EXIT STRATEGIES FOR THE FEDERAL RESERVE

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THE MEANING OF EXIT

- "Exit strategies" for the Federal Reserve have been widely discussed.
- What does this mean?
- This is the topic for today.

Plans to unwind

- Monetary policy is very accommodative now.
- It will remain very accommodative for an extended period.
- This is appropriate, given low inflation and weak economic conditions.
- "Exit strategy" is about *plans to unwind* as the economy improves.
  - Without a strategy, expectations of high inflation may develop.
  - This could be counterproductive today if it causes longer-term interest rates to rise.

ACCOMMODATIVE MONETARY POLICY

- Federal funds rate target effectively zero since December 2008.
  - The FOMC has committed to keep the target low "for an extended period."
- An aggressive asset purchase program.
  - Agency debt: up to $200 billion.
  - Agency mortgage-backed securities: up to $1.25 trillion.
  - Longer-maturity Treasuries: up to $300 billion.
  - Total: up to $1.75 trillion.
- The asset purchase program is causing the monetary base to expand rapidly.

Liquidity programs

- Central banks traditionally lend extensively in a crisis.
  - This is the "lender of last resort" function of monetary policy.
- The Fed developed a wide array of liquidity programs in 2007 and 2008.
- These programs are designed to improve market functioning during the crisis.
- More temporary in nature.
- As market functioning improves, these programs are not as necessary.
  - Liquidity programs also cause the monetary base to rise rapidly, but are easier to unwind.

THREE SEPARATE ISSUES

- The fading need for liquidity facilities.
- The ongoing asset purchase program.
- Exit from zero short-term nominal interest rates.

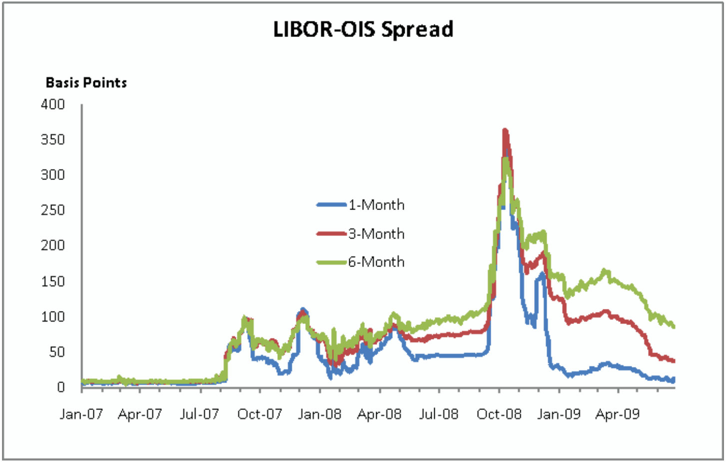
The liquidity facilities

- Depository institution facilities
  - Primary credit.
  - Term Auction Facility (TAF).
  - Foreign currency swaps with foreign central banks.
- Primary dealer facilities—authorized under 13(3).
  - Primary Dealer Credit Facility (PDCF)
  - Term Securities Lending Facility (TSLF).
- Market and institution facilities—authorized under 13(3).
  - Asset Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF).
  - Commercial Paper Funding Facility (CPFF).
  - Money Market Investors Funding Facility (MMIFF).
  - Term Asset-Backed Securities Loan Facility (TALF).

Improved market functioning

- The liquidity facilities are intended to improve market functioning.
- By many metrics, financial markets are less strained than they have been.
- To be sure, some stress remains.

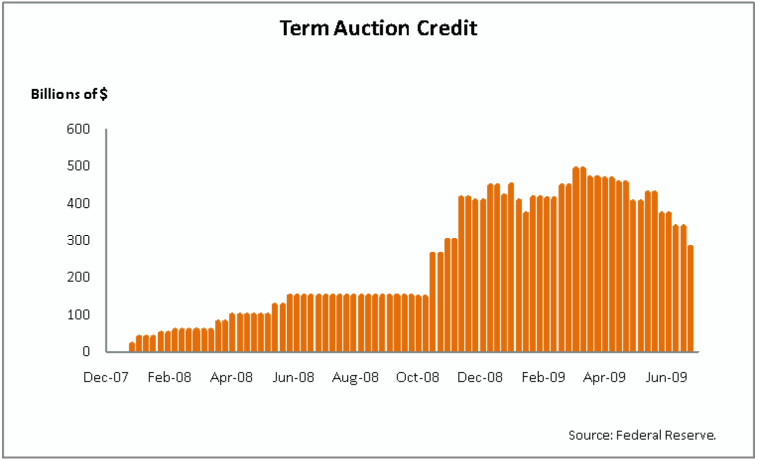
An example of improved market functioning



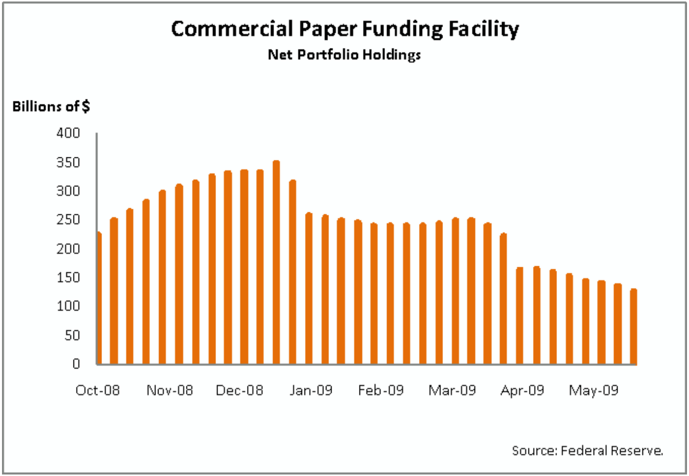
The need for liquidity programs has diminished

- Many programs are being used less intensively than in the recent past.
- Core idea: let these programs continue to wind down naturally.
- Keep the programs in place in case financial turmoil resumes.
- Plan to end the 13(3) programs next year.

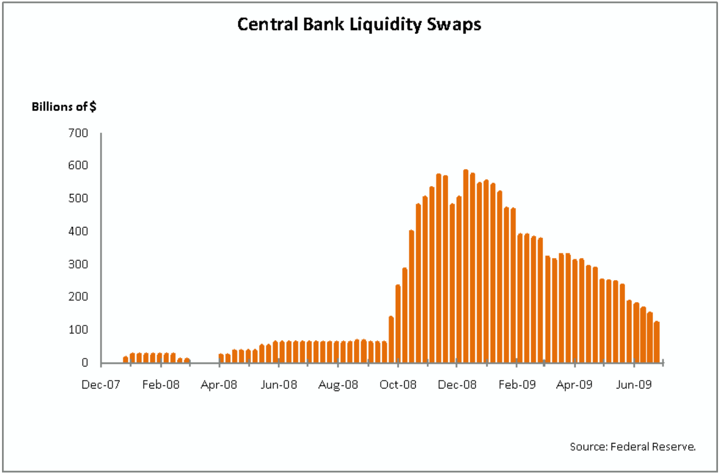
Term auction facility



COMMERCIAL PAPER FUNDING FACILITY



Foreign currency swaps



What the Federal Reserve did

- Announcement last Thursday, June 25, 2009.
- Extended the AMLF, CPFF, PDCF, swap lines, and TSLF to February 1, 2010.
- Changed some auction terms, including reducing the TAF auction amount from $150 billion to $125 billion.
- The expectation is that most or all of these programs will end next year if financial conditions continue to improve.
- The Fed stands ready to change terms or extend programs should financial turmoil resume.

Outright asset purchases

- During the first half of 2009 the FOMC has announced that the Fed may make up to $1.75 trillion in outright asset purchases.
- The purchases are in agency debt, agency MBS, and longer-term Treasuries.
- This is being financed by reserve creation, “printing money,” after September 2008.
- The monetary base is expanding rapidly.
- This is one way to move inflation higher in an environment where inflation is “too low” and short-term nominal interest rates are near zero.

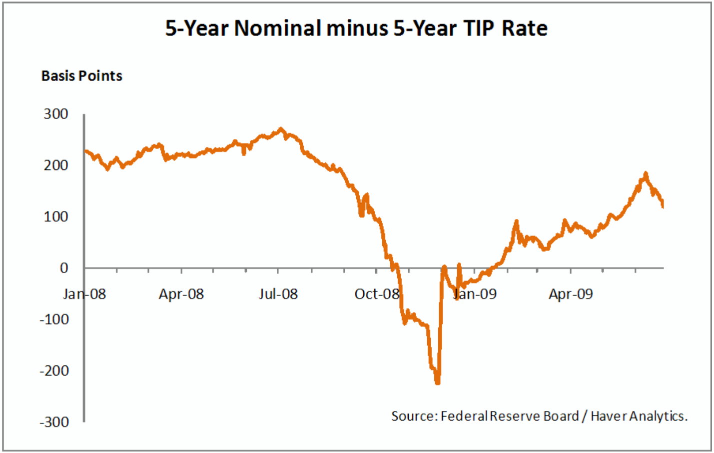
The near-term deflation threat

- Short-term goal is to avoid a deflation trap in 2009.
- U.S. Headline CPI inflation measured from one year ago is negative.
- Japan today: BOJ forecasts declining prices for almost two years.
- A global threat.

Five-year inflation compensation

- Five-year inflation compensation calculated from TIPS yields.
- There are liquidity and other adjustments that could be made.
- This number moved closer to the two percent level during the spring.
- It was very negative late last year.
- Still, markets are not expecting a lot of inflation over the next five years by this measure.

Five-year inflation compensation



The medium-term inflation threat

- The monetary base increased rapidly after September 2008.
- It will have more than doubled by the end of 2009.
  - Runoff from liquidity facilities winding down is substantial.
  - But the increase from planned asset purchases is just as large or larger.
  - Once the purchases are complete, the monetary base will have doubled or more.
- This is no small number.
- Unprecedented in U.S. postwar monetary history.

A TEXTBOOK CALCULATION

- In teaching money and banking, we say “permanently doubling the money supply eventually doubles the price level.”
- It may take some time.
- Let’s suppose it takes a decade.
- That would be 7 percent inflation per year on average.
- Probably more later than sooner.
- This gives a rough idea of the type of threat we face.

Why worry now?

- The problem is that if expectations of inflation feed into today's longer-term yields, those yields will rise today.
- That could hamper recovery prospects today.
- Similarly we have large budget deficits today in the U.S., in part to counter the recession.
- Appearances that the Fed might "monetize the debt" can cause inflation expectations to rise.

Coping with the medium-term inflation threat

- Alternatives to creating reserves and adding to the monetary base:
  - Assets could be sold from the SOMA portfolio to finance purchases.
  - The Treasury's supplementary financing account.
  - Fed bills.
- Tools for managing reserves:
  - Interest on reserves.
  - Reverse repos.
- Manage the assets.
  - Allow the assets to mature.
  - Sell assets if inflation becomes a more pressing problem.

Alternative financing: SOMA sales

- Since September 2008, the Fed has used reserve creation to fund programs.
- Before September 2008, the Fed sometimes sold from the SOMA portfolio to finance programs.
- The ability to do this now is limited.
- The asset purchase program, in particular, has become too large for this option.

Alternative financing: Treasury

- The Treasury has at times issued debt and put the proceeds on deposit at the Fed.
- This avoids reserve creation and the expansion of the monetary base.
- The debt ceiling, which requires a vote of Congress, puts limits on this process.
- With large fiscal deficits, funding from this source seems unlikely.

Alternative financing: Fed bills

- The Fed could issue its own debt, outside the federal debt ceiling.
- Some foreign central banks do this.
- Requires Congressional action.
- Large fiscal deficits seem to make this option unlikely as well.
- There is also a conceptual question: what is backing the Fed bills, future taxes or future inflation?

Technical tools

- Instead of avoiding reserve creation with alternative financing, we could just manage the reserve levels.
- There are tools for managing reserves.
  - Interest on reserves helps keep reserves at the Fed from moving into the money supply.
  - Reverse repurchase agreements.
- These are under study.
- Interest on reserves is the most promising and has parallels in foreign central bank operation.
- But, interest on reserves was not effective in putting a floor on the federal funds rate during late 2008.
- An untested system.

Manage the assets

- Normally, the Fed holds a shorter duration portfolio.
- Even with the longer duration, the Fed can simply hold assets to maturity.
- It takes quite a while, the better part of a decade.
- Of course assets can also be sold.
- Selling assets before the economy has improved is an important concern.
  - This is a standard problem in monetary policy.

Summary for asset purchase program

- The asset purchase program is large and is being financed by reserve creation.
- Alternative financing seems unlikely.
- Technical tools for managing reserves are untested.
    - A rigorously-designed interest on reserves program may be effective.
- Selling assets as appropriate is the most likely option.

Slack

- The output gap will have an influence on inflation going forward.
- Traditional measures of the output gap are large, and will take years to close.
- This may temper the idea that monetary base expansion will be inflationary.
- I would put more weight on inflation expectations than on the output gap.
- The gap is notoriously difficult to measure and traditional conceptions are questionable.

Exit from zero nominal interest rates

- The FOMC has said it will keep the federal funds target low "for an extended period."
- Any movement on this is contingent on both inflation and real economic developments.
- Should economic performance improve and inflation begin to rise ...
- ... the promise is to maintain zero rates longer than might be indicated by simple rules of thumb.
- This is important for markets to understand.
- This also means that most of the action on monetary policy will be with the asset purchase program in the near term.

A policy rule for asset purchases

- This is an unusual period for U.S. monetary policy.
- With rates at zero, attention has appropriately focused on quantitative approaches.
- We know that ability to communicate future policy helps current policy work.
- I would like to see a policy feedback rule that could describe in rough terms what level of asset purchases is appropriate in the current environment.
- Feedback means as a function of the current state of the economy.
- We are not there yet, but I want to continue to encourage staff work in this direction.
- Without this, we have been forced to make judgement calls.

Conclusion

- There has been a lot of discussion about federal reserve "exit."
- Exit from the liquidity programs seems relatively clear.
- Liquidity program run-off will draw down the monetary base ...
- ... but the monetary base will still more than double (relative to September 2008) due to the asset purchase program.
- Exit from the asset purchase program may have to rely on selling assets as appropriate.
- A policy feedback rule for asset purchases should be the goal.

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