

The Federal Reserve and Monetary Policy

The Fed in the 21st Century Conference

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Disclaimer

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Outline

- The Federal Reserve System
 - Evolution of the Fed
 - Basic responsibilities of the Fed
- Monetary policy
 - Objectives
 - Policy tools
 - Transmission mechanism
 - Policy decisions and communication
- Monetary policy: The challenges ahead

The Federal Reserve System – A Brief History

The 'Fed' is the central bank of the U.S.

- Signed into law in 1913 with the Federal Reserve Act
 - Main purpose was to prevent bank runs and financial panics
- Evolved over time into an **independent** central bank
 - 1935 - the Banking Act modifies the Fed's structure
 - Creates the FOMC as a separate legal entity
 - Removes the Treasury Secretary from the Fed's governing Board
 - 1951 - the Treasury Accord
 - Breaks the long-standing practice of supporting government bond interest rates.

The Federal Reserve System – Structure

- Board of Governors (in Washington, D.C.)
 - 7 members, appointed by the U.S. President, confirmed by the U.S. Senate
- Twelve Regional Feds
 - Their Presidents are elected by their Board of Directors, and approved by the Board of Governors

The Basic Responsibilities of the Fed

- **Monetary Policy**

- Influencing monetary and credit conditions to attain maximum employment, stable prices, and moderate long-term interest rates

- **Financial stability**

- Maintaining stability in financial intermediation and containing systemic risk that may arise in financial markets

- **Bank supervision**

- Ensuring soundness of the banking and financial system and protecting the credit rights of the consumer

- **Financial services**

- Providing financial services to depository institutions, the U.S. government and foreign official institutions; major role in operating the nation's payment system

Monetary Policy: Overview

- Objectives
 - The Fed's "dual mandate"
- Implementation
 - Tools that the Fed employs to reach its objectives
 - Traditional tools
 - The new set of tools
- Channels of Transmission
 - How monetary policy affects the real economy
- The Monetary Policy Process
 - The FOMC and monetary policy decisions

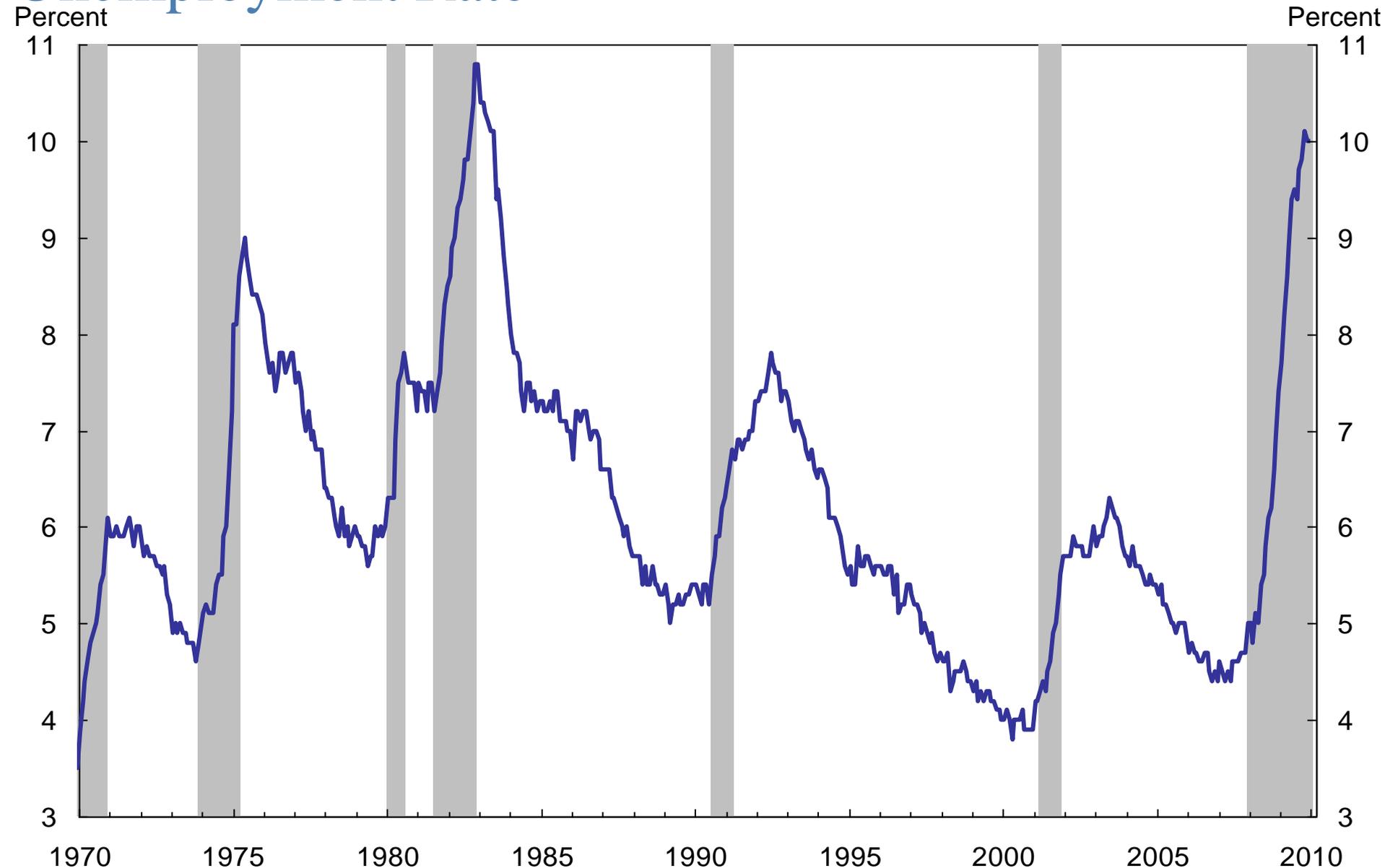
Monetary Policy Objectives

- The Federal Reserve has a “dual mandate”
 - Promote maximum sustainable output and employment
 - Promote price stability

Objectives: Maximum sustainable employment

- *Long-run* employment and output are determined by
 - Population growth, technological progress, preferences for saving, risk and work effort, **not** by monetary policy
- In the *short-run* the economy goes through ‘business cycles’
 - Output and employment are above or below their long-run levels
- Monetary policy can ‘smooth’ the cycles, stabilizing the economy
 - Aiming at maximum **sustainable** output and employment monetary policy targets levels of output and employment consistent with the long-run ‘potential’

Unemployment Rate



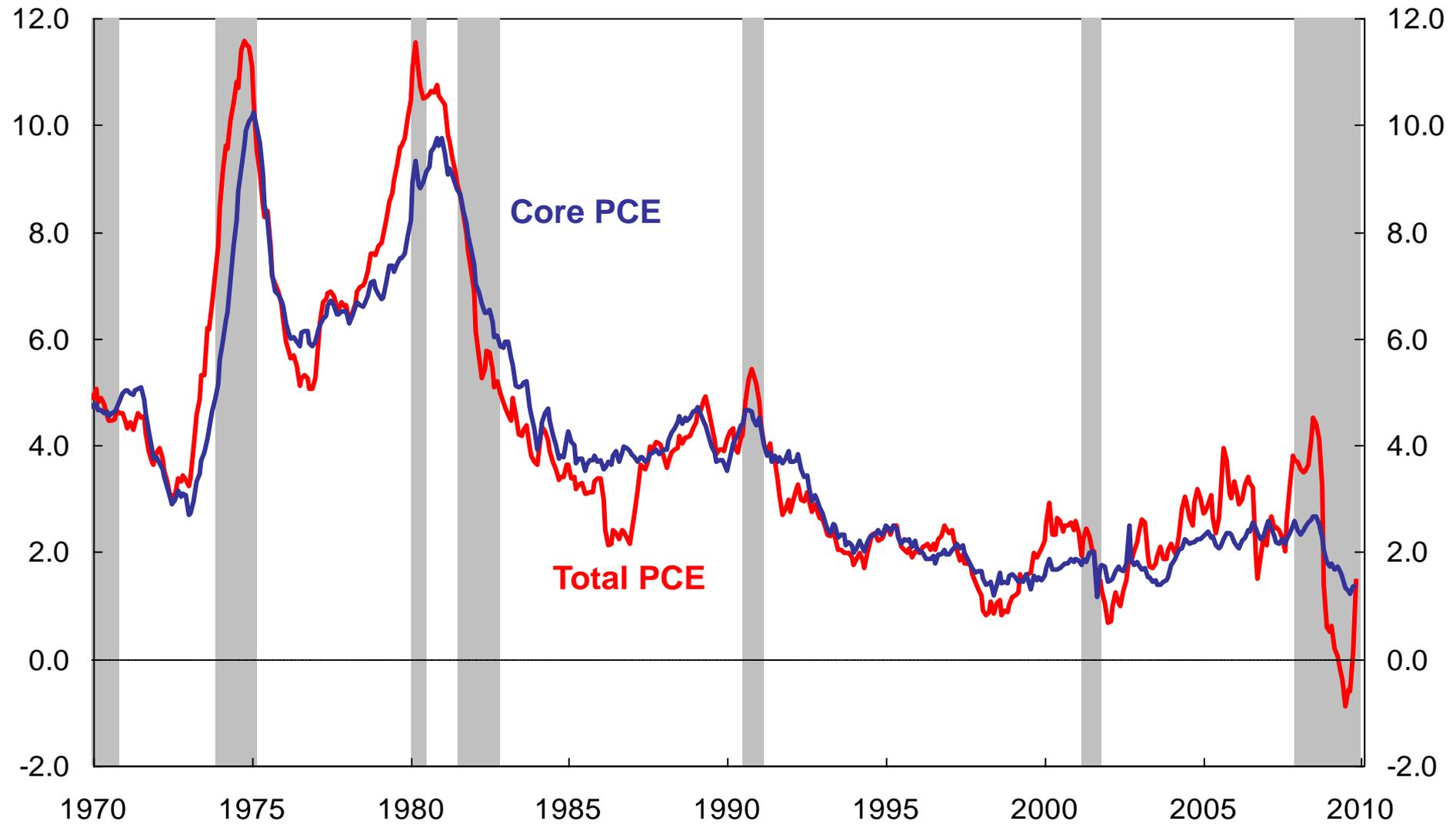
Objectives: Price stability

- How do we define price stability?
 - “An environment in which inflation is so *low* and *stable* over time that it does not materially enter into the decisions of households and firms” (Alan Greenspan)
- Why is price stability desirable?
 - **Inflation** is a generalized and continued increase in prices
 - It obscures relative price changes, distorting efficient resource allocation
 - High inflation is often volatile, which increases uncertainty about future inflation and complicates economic decisions
 - **Deflation** is a generalized contraction in prices
 - It raises the real burden of nominal debt
 - A deflationary spiral delays spending aggravating economic contraction
- Typically monetary policy aims at annual inflation of 1-2%

Total and Core PCE Deflators

% Change - Year to Year

% Change - Year to Year



Source: Bureau of Economic Analysis

Note: Shading represents NBER recession.

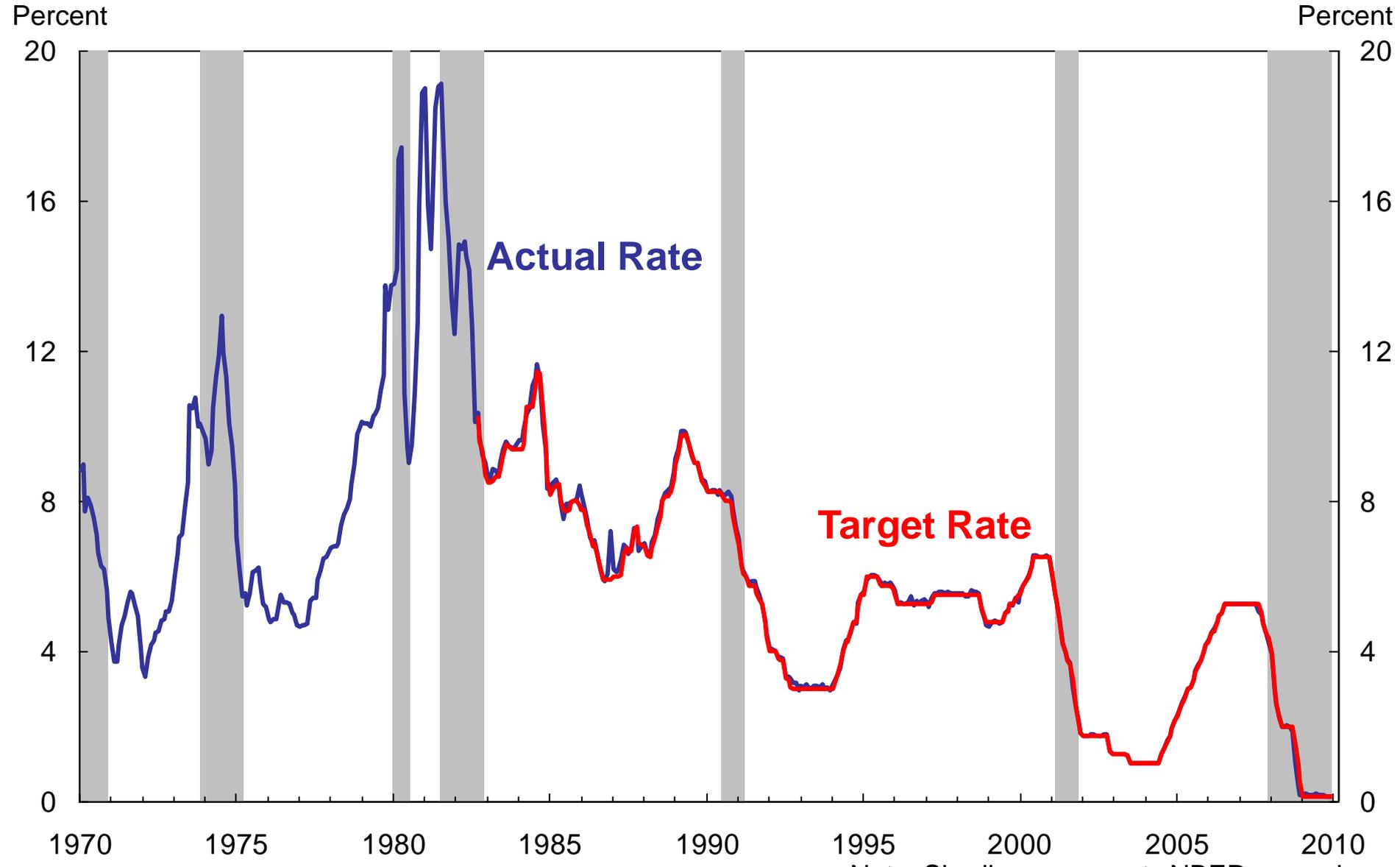
How does the Fed reach the policy objectives?

- By controlling the flow of credit in the economy
 - To provide economic stimulus, the Fed ‘eases’ credit
 - Lower cost of credit increases interest-sensitive aggregate demand
 - To reduce economic stimulus, the Fed ‘tightens’ credit
 - Higher cost of credit reduces aggregate demand and potential inflation
- How does the Fed control credit flows?

Monetary Policy Implementation: Traditional Tools

- Main policy tool ('operating target'): the FFR
 - The Federal funds rate (FFR) is the rate at which banks can borrow and lend reserves in the federal funds market
 - The Fed sets a target for the FFR, and provides reserves to accommodate demand at that target
 - To *tighten* monetary policy the Fed *raises* the FFR target
 - It reduces the supply of reserves to clear the market at that higher rate
 - The Fed provides reserves via Open Market Operations
 - The Fed sells (buys) government securities on the open market to decrease (increase) reserves
 - Sales (purchases) of government securities lead to an increase (fall) in the FFR

Federal Funds Rate



Source: Federal Reserve Board

Note: Shading represents NBER recession.

Monetary Policy Implementation: Other Traditional Tools

- Discount window lending

- Direct lending from the Federal Reserve to *commercial banks*
- The lending rate is the “discount rate”
 - An increase (decrease) in the discount rate tightens (loosens) monetary policy

- Reserve Requirements (RR)

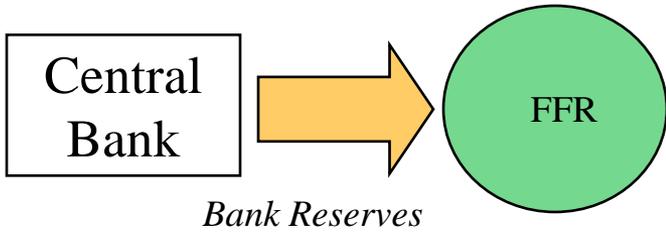
- Commercial banks must hold a percentage of their deposits at the Fed
- A high RR ratio implies banks can issue less credit

Monetary Transmission Mechanism

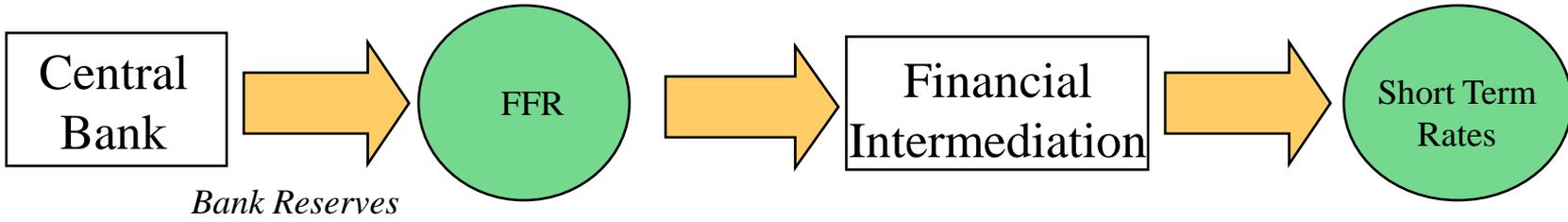
- The FFR doesn't affect aggregate spending *directly*
- The FFR affects the structure of interest rates
- Nominal rates and expectations of inflation affect real long-term rates
- Real long-term rates affect spending decision

- At the same time, short-term rates affect the profitability of financial intermediaries, affecting the supply of credit

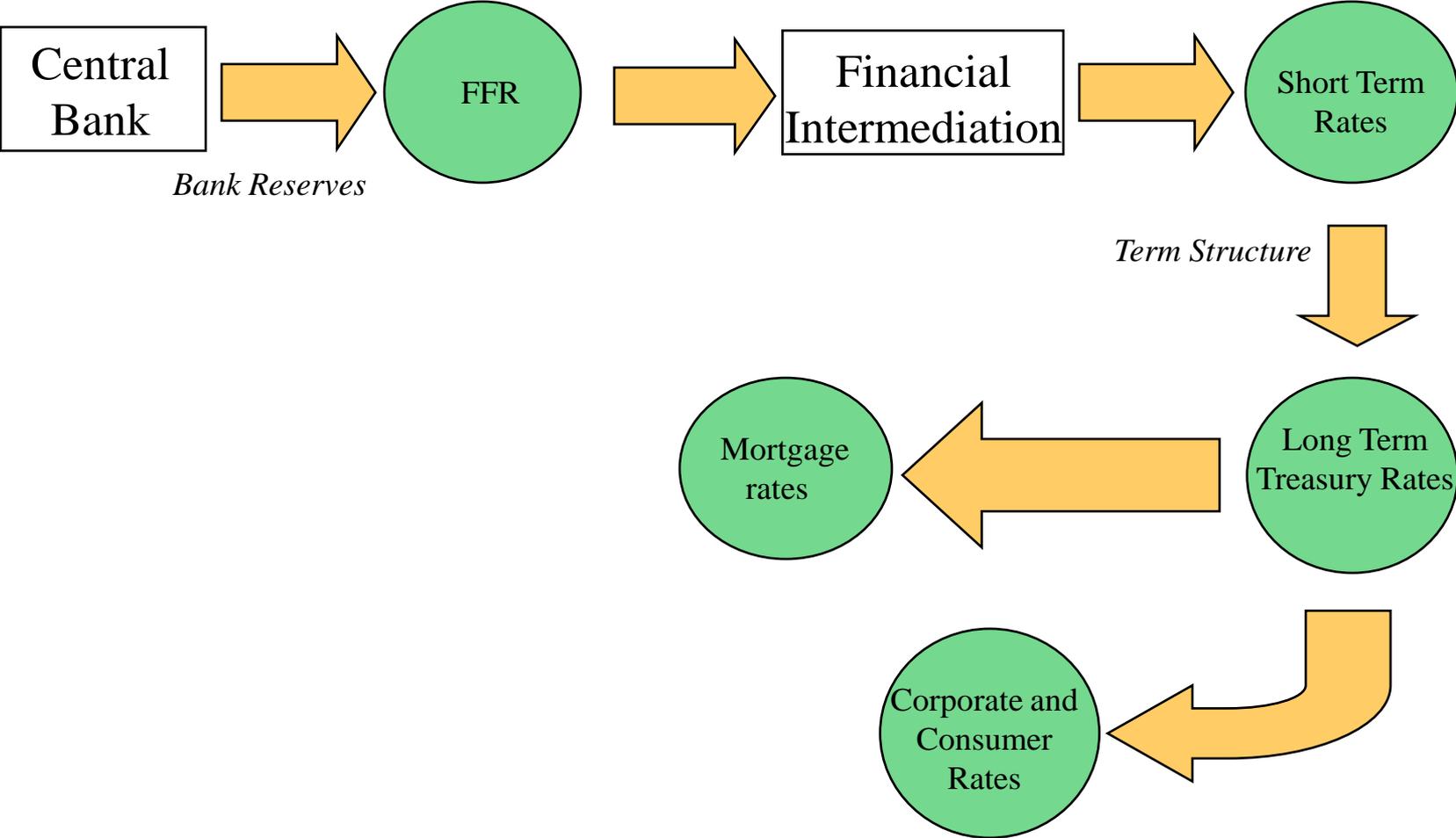
Monetary Policy Transmission Mechanism



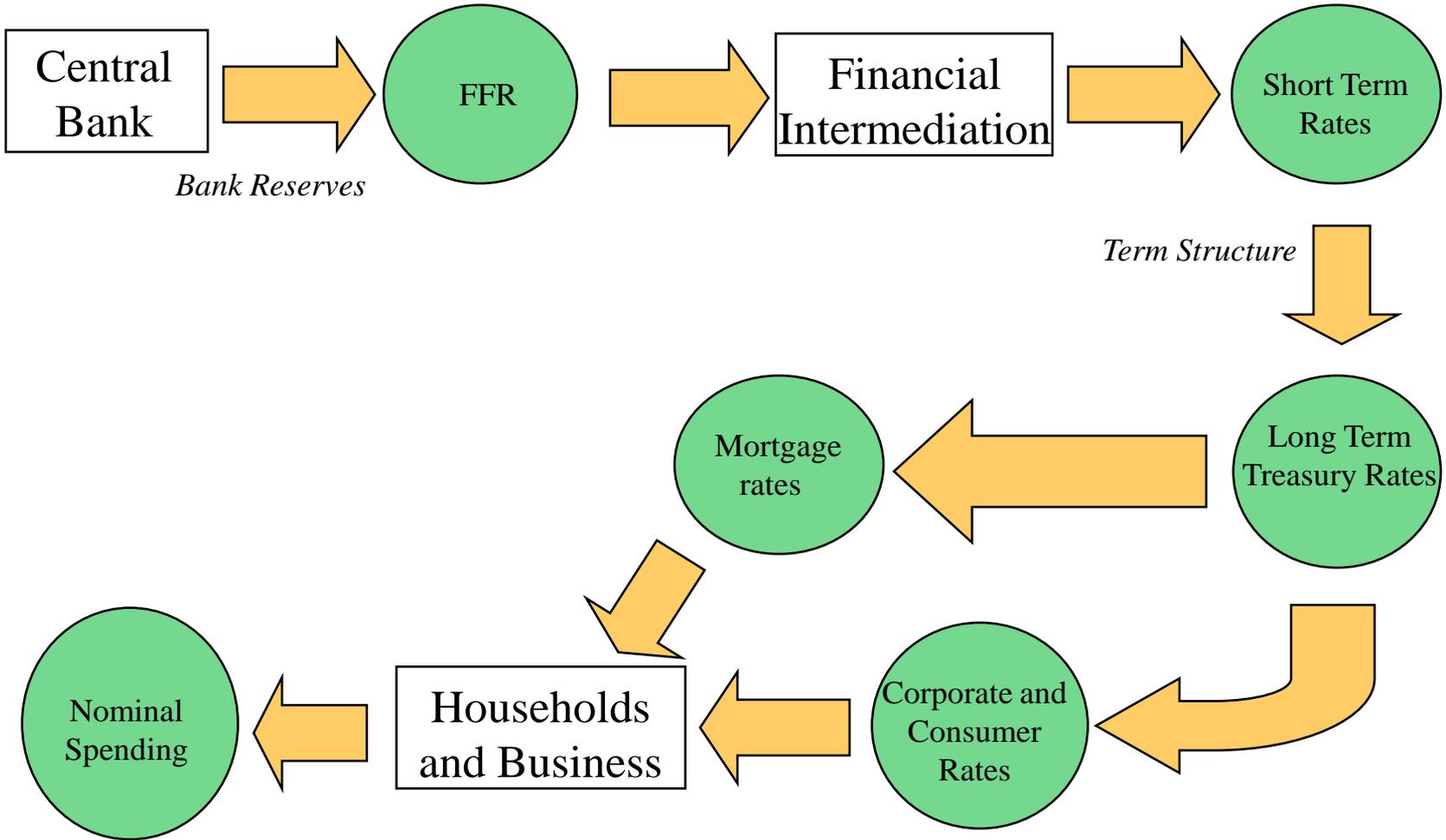
Monetary Policy Transmission Mechanism



Monetary Policy Transmission Mechanism



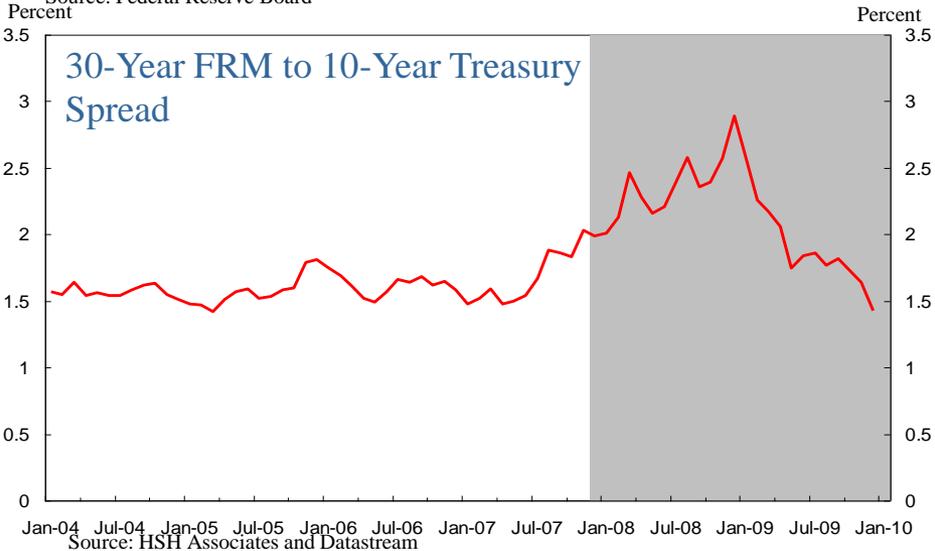
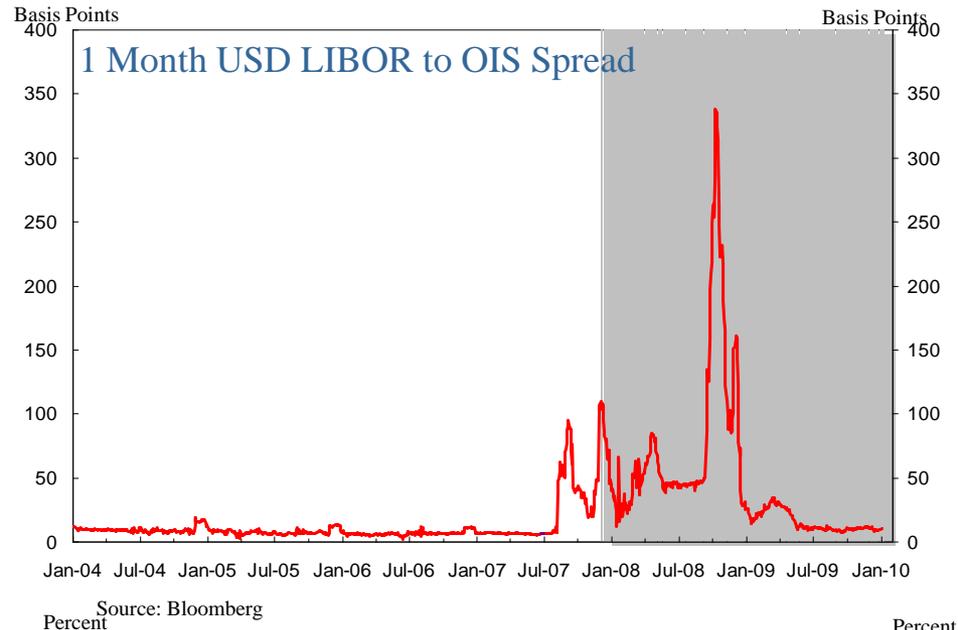
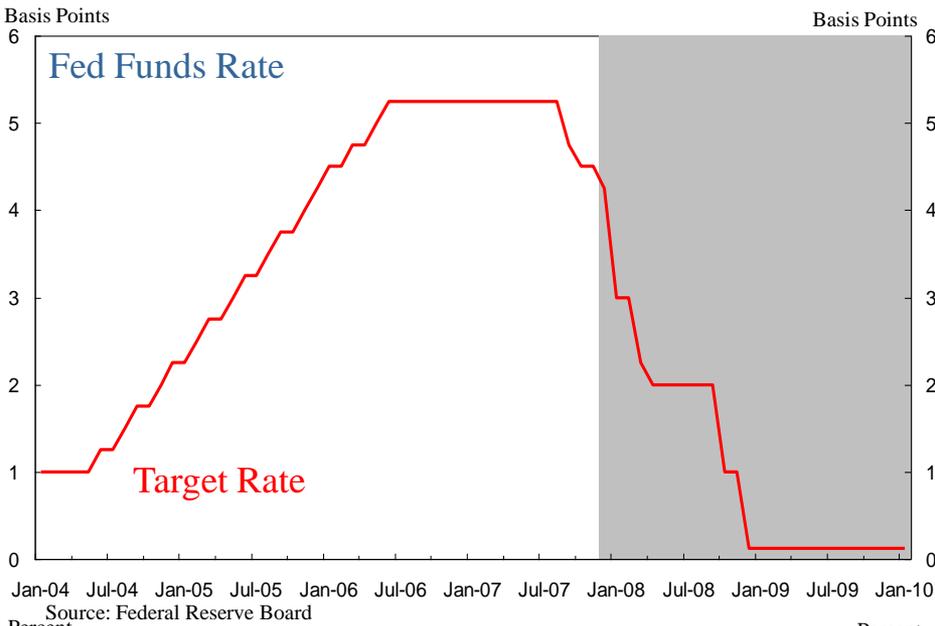
Monetary Policy Transmission Mechanism



Does the transmission mechanism always work?

- It broke during the current financial crisis
 - Despite dramatic reduction of the FFR target
 - Term lending was impaired
 - Credit market spreads widened

Policy Rate and Credit Spreads

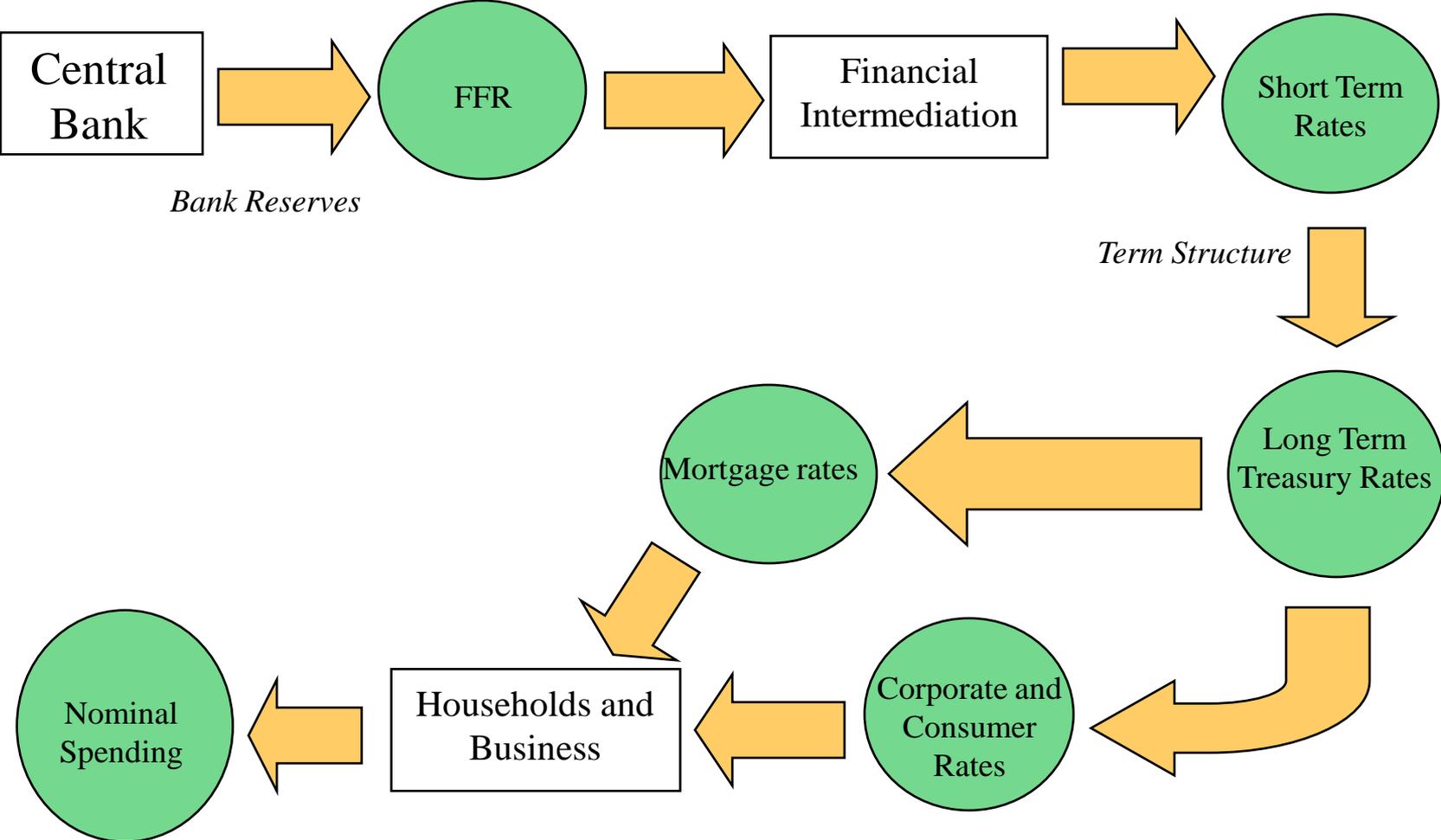


BAA Bond Yield to 10-year Treasury Spread

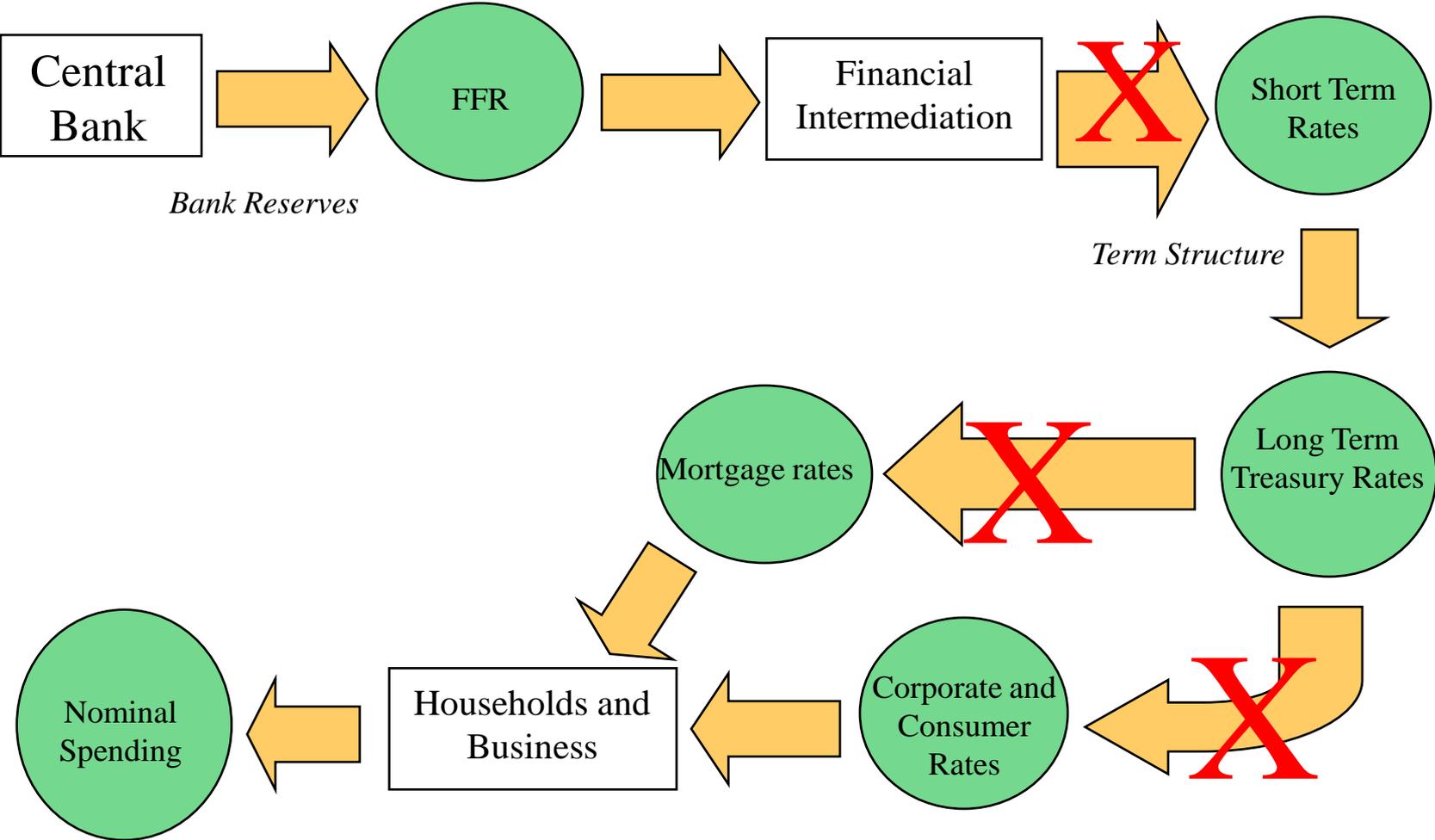
Source: Federal Reserve Board

Note: Shading represents NBER recession.

Broken Transmission Mechanism



Broken Transmission Mechanism

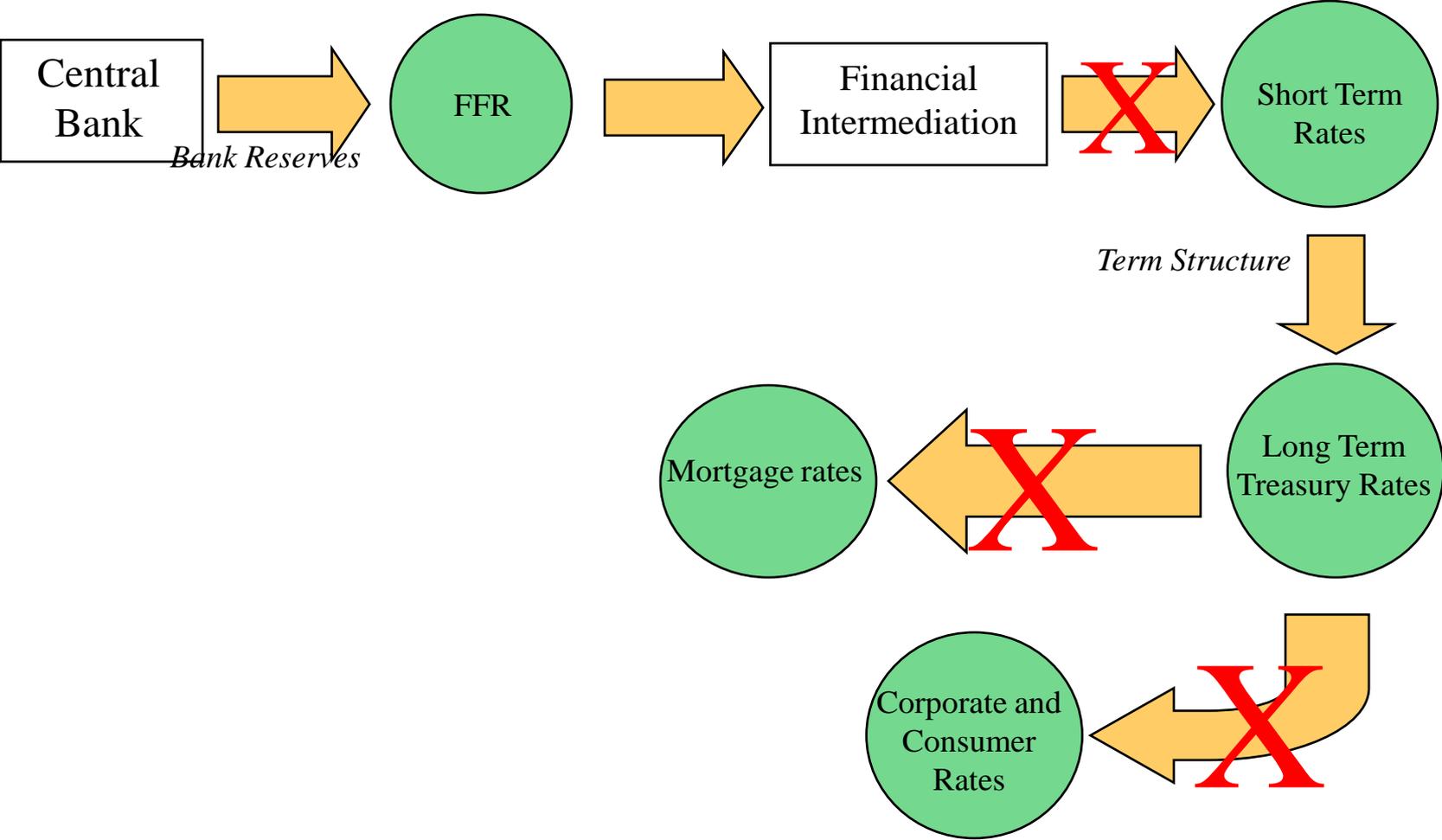


Monetary Policy Implementation: New tools

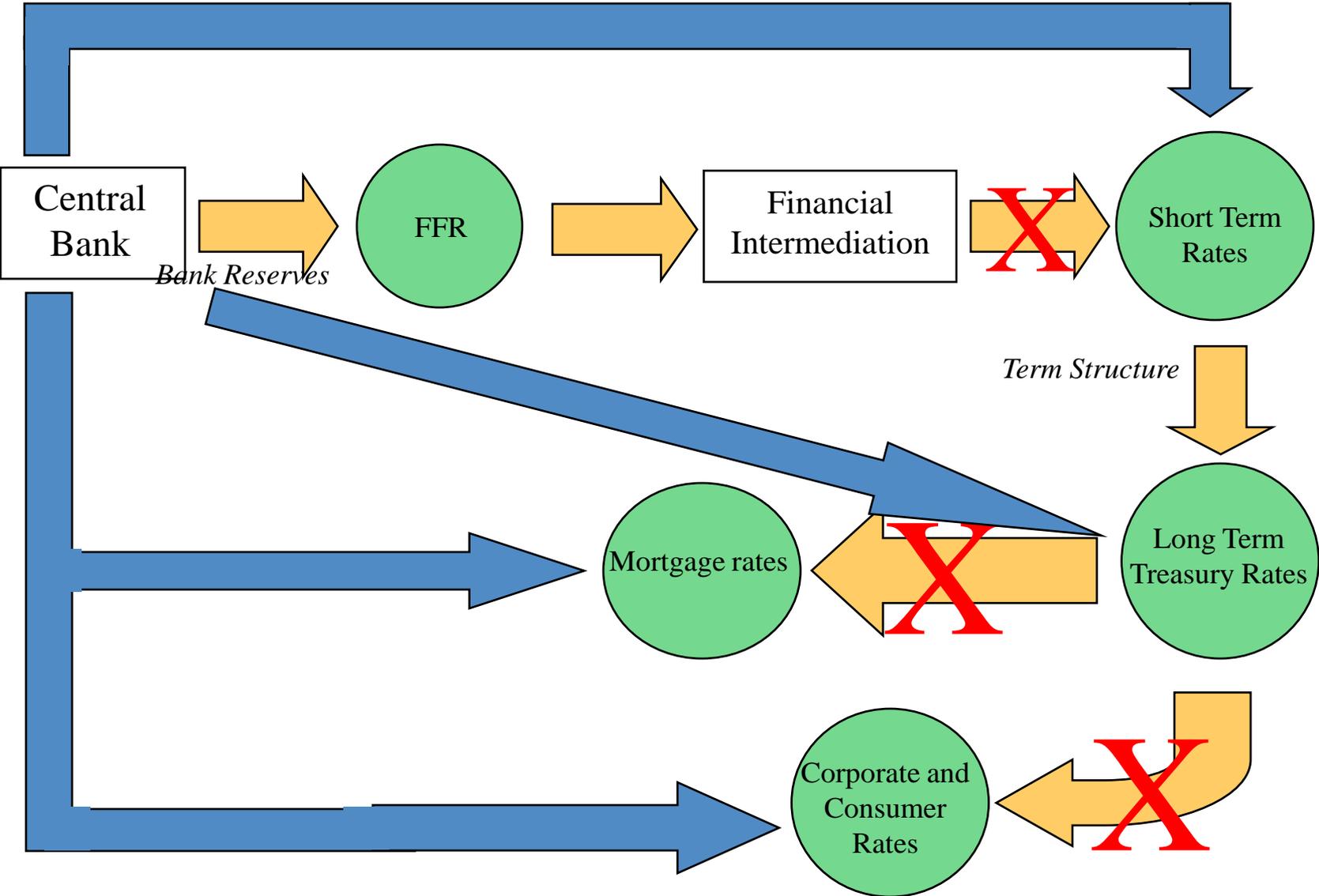
- Interest on reserves (permanent)
 - The Fed is authorized to pay interest on bank reserves
 - This tool allows better management of the FFR

- New lending and credit facilities (temporary)
 - To provide liquidity to the financial system and support extension of credit
 - Lending facilities for banks and financial intermediaries
 - Funding facilities for other market participants
 - “Credit easing” programs
 - Long term asset purchases to remove ‘risk’ from the markets, helping to control long-term rates

'Direct' Transmission Mechanism: New Tools



'Direct' Transmission Mechanism: New Tools



Implications of the new policies

The new tools have changed the *composition* and the *size* of the Fed's balance sheet

- On the asset side
 - New set of loans and portfolio holdings under various credit programs
 - Large holding of long-term Treasury securities and Agency MBS
- On the liability side
 - Size of banks' excess reserves has greatly increased

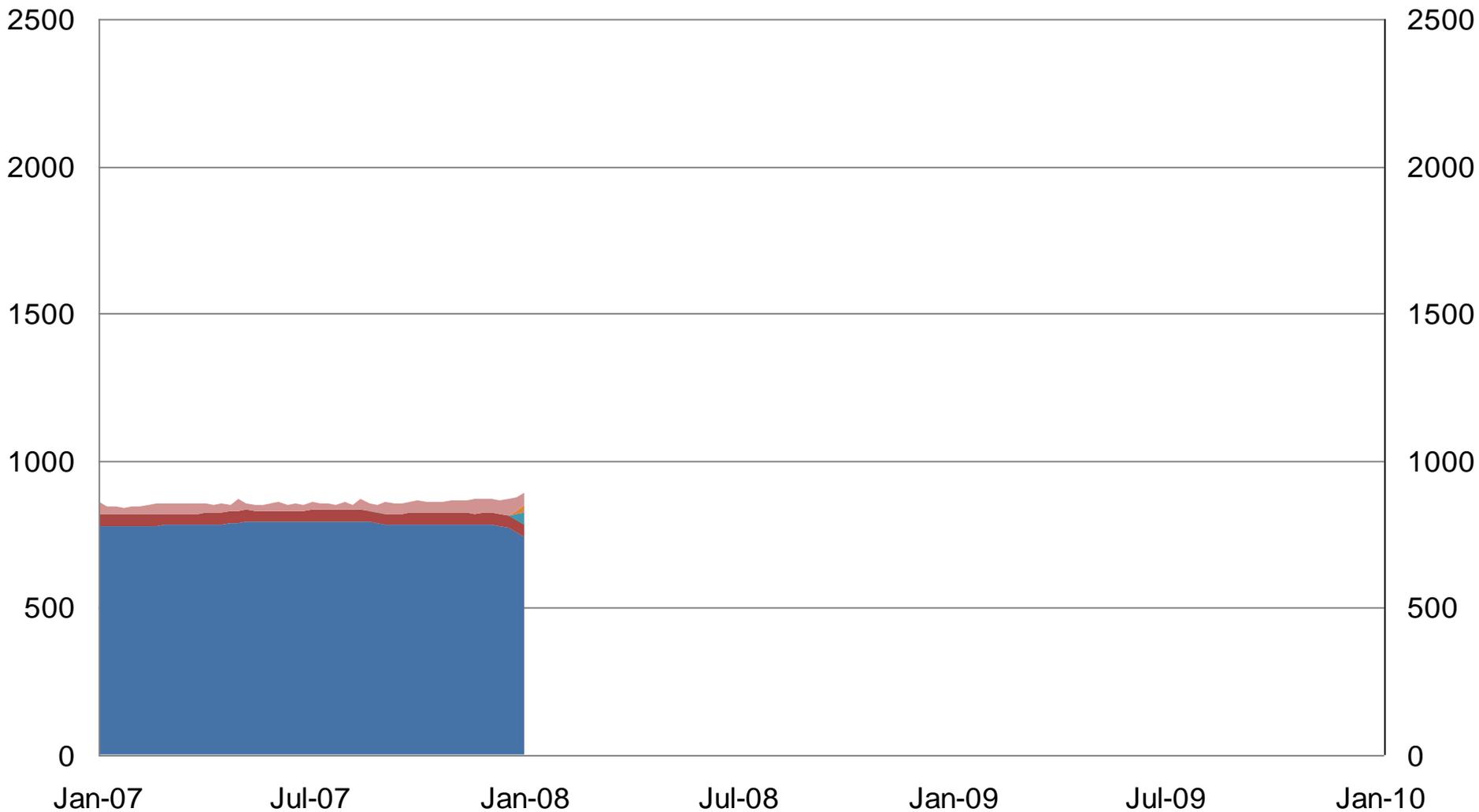
Balance sheet policy now another dimension of monetary policy

- Main challenge ahead: managing the Fed's new balance sheet

Federal Reserve Balance Sheet: Assets

Billions of Dollars

Billions of Dollars



Treasuries
TAF

Other Assets
Swap Lines

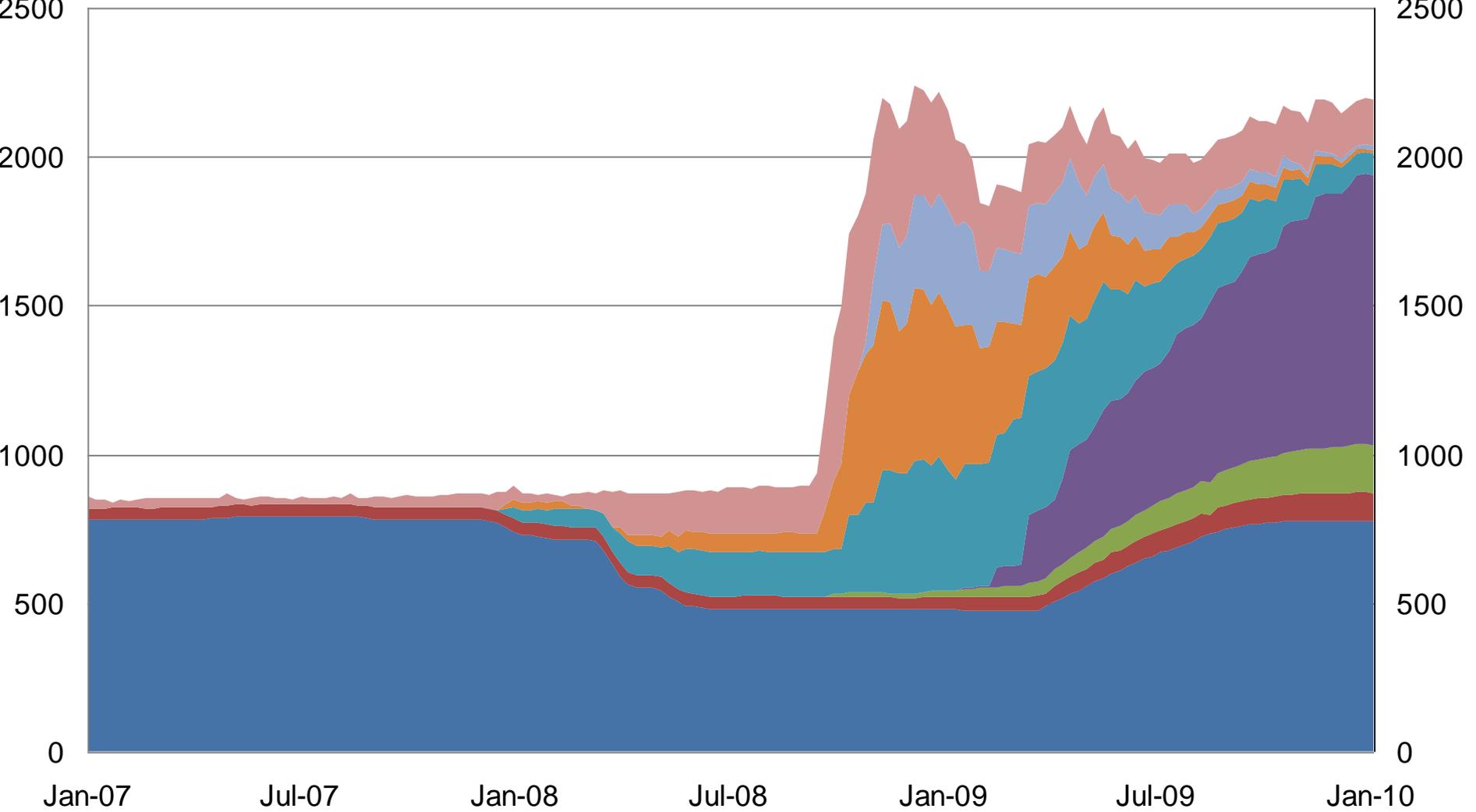
Agency Debt
CPFF

MBS
Other Liquidity

Federal Reserve Balance Sheet: Assets

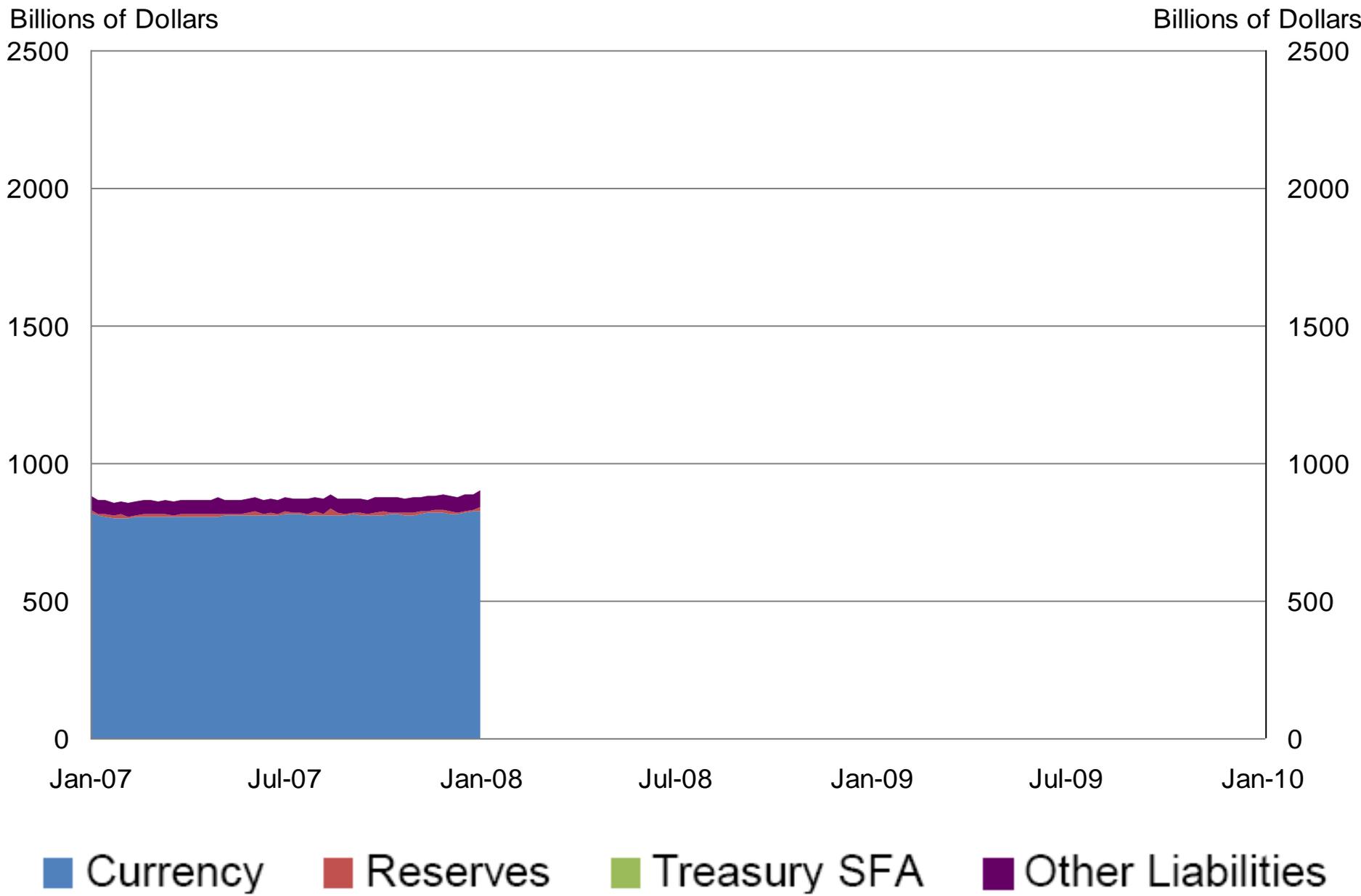
Billions of Dollars

Billions of Dollars

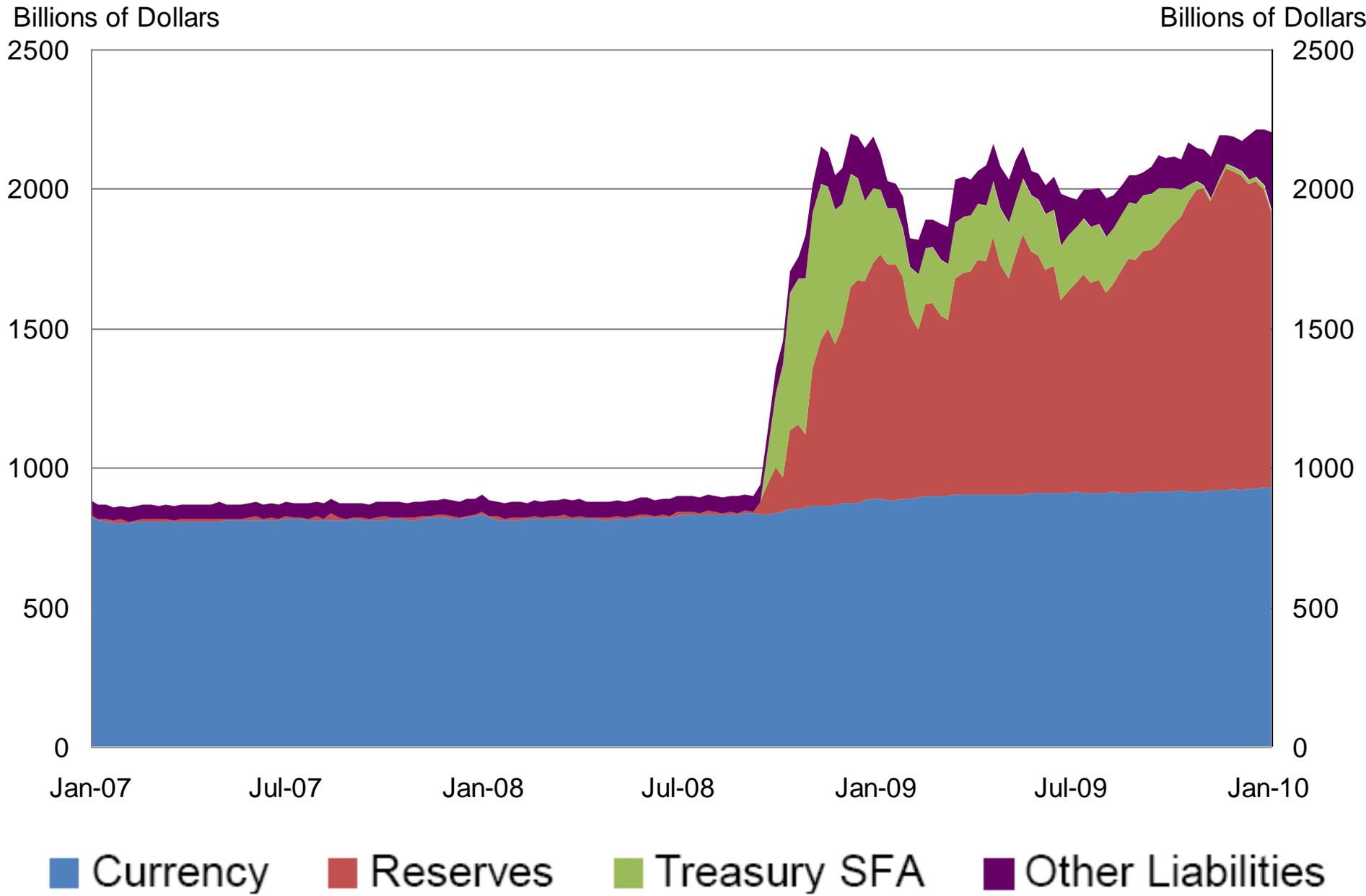


- Treasuries
- Other Assets
- Agency Debt
- MBS
- TAF
- Swap Lines
- CFFF
- Other Liquidity

Federal Reserve Balance Sheet: Liabilities



Federal Reserve Balance Sheet: Liabilities



Monetary Policy: the decision making process

- U.S. monetary policy made by the Federal Open Market Committee (FOMC)
- The FOMC comprises all seven Governors and the Presidents of the 12 Regional Feds
 - The Chairman of the Board serves as FOMC chairman
 - The President of the New York Fed serves as FOMC vice chairman
 - The other regional Presidents rotate as voting members
- The FOMC meets 8 times a year to decide on the course of monetary policy
 - Interest rate policy
 - Credit policy (balance sheet policy)

The FOMC: the basis of monetary policy decisions

▪ Interest Rate Policy

- Direct at stabilizing real economic activity and inflation
- Reflects FOMC's assessment of *current* economic conditions and *likely evolution* of output and inflation
- Convenient benchmark for policy stance: “Taylor rule”
 - Interest rate responds to (projected) deviation of inflation from ‘target’ inflation and output deviation from ‘potential’ output

$$r_t = \rho r_{t-1} + (1 - \rho) [r_t^* + \Phi_{\pi} (\pi_t - \pi^*) + \Phi_x x_t]$$

▪ where

r_t = nominal fed funds rate; r_t^* = “neutral” nominal fed funds rate

π_t = core PCE inflation; π^* = “target” inflation

x_t = output gap

ρ = degree of interest rate smoothing; Φ_{π} , Φ_x : policy coefficients

The FOMC: the basis of monetary policy decisions

▪ Balance Sheet Policy

- Direct at stabilizing financial conditions
- Reflects the assessment of how far credit markets and financial intermediation are from “normal” functioning
- The FOMC look at financial indicators and at measures of stress in credit markets to decide the stance to take about liquidity measures and “credit easing” policy

Interaction between interest rate and balance sheet policy

- Balance sheet policy affects financial conditions
- Financial conditions affect the projections of inflation and real activity
- Interest rate policy responds to these projections

The FOMC: Communication

- **The statement**
 - Issued at the end of each meeting
 - Includes the Committee's view on economic outlook and inflation, the policy decisions and an assessment of risks
- **The minutes**
 - Published three weeks after the meeting
 - Summarize the discussion, explain the rationale of the policy decisions
- **Economic Projections**
 - Released with the minutes 4 times a year
 - Provide FOMC forecast for output, inflation and unemployment
 - Provide dispersion of Committee members' forecasts
- **Other communication**
 - Speeches, op-eds of Committee members
 - Help inform the public on FOMC members' views between meetings

The Importance of Communication

- Makes economic decision transparent
- Improves public understanding of policy decisions and support for policy regime
- Signals FOMC *contingent* plans for future policy
 - This shapes expectations of market participants
 - Enables markets to forecast policy response to future economic conditions
- Improves accountability of monetary authority

Some Key Challenges in Policymaking

- Distinguishing in real-time the source of economic fluctuations
 - Are fluctuations driven by demand shocks, supply shocks, movements in potential output?
 - Demand shocks are easier to offset
 - Supply shocks create trade-offs among the Fed's objectives
- Understanding the source of asset prices fluctuations
 - Are increases in house prices or equity prices driven by fundamental economic forces, or are they 'bubbles'?
 - What indicators to look at to detect the source of financial markets instability?
 - Should monetary policy respond to fluctuations in asset prices?

Monetary Policy Going Forward

- The financial crisis challenged traditional monetary policy
- To address the crisis the Fed has created several new policy tools
 - Some of these tools outside the traditional sphere of monetary policy
- Monetary policy is currently extremely accommodative
 - There is now large liquidity in the system

Some Critical Issues

- Which of the new tools will remain in the Fed's policy toolkit?
- Will the FFR continue to be the main operating target of monetary policy?
- What is the best “exit strategy” for the interest rate and from the credit easing policies?
- How can the Fed best defend its independence in setting monetary policy?