FEDERAL RESERVE BANK of NEW YORK

The Federal Reserve in the 21st Century
Operating Targets and Policy Tools

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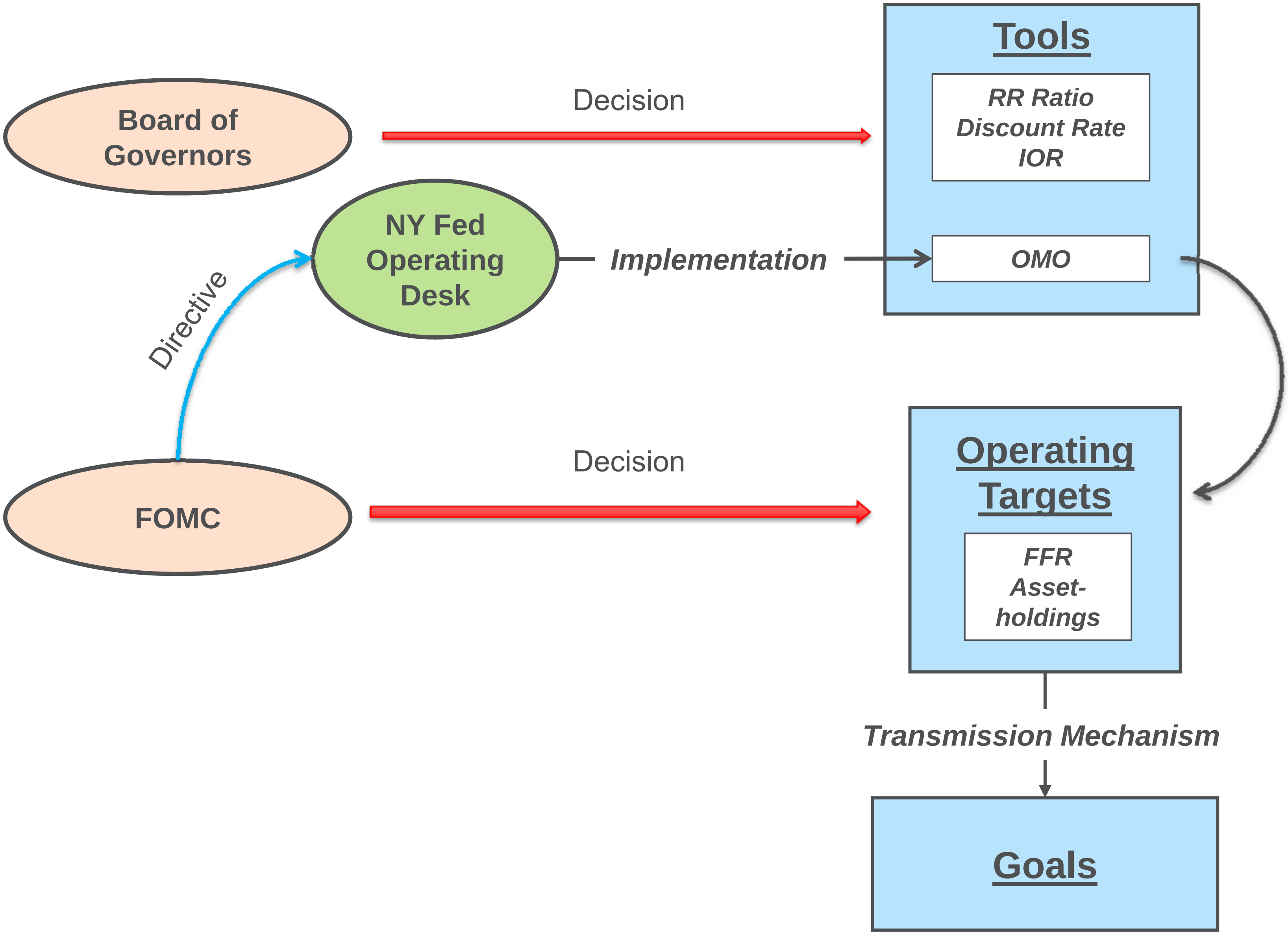
Road Map


Board of Governors
Decision
Tools
RR Ratio
Discount Rate
IOR
NY Fed Operating Desk
Implementation
OMO
Directive
FOMC
Decision
Operating Targets
FFR
Asset-holdings
Transmission Mechanism
Goals

Meeting Monetary Policy Objectives

- The Fed doesn’t directly affect output or employment
- The Fed affects the *flow of credit* to the economy
  - by influencing *financial conditions*
- The flow of credit in turn determines aggregate demand and economic activity
  - The Fed *eases* credit to provide economic stimulus
    - Lower cost of credit increases aggregate demand
  - The Fed *tightens* credit to reduce economic stimulus
    - Higher cost of credit reduces aggregate demand and contains the risk of inflation
- Stance of policy: choice of operating targets

Operating Targets

- Intermediate objectives that the Fed sets for monetary policy
- A desirable operating target is
  - Variable that is effective in *influencing the flow of credit*, hence can help to attain the ultimate Fed's goals
  - Variable that the Fed *can control* reasonably well
- Main Operating Target
  - Federal Funds Rate
- Additional Operating Target (since ZLB)
  - Fed's Asset-holding (size/composition of Fed's Balance Sheet)

The Federal Funds Rate (FFR)

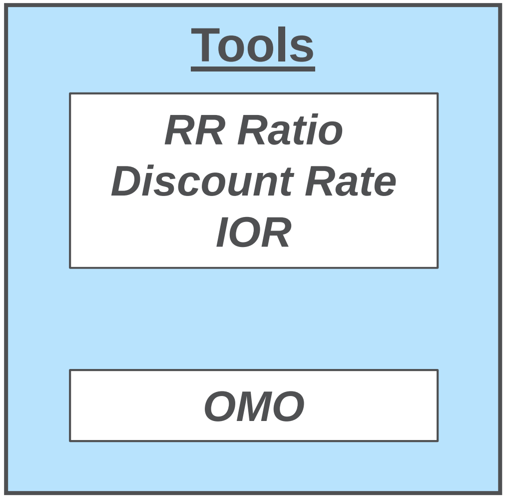
- The FFR is the rate at which banks borrow and lend reserves in the federal funds market
  - Reserves are deposits that banks hold in their accounts at the Federal Reserve (banks' assets, but Fed's liabilities)
  - The federal funds market is an overnight market
    - Loans in this market do not require collateral

- FFR is a good operating target
  - The FFR influences other interest rates
    - It is strongly linked to other short-term rates (e.g. T-bill rates)
    - Short-term rates in turn affect the entire yield curve
    - Interest rates affect credit flows and aggregate spending
  - It is controlled fairly well by the Fed

The FFR and Traditional Market for Reserves (no IOR)

- The Federal Reserve sets a target for the FFR and provides reserves to the US banking system to meet demand at that target
  - The **demand** for reserves
    - Reflects demand for *required* and *excess* reserves
    - It is negatively related to the FFR
  - The **supply** of reserves
    - Is the amount of reserves that the Fed provides to the banking system (e.g. OMOs and discount lending)
- The FFR is the market **equilibrium** rate

Tools to Influence Reserve Conditions



Tools: Reserve Requirement Ratio

Tools

RR Ratio
Discount Rate
IOR

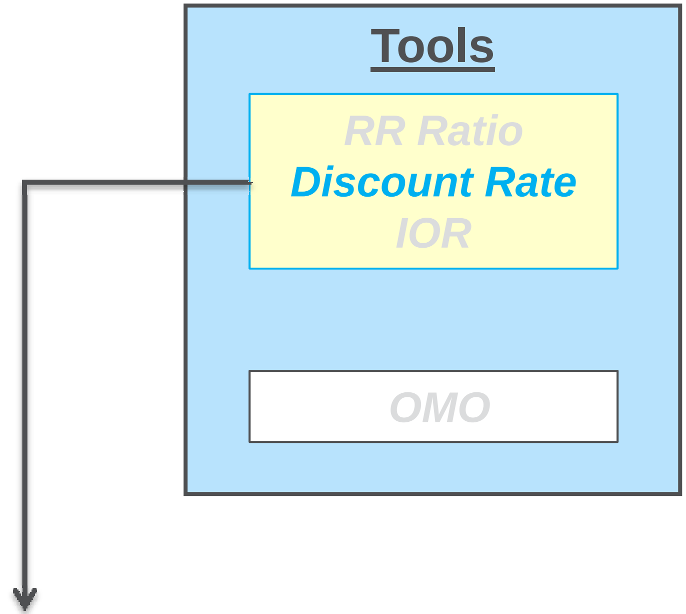
OMO

Reserve Requirement (RR) Ratio

Percentage of their own deposits that commercial banks must hold a at the Fed

A high RR ratio implies tighter limits to the amount of lending by banks

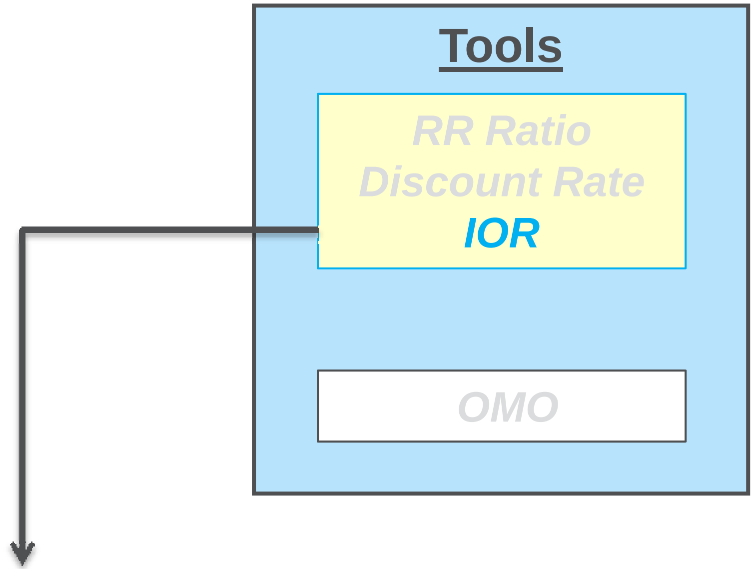
Tools: Discount Window



Discount window (or Primary Credit Facility) lending

- Direct lending by the Federal Reserve to commercial banks
- Reflects the role of the Fed as “lender of last resort”
- The lending rate is the discount (or PCF) rate
  - Set above market rates to reflect a penalty for borrowing directly from the Fed

Tools: Interest on Reserves



Interest on reserves (IOR)

- Compensation to banks for holding reserves at the Fed
- The Fed is authorized to pay interest on bank reserves since October 2008

Tools: Open Market Operations

Tools

RR Ratio
Discount Rate
IOR

OMO

Open Market Operations – main tool

Purchases or sales of government securities on the secondary market

A *purchase* adds reserves to the banking system

A *sale* drains reserves from the banking system

Reserve Provision and the Fed's Balance Sheet

- A simplified Balance Sheet

Assets	Liabilities
U.S. Treasury securities	Federal Reserve notes (currency)
Repurchase agreements (Repos)	Deposits of depository institutions (Reserve balances)
Loans to depository institutions (Discount Window loans)	Other (including capital)
Other assets	

OMOs and their Effect on Reserves

Assets		Liabilities	
U.S. Treasury securities	790.7 +10	Federal Reserve notes (currency)	776.5
Repurchase agreements (Repos)	18.8	Deposits of depository institutions (Reserve balances)	12.6 +10
Loans to depository institutions (Discount Window loans)	0.2	Other (including capital)	78.6
Other assets	58.0		
Total assets	*867.7*	*Total liabilities*	*867.7*

Source: Federal Reserve Board H.4.1., July 26, 2007 Release

Note: Units are Billions of U.S. Dollars

OMOs and their Effect on Reserves

Assets		Liabilities	
U.S. Treasury securities	800.7	Federal Reserve notes (currency)	776.5
Repurchase agreements (Repos)	18.8	Deposits of depository institutions (Reserve balances)	22.6
Loans to depository institutions (Discount Window loans)	0.2	Other (including capital)	78.6
Other assets	58.0		
Total assets	*877.7*	*Total liabilities*	*877.7*

Source: Federal Reserve Board H.4.1., July 26, 2007 Release

Note: Units are Billions of U.S. Dollars

Currency Demand and its Effect on Reserves

Assets		Liabilities	
U.S. Treasury Securities	800.7	Federal Reserve notes (currency)	776.5 +5
Repurchase Agreements (Repos)	18.8	Deposits of depository institutions (Reserve Balances)	22.6 -5
Loans to Depository Institutions (Discount Window loans)	0.2	Other (including capital)	78.6
Other assets	58.0		
Total assets	*877.7*	*Total liabilities*	*877.7*

Source: Federal Reserve Board H.4.1., July 26, 2007 Release

Creation of Reserves Outside 'Standard' Operations

- Special liquidity facilities created during the crisis
  - Lender of last resort interventions to supply liquidity to strained financial institutions
  - Loans under the facilities were assets on the Fed's balance sheet
    - Dec. 2007- Aug. 2008
      - Balance sheet size unchanged
      - Loans replace some Treasury securities
    - After Sept. 2008
      - Liquidity facilities raised the size of the balance sheet
      - Increase in assets matched by corresponding amount of reserves credited to the accounts of the banks receiving the loans

Monetary Policy Under the ZLB Constraint

- Conventional monetary policy response to recessions
  - Lower FFR target
    - Lowered 325 basis points from Aug 2007 to Sep 2008
    - Lowered to a 0-1/4 percent range (effectively zero) in Dec 08
- Fed starts unconventional monetary policy
  - Balance-sheet policy
    - Involves changes in the size and/or composition of the balance sheet
    - Aims at affecting long-term rates directly; supports the commitment to an extended period of low policy rate
  - Forward guidance on the future path of the FFR
    - Aims at reducing long-term rates via expectations of low short-rates

Balance-sheet policies

- Large-Scale Asset Purchases (LSAPs)
  - Purchases of Agency MBS and Agency Debt (Nov 2008)
  - Purchases of long-term Treasury securities (Mar 2009; Nov 2010)

  → *increase the size of the balance sheet*

- Maturity Extension Program (MEP)
  - Purchase of long-term Treasury securities and sale of an *equal amount* of short-term Treasury securities (Sept 2011)

  → *changes the maturity composition of the balance sheet*

Asset-holding has become an additional operating target

- It is under the Fed's control
- It affects the structure of interest rates

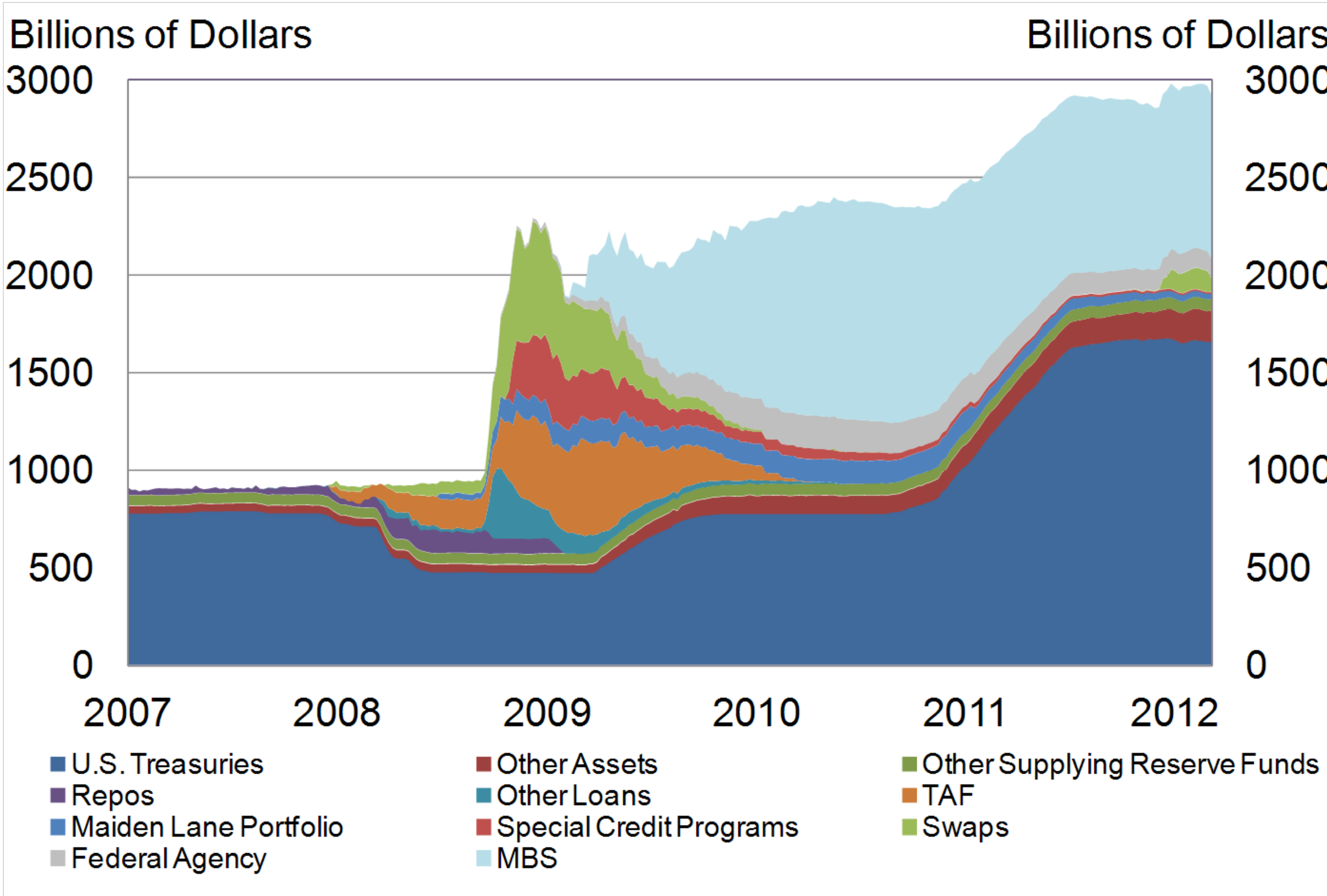
Fed's Balance Sheet Today (stylized)

Assets		Liabilities	
Securities		Federal Reserve notes (currency)	1,093
U.S. Treasury Securities	1,660		
Agency Debt & MBS	940		
Repurchase agreements (Repos)	0	Deposits of depository institutions (Reserve Balances)	1,592
Loans to depository institutions	7	Reverse Repos	87
Maiden Lane Portfolio & Other Holdings	28	Treasury GA	37
Other assets	290	Other (including capital)	116
Total assets	*2,925*	*Total liabilities*	*2,925*

Source: Federal Reserve Board H.4.1, March 8, 2012 Release

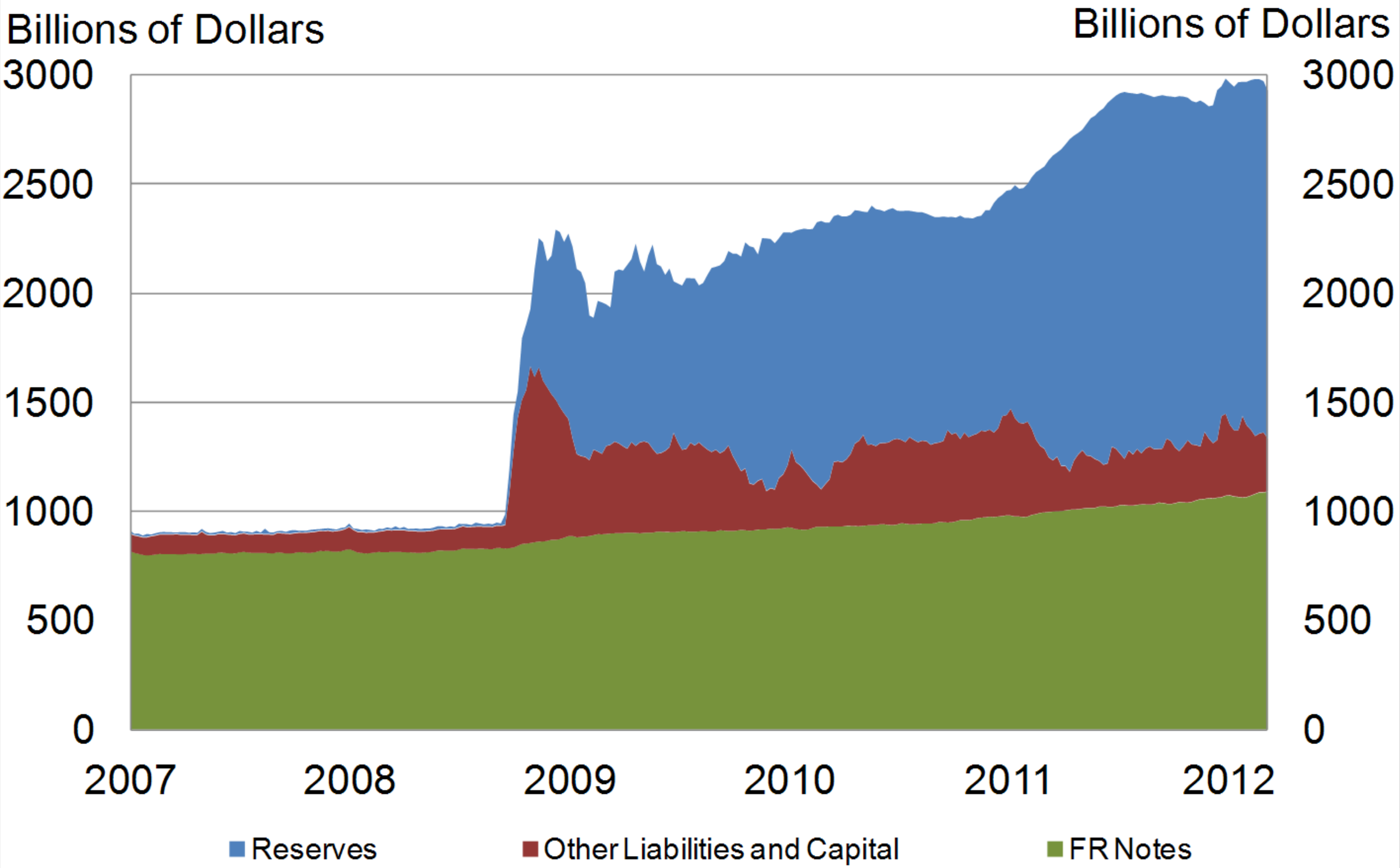
Note: Units are Billions of U.S. Dollars

Evolution of the Fed's Balance Sheet: Assets



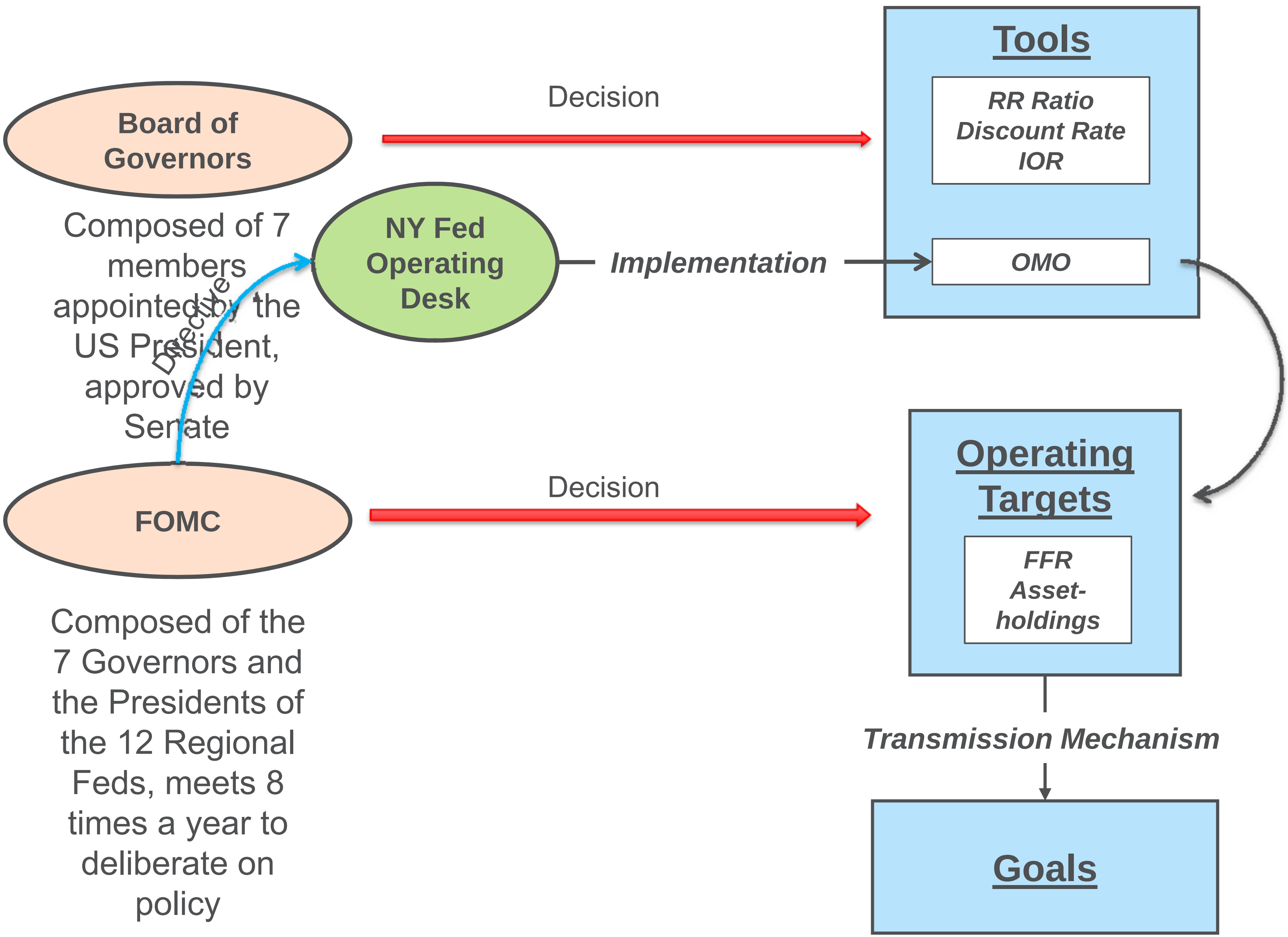
Source: Federal Reserve Board, as of March 8, 2012

Evolution of the Fed’s Balance Sheet: Liabilities



Source: Federal Reserve Board, as of March 8, 2012

Structure of the Fed's Decision-Making Process



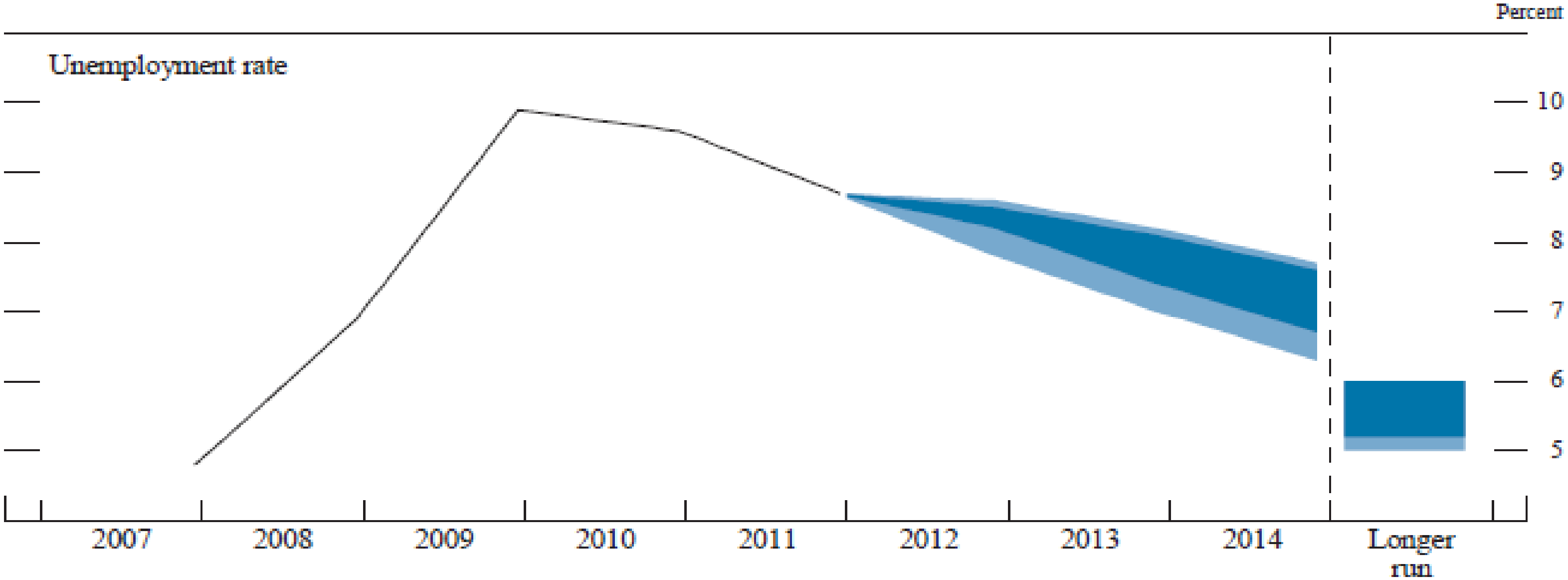
The FOMC Policy Strategy

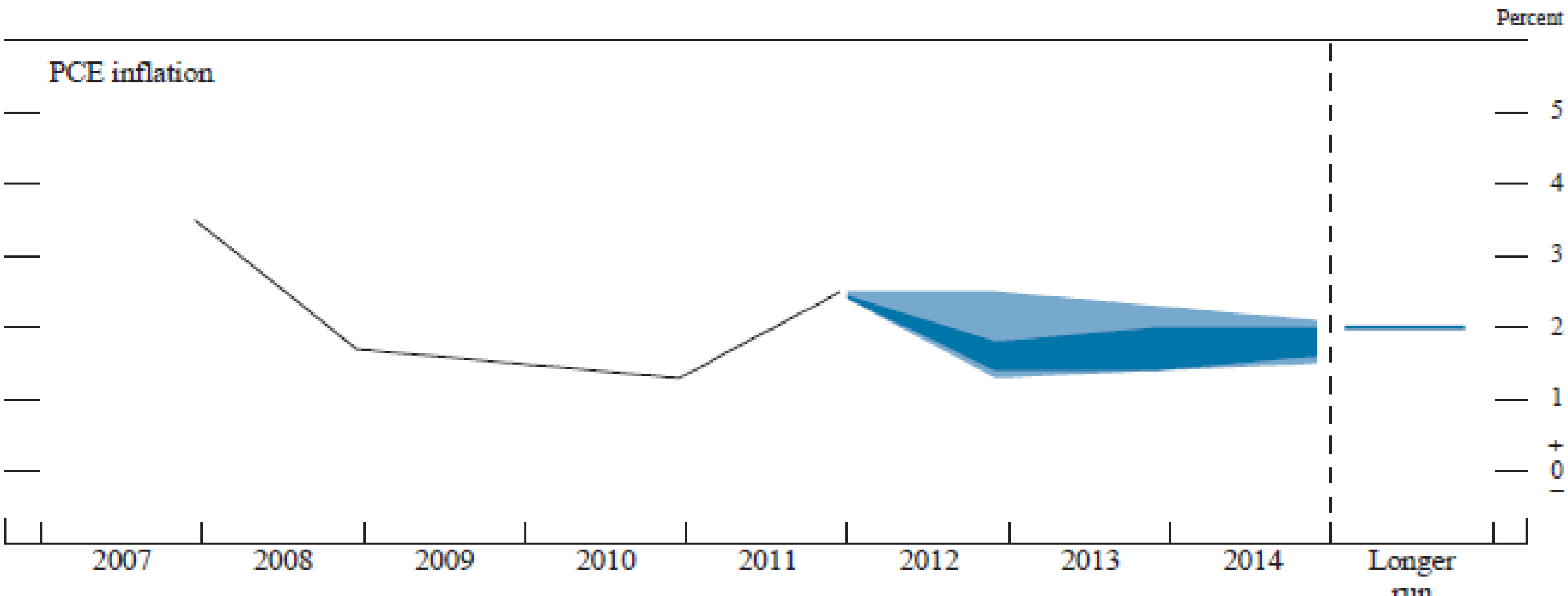
‘Longer-Run Goals and Policy Strategy’ statement (Jan ‘12) sets:

- Longer-Run Goals
  - Inflation at an annual rate of 2 percent (PCE deflator)
  - “Natural rate” of unemployment currently assessed between 5.2% and 6%

- Policy Strategy
  - The Committee seeks to “mitigate *deviations* of inflation from its longer-run goal and *deviations* of employment from the Committee's assessments of its maximum level.”
    - A type of ‘flexible inflation targeting’ strategy

FOMC January SEP





Source: Summary of Economic Projections, January 2012

FOMC Policy Decisions

- The Committee's policy stance reflects its assessment of how *current* economic conditions and *their projected evolution* stand relative to its long-run goals

- The Committee evaluates the trade-offs involved in closing the projected inflation gap and unemployment gap.

- The policy stance is formulated in terms of the operating targets
  - **FFR:** The FOMC sets a target rate
    - Since Dec 2008 has set a target *range* of 0 to 1/4 percent
  - **Asset-holdings:** the FOMC sets balance sheet *size* and *composition*
    - Today it has in place the MEP program

- Also provides **forward guidance** on the future path of the FFR
  - The Committee …"currently anticipates that economic conditions …are likely to warrant exceptionally low levels for the federal funds rate at least through late 2014."

    (March 13, 2012 statement)

Challenges Ahead: Managing the Exit

- Managing the appropriate time of the FFR lift-off
  - Current dispersion of views in the Committee

- Managing the Fed’s changed balance sheet
  - Mitigating various risks
    - *Interest rate risk*: possible negative cash flow when rates rise
    - *Credit risk*: possible capital loss on assets held
    - *Operational risk*: managing a more diverse set of assets
    - *Exit risk*: issues of draining excess reserves in the system when start reducing policy accommodation
  - ‘Exit Strategy’ principles (June 2011 minutes) outline sequence of steps to normalize the balance sheet