper funding facility: http://www.newyorkfed.org/markets/cpff_faq.html
- AMLF: http://www.frbdiscountwindow.org/mmmf.cfm?hdrID=14
- Credit and Liquidity Programs and the Balance Sheet:
  http://www.federalreserve.gov/monetarypolicy/bst.htm
- Forms of Federal Reserve Lending to Financial Institutions:
- Factors Affecting Reserve Balances –H.4.1: http://www.federalreserve.gov/releases/h41/
- Domestic Open Market Operations Annual Report for 2008:
- FRBNY Markets landing page (sign up for E-mail alerts):
  http://www.newyorkfed.org/markets/index.html
The End
How long will rates remain at zero?

• Take a simple model—the Taylor rule— of how the Fed reacts to economic conditions and substitute in inflation and output forecasts.

• The model implies that rates remain at zero for at least 18 months.

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