# Exit Strategies from Credit Easing

Spence Hilton
Federal Reserve Bank of New York
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# Disclaimer

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# Topics

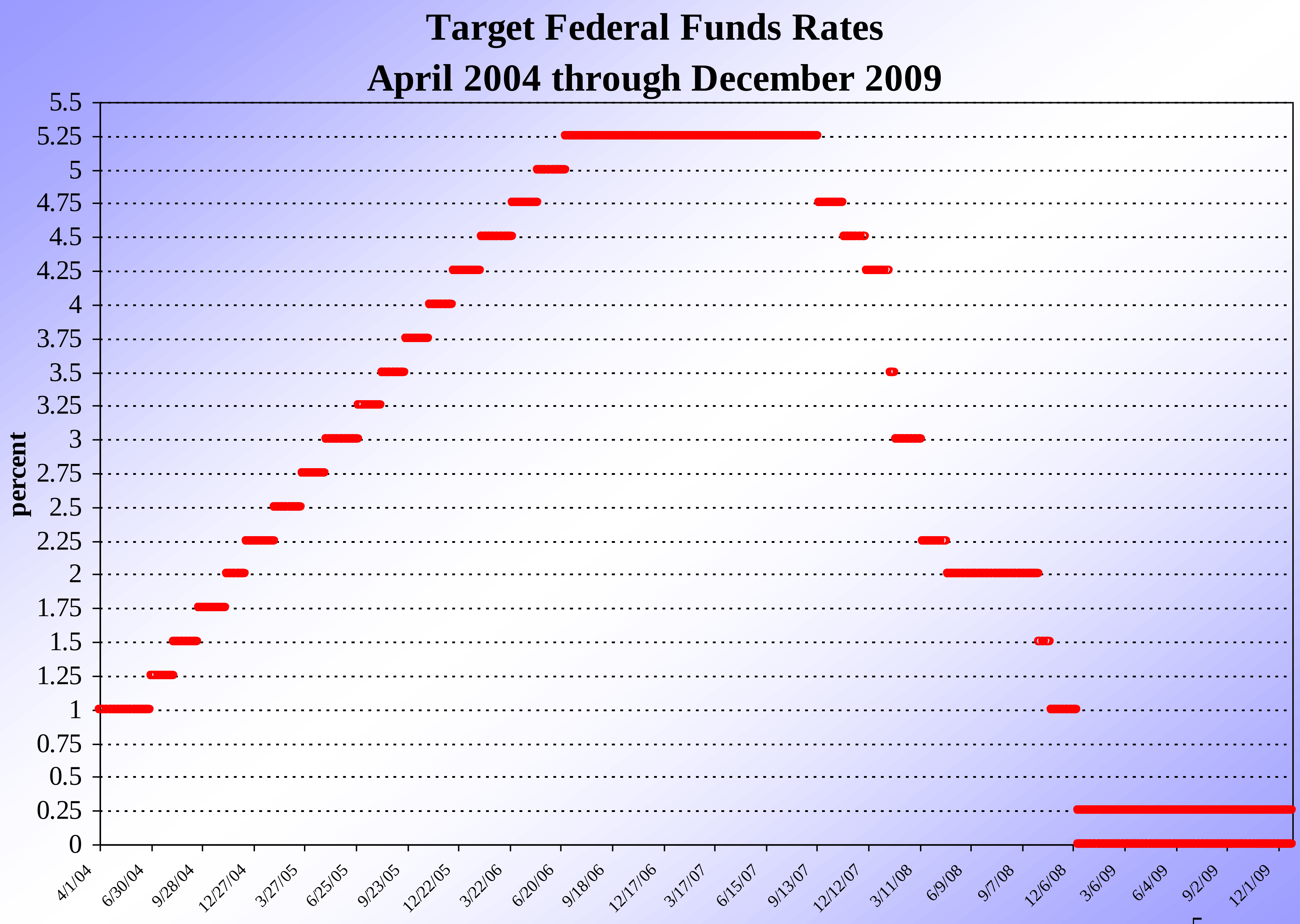
- Background on Historical  Operating Procedures and Balance Sheet, and Responses to the Financial Crisis
- Wind down of short-term liquidity facilities
- Aftermath of large-scale asset purchases
- Approach to raising short-term interest rates

# Characteristics of Historical Operating Procedures

- Fed loans and asset purchases directly affect the supply of reserves held by banks at the Fed
  - -Traditional open market operations are Treasury purchases and RPs

- OMOs are used to keep the federal funds rate around the target set by the FOMC

- When the Fed could not pay interest on reserves, high levels of excess reserves would drive the rate to 0
  - - Reserve levels usually remained close to requirements (i.e., excess reserves low)


Target Federal Funds Rates
April 2004 through December 2009
percent
5.5
5.25
5
4.75
4.5
4.25
4
3.75
3.5
3.25
3
2.75
2.5
2.25
2
1.75
1.5
1.25
1
0.75
0.5
0.25
0
4/1/04
6/30/04
9/28/04
12/27/04
3/27/05
6/25/05
9/23/05
12/22/05
3/22/06
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9/18/06
12/17/06
3/17/07
6/15/07
9/13/07
12/12/07
3/11/08
6/9/08
9/7/08
12/6/08
3/6/09
6/4/09
9/2/09
12/1/09



Source: FOMC

# Representative Pre-Crisis Federal Reserve Balance Sheet, August 2007

(billions of dollars)

| Assets | | Liabilities | |
|---|---|---|---|
| Treasury Securities | 791 | Bank reserves | 15 |
| RPs | 19 | Federal Reserve notes | 777 |
| PCF loans (Discount Window) | 0 | Treasury deposits | 5 |
| Other Assets | 59 | Other liabilities and capital | 72 |
| *Total Assets* | *869* | *Total liabilities and capital* | *869* |

Source: Board of Governors h.4.1

# Policy Responses to the Financial Crisis Beyond Conventional Rate Reductions

- Extension of short-term liquidity through new and old facilities to alleviate strains in financial markets
  - TAF, FX swaps, PCF, CPFF, AMLF, etc.
- Provide further stimulus through Large Scale Asset Purchases (LSAPs) of longer term assets
  - Agency MBS, Agency debt, and longer term Treasury securities
- Other actions
  - Provide direct support to key credit markets (TALF)
  - Direct lending to systemically important institutions (e.g., AIG)

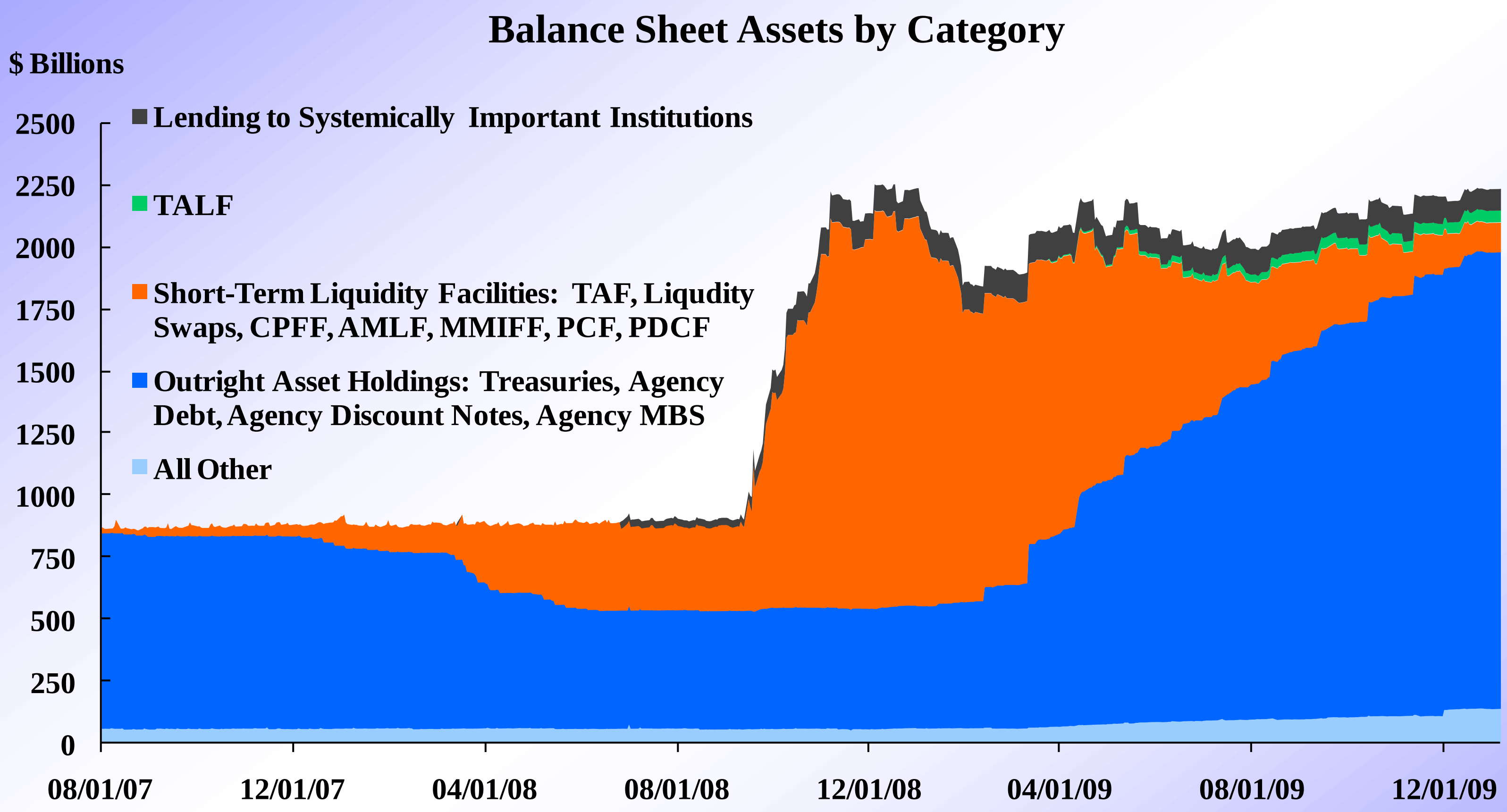
# Reserve Levels, Interest on Reserves, and the Zero Bound

- September 2008: Extensions of short-term loans and, later, LSAPs begin to exceed Fed's ability to neutralize the impact on reserves

- October 2008: Fed started to pay interest on reserves
  - Hoped the interest rate paid on excess reserves would set a floor to market rates
  - Didn't work as hoped once excess reserves reached high levels

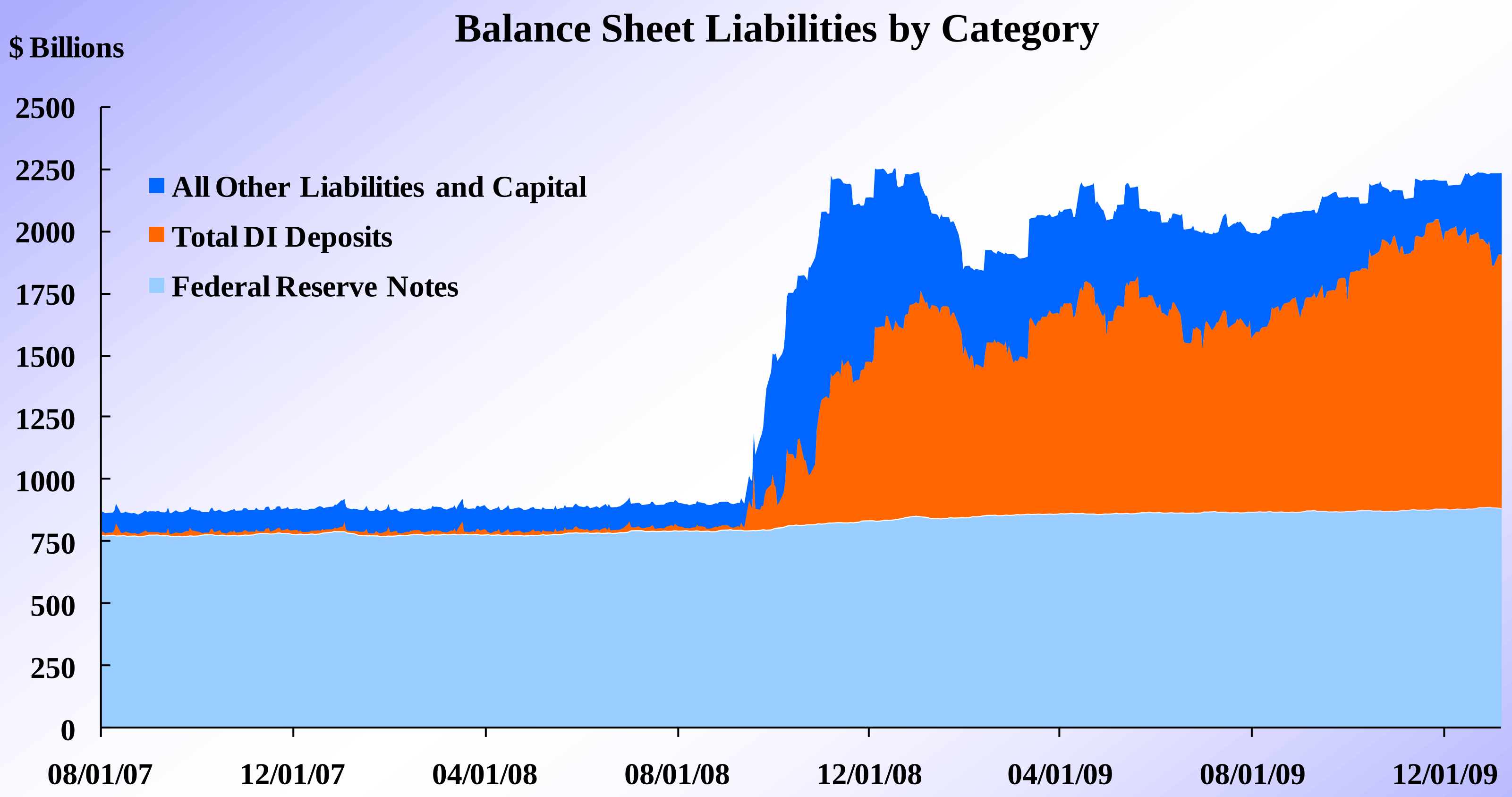
- December 2008: Fed reduced the fed funds target rate to zero bound
  - Fed funds target range is 0 to ¼ percent
  - Interest on Excess Reserves (IOER) rate is ¼ percent

# 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 | | Liabilities | |
|---|---|---|---|
| Outright Treasury, Agency, and Agency MBS | 1845 | Bank reserves | 1025 |
| Short-term lending (including PCF and RPs) | 120 | Federal Reserve notes | 890 |
| TALF | 48 | Treasury deposits | 155 |
| Lending to Systemically Important Institutions | 111 | Other liabilities and capital | 167 |
| Other assets | 113 | | |
| *Total Assets* | *2237* | *Total liabilities and capital* | *2237* |

Source: Board of Governors h.4.1

# Rebalancing the Balance Sheet

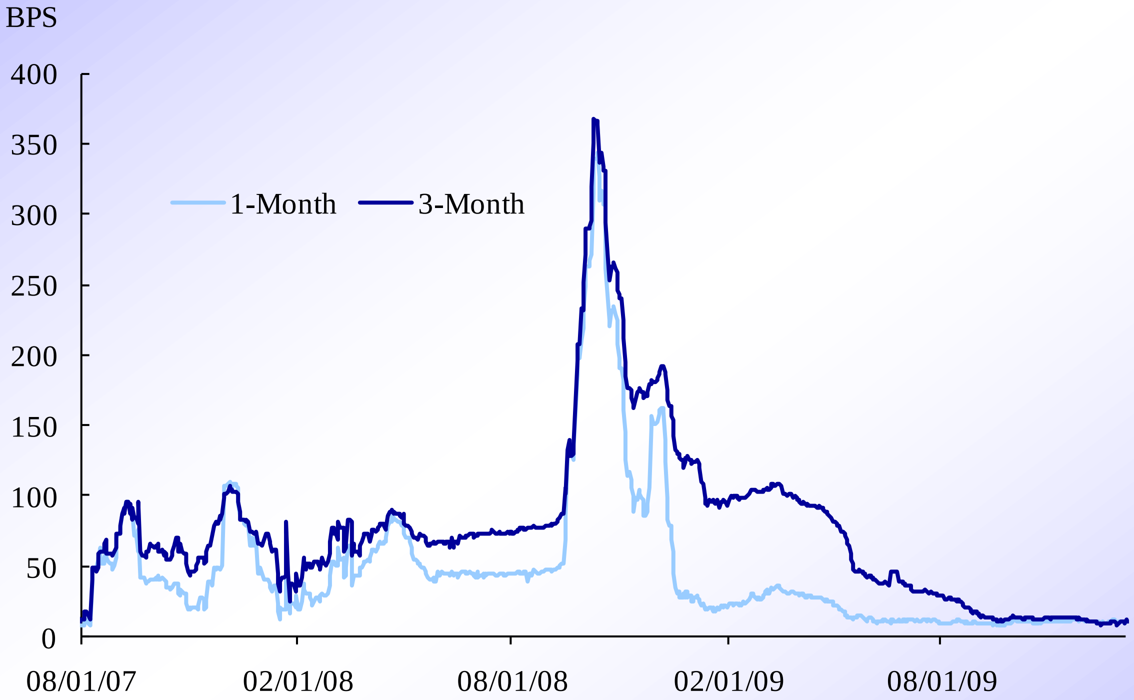
- Timing is conditional on continued improvement in financial and economic conditions
- Wind down of short-term liquidity facilities
- Disposition of assets acquired under the LSAPs
- Implications of policy tightening (raising short-term interest rates)

# Wind Down of Short-Term Liquidity Facilities

- Priced to be attractive during crisis and uneconomical during normal periods
  - This feature has worked well in generating automatic run-off

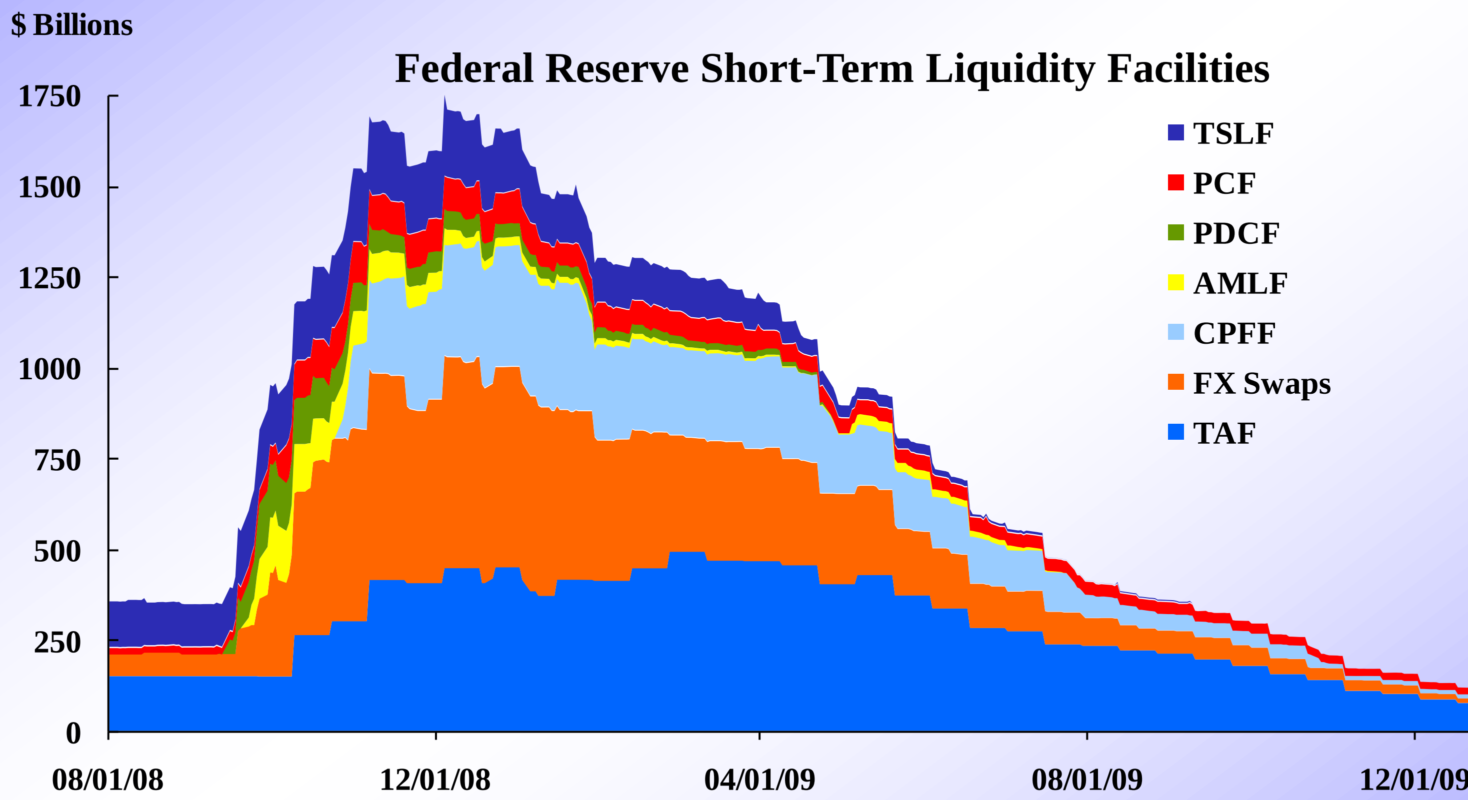
- Some facilities must be terminated when conditions are no longer "unusual and exigent"
  - Many scheduled to end on February 1, 2010
  - There could be a permanent role for other facilities, but likely small under normal conditions

# US Dollar Libor-OIS Spreads




Source: Bloomberg

# Outstanding Balances at Liquidity Facilities




Source: Federal Reserve Bank of New York

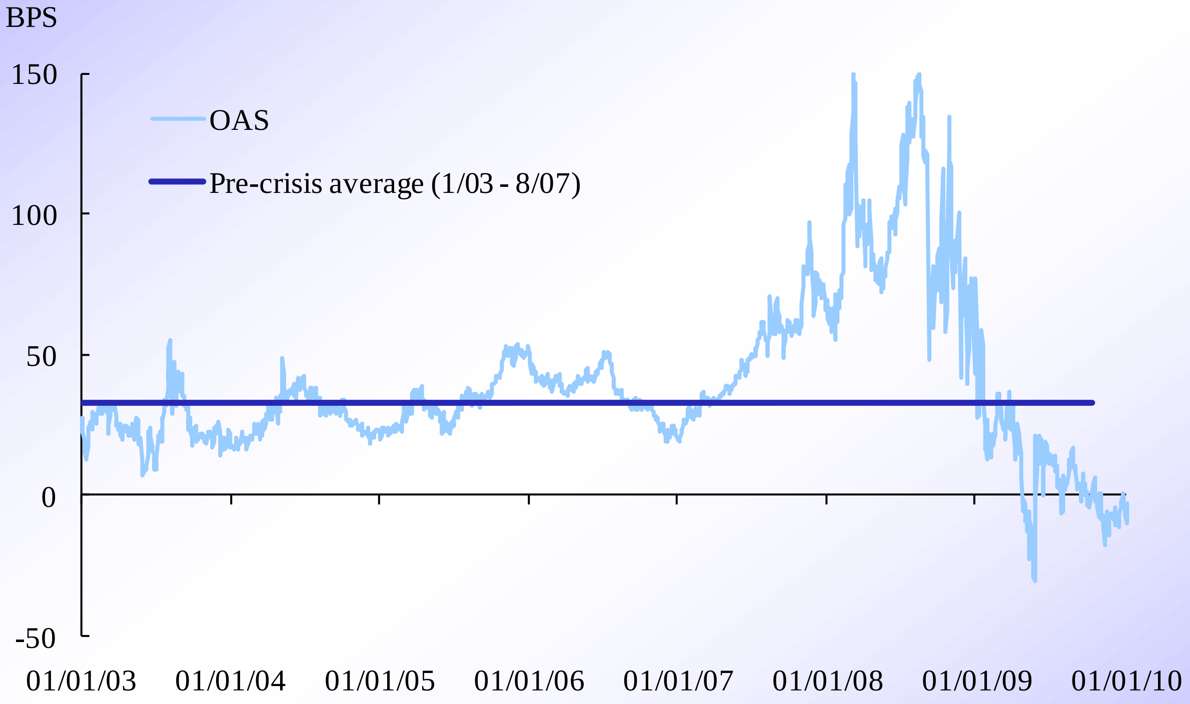
# Large Scale Asset Purchases (LSAPs)

- Began in December 2008; scheduled to end in Q1 2010.
- Included $1 ¾ trillion in purchases of longer term securities
  - $1 ¼ trillion of mortgage backed securities
  - $200 billion in Agency debt
  - $300 billion of Treasury securities

- Intended to influence levels of longer term interest rates, and interest rate spreads in MBS markets

- Impact on rates is believed to result mostly from <u>holding</u> more longer term securities, not from <u>buying</u> securities (portfolio balance effects).

# MBS Option-Adjusted Spread




Source: Barclays

# Post-LSAP Portfolio

- Total outright holdings (including new purchases and Treasury securities held before LSAPs  began) will be about $2 ¼ trillion
  - Compared to about $800 billion previously

- Total will include about $1 ½ trillion of non-Treasury assets

- Most of these assets carry longer maturities

# 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

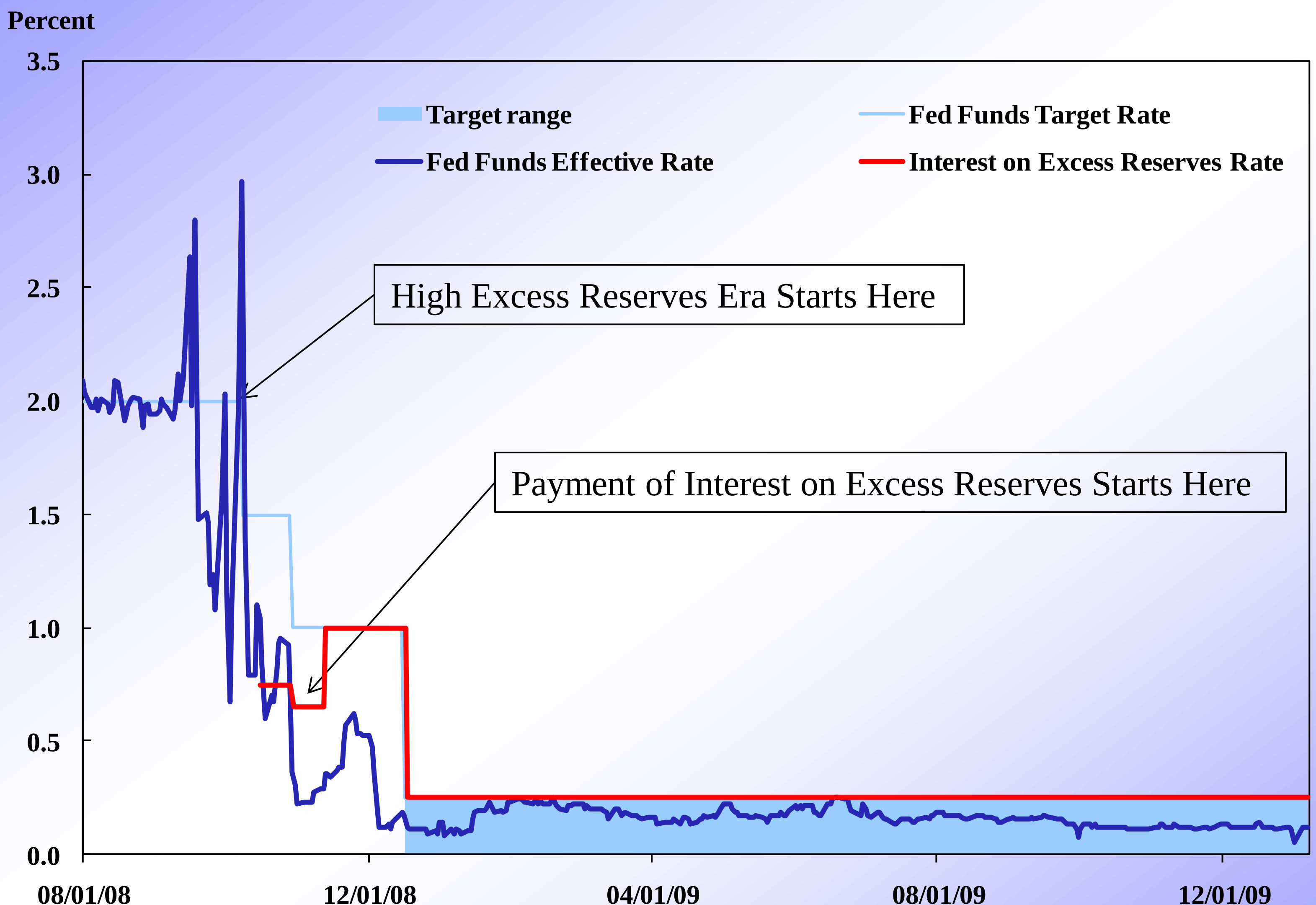
# Raising Short-term Interest Rates

- Fed will likely still have elevated balance sheet, and reserve levels, when time comes to raise short-term interest rates

- Interest on Excess Reserves (IOER) may allow Fed to control short-term rates even with large amounts of reserves
  - But there are questions about effectiveness

- To ensure effectiveness, FOMC could also drain reserves
  – Reverse RPs; Term deposits (TDs); Redemptions, and Sales
  – Have different impact on size of the Fed’s balance sheet

# Effectiveness of IOER




Source: Federal Reserve Board of Governors

# Tactical Considerations for Using RRPs and TDs

- Developing and Testing New Operating Methods for RRPs and TDFs, including possible new counterparties

- Possible sequencing of RRPs/TDs, raising the IOER rate, and tightening policy by increasing the Fed funds rate target
  - Raise IOER rate when wish to tighten monetary policy, and then see if draining reserves is even necessary
  - Start draining reserves before raising the IOER rate and tightening monetary policy, just in case it is needed
  - Raise the IOER rate and start draining reserves at the same time.

# Questions?