



# Financial Institutions & the Economy II



Dr. R. Andrew Bauer  
The Federal Reserve Bank of Richmond—  
Baltimore Branch

## Financial Institutions and the Economy II

**Instructor:** Dr. R. Andrew Bauer (Andy)

**Course Description:** This course continues some of the concepts started in the freshman year and also provides tools that students can apply in their jobs or in continued studies. Topics include locating and interpreting data, economic indicators, financial markets, forecasting, and monetary policy.

<b>Time:</b>	Monday	10:00 a.m. – 11:30 a.m.
	Tuesday	10:30 a.m. – 12:00 a.m.
	Tuesday	1:00 p.m. – 3:00 p.m.
	Thursday	1:00 p.m. – 2:30 p.m.

### Course Outline:

#### Monday

##### Review of monetary policy

- I. Basics of monetary policy
  - a. Broad definition
  - b. Federal Reserve's dual mandate
- II. When is there a role for monetary policy?
  - a. Potential growth: determined by employment growth and productivity
  - b. An economy operating at potential
  - c. Output gaps
- III. Tools of monetary policy
  - a. Traditional tools of monetary policy
    - i. Open market operations
  - b. Unconventional monetary policy
    - i. Interest paid on excess reserves
    - ii. Short-term rates close to zero
    - iii. Large scale asset purchases
    - iv. Forward guidance
  - c. Policy normalization
- IV. Discussion: outlook for monetary policy for 2016-2017
- V. Distribute materials and discuss presentation

## **Tuesday & Wednesday**

Each day we will meet in the classroom. The beginning of class will be devoted to answering questions. Groups will then split off and work on the presentation. Groups are able to meet in the classroom or go elsewhere to work on the presentation.

## **Thursday**

### **Classroom Exercise: Fed Challenge**

The Fed Challenge exercise is designed to have students analyze a set of economic data, prepare a concise summary of the economic outlook, and make monetary policy recommendations as if they were members of the Federal Open Market Committee (FOMC).

The exercise will be conducted as follows: on Monday the class will be divided into groups. Each group will receive a set of material which will include a summary of economic conditions as well as a set of economic projections. The groups will have Tuesday and Wednesday to review the material and prepare a 10-15 minute presentation. The presentation will include (1) an assessment of recent economic growth and inflation, (2) expectations for future growth and inflation, (3) the risks to the economic outlook, and (4) a monetary policy recommendation. Following the presentation will be a 5-10 minute question and answer period.



# Financial Institutions and the Economy II

Andy Bauer  
Vice President & Regional Executive

July 31, 2023

## Outline for this week

- Today: review & discussion of economy & monetary policy
- Rest of week: FOMC presentations
- 10-15 minute presentation that contains:
  - Overview of the economy
  - Risks to the outlook
  - Monetary policy decision

A lot could go into the overview. Depends on the time period. Should include discussion of growth (developments in key sectors), labor markets, outlook for inflation.

Risks, if any, are key to discuss as to how they may affect outlook.

# The Definition of Monetary Policy

Actions taken by the central bank to influence interest rates in the economy

- Do this by changing size of our balance sheet:
  - Assets: Treasuries
  - Liabilities: Currency, Reserves

And monetary policy = changing the amount of Fed liabilities to hit a desired short-term interest rate

- Since 2008, monetary policy more complex (response to “zero lower bound”)

# The Goals of Monetary Policy – The “Dual Mandate”

In 1977, Congress amended the Federal Reserve Act to include the Dual Mandate:

"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."

The amendment left it up to the Fed to define these terms and how policy would achieve these goals

# The Goals of Monetary Policy – The “Dual Mandate”

## FOMC consensus statement: (January 2012)

### **Price stability**

- Inflation is determined primarily by monetary policy (an accepted idea since 1970s)
- Inflation goal: 2 percent average

### **Maximum employment**

- In the long run, employment growth potential is determined by factors outside monetary policy
- Thus, there is no specific employment goal



## Before we can discuss when there is a role for monetary policy, we need to recall a few things:

- The long-run growth (or potential) growth of an economy depends on:
  - Labor force growth (employment)
  - Productivity
- Real Output (Y) = # Employed x Worker Productivity
- Therefore, any change in the number of workers **and/or** productivity will change real output:

$$\% \Delta \text{ Output} = \% \Delta \text{ Employed} + \% \Delta \text{ Productivity}$$

$$\% \Delta \text{ Output} = 1.3\% + 1.8\%$$

- In this example, the real economy's long-run growth potential is 3.1%

# How does the real economy's potential growth relate to monetary policy?

When the economy is operating at its potential, there is no imbalance between supply and demand:

- The amount of goods produced = amount of goods supplied
- The amount of labor produced = amount of labor supplied

## Importantly

- Inflation is stable
- Unemployment is at its "natural rate"
  - There will always be some unemployment due to labor market frictions and structural changes in the economy but in this case there is no cyclical unemployment

# How does the real economy's potential growth relate to monetary policy?

When the economy is operating below its long-run potential:

- Businesses/factories aren't producing as much (shorter workweeks/less shifts)
- Businesses use less labor (shorter workweeks/employ less workers)—the unemployment rate is higher (above the natural rate)
- Downward pressure on prices and wages

When the economy is operating above its long-run potential:

- Businesses/factories are producing more (longer workweeks/more shifts)
- Businesses use more labor (longer workweeks/employ more workers)—the unemployment rate is lower (below the natural rate)
- Upward pressure on prices and wages

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Given the dual mandate there is a role for monetary policy

# So how does the Fed change the money supply?

- Traditional tools of monetary policy:
  - Required reserves
  - Discount rate
  - Open market operations
- New and unconventional tools of monetary policy
  - Interest paid on excess reserves (IOER)
  - Short term rates close to zero
  - Large scale asset purchases
  - Forward guidance

# Open market operations

- Typically, the FOMC's primary tool is open market operations
- Open market operations refer to the Fed's buying and selling of government securities in the market
- When the Fed buys or sells bonds in the market, it changes the supply available to other purchasers, influencing the price of the bonds and yields (interest rates)
- Interest rates are not mandated, they are set by the market
- Importantly, interest rates affect consumer demand for money

# Open market operations

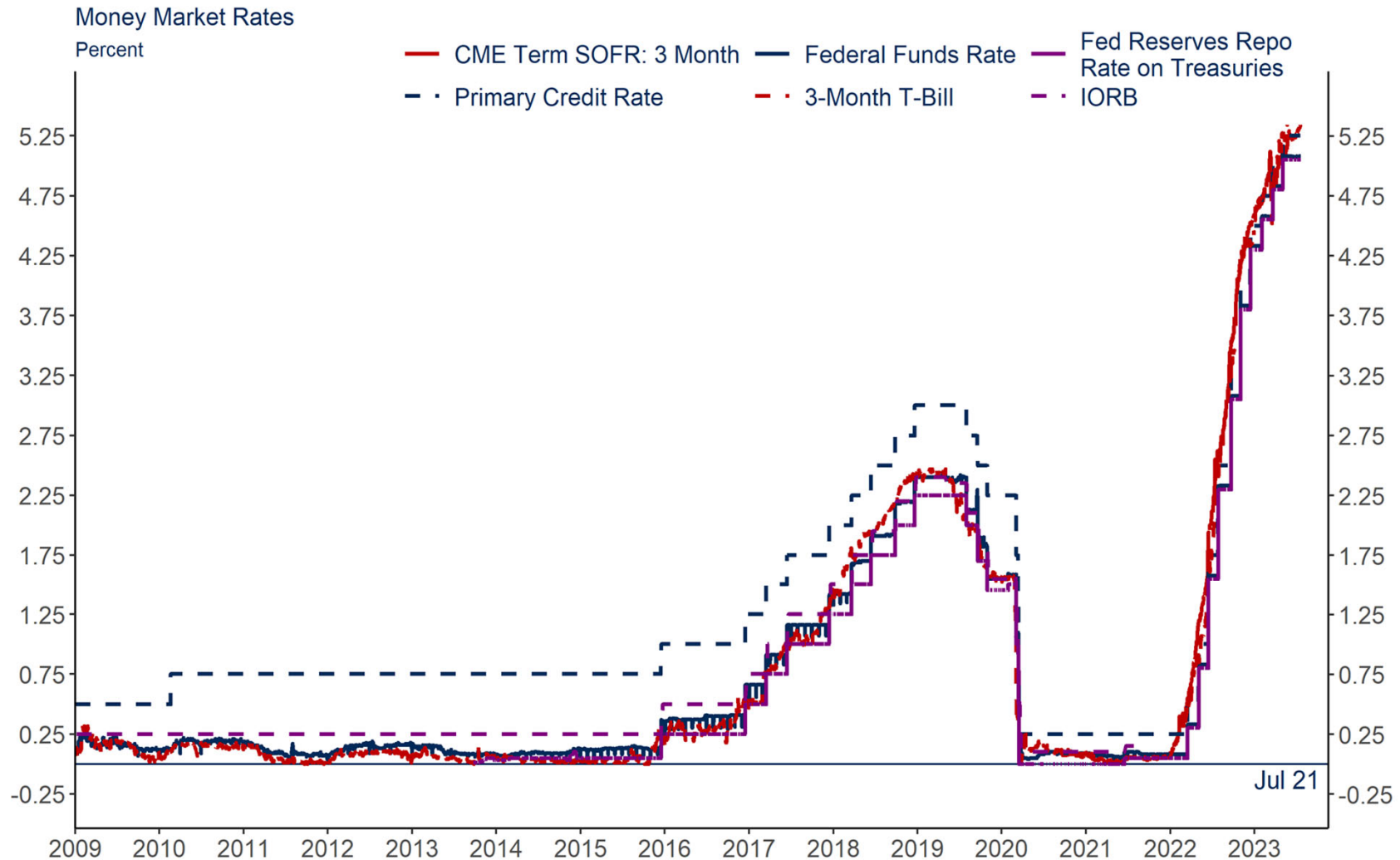
- When the Fed conducts expansionary monetary policy (loosens policy):
- Fed purchases bonds (Treasury securities)
- Banks receive money for selling their bonds in the form of bank reserves
- The increase in the supply of reserves reduces borrowing costs (interest rates) as banks have more money to lend
- “Opportunity cost” of holding money decreases
- Consumers and businesses increase borrowing
- Supply of money in the economy increases

## What are some of the key policy challenges?

- Fed's monetary policy is not the only factor influencing economic activity
  - Fiscal policy, wars, natural disasters, monetary policy elsewhere, etc.
- Lack of timely information
- Data revisions
- Uncertain effects of policy
- Dramatic changes to trade policy

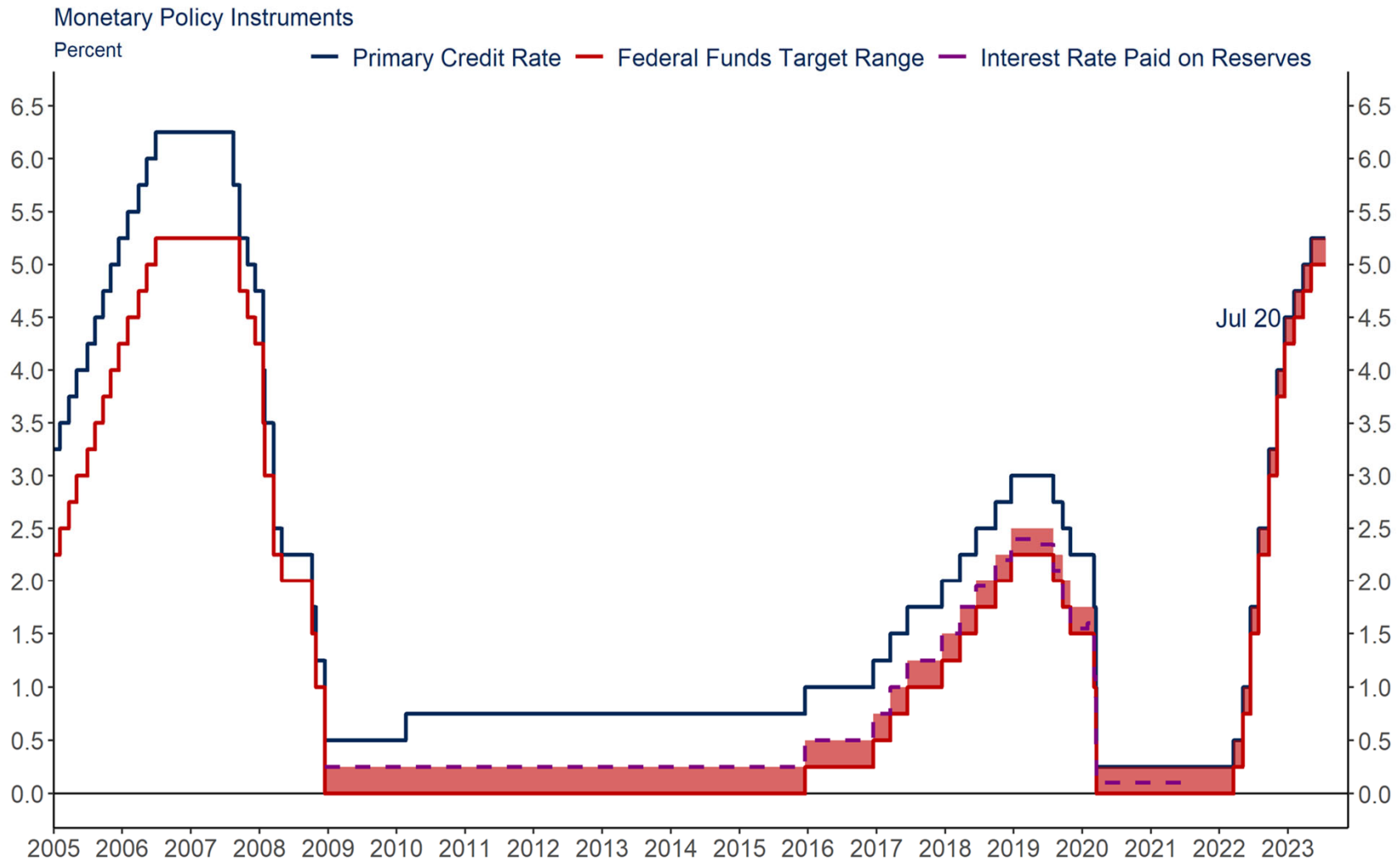


# Money Market Rates

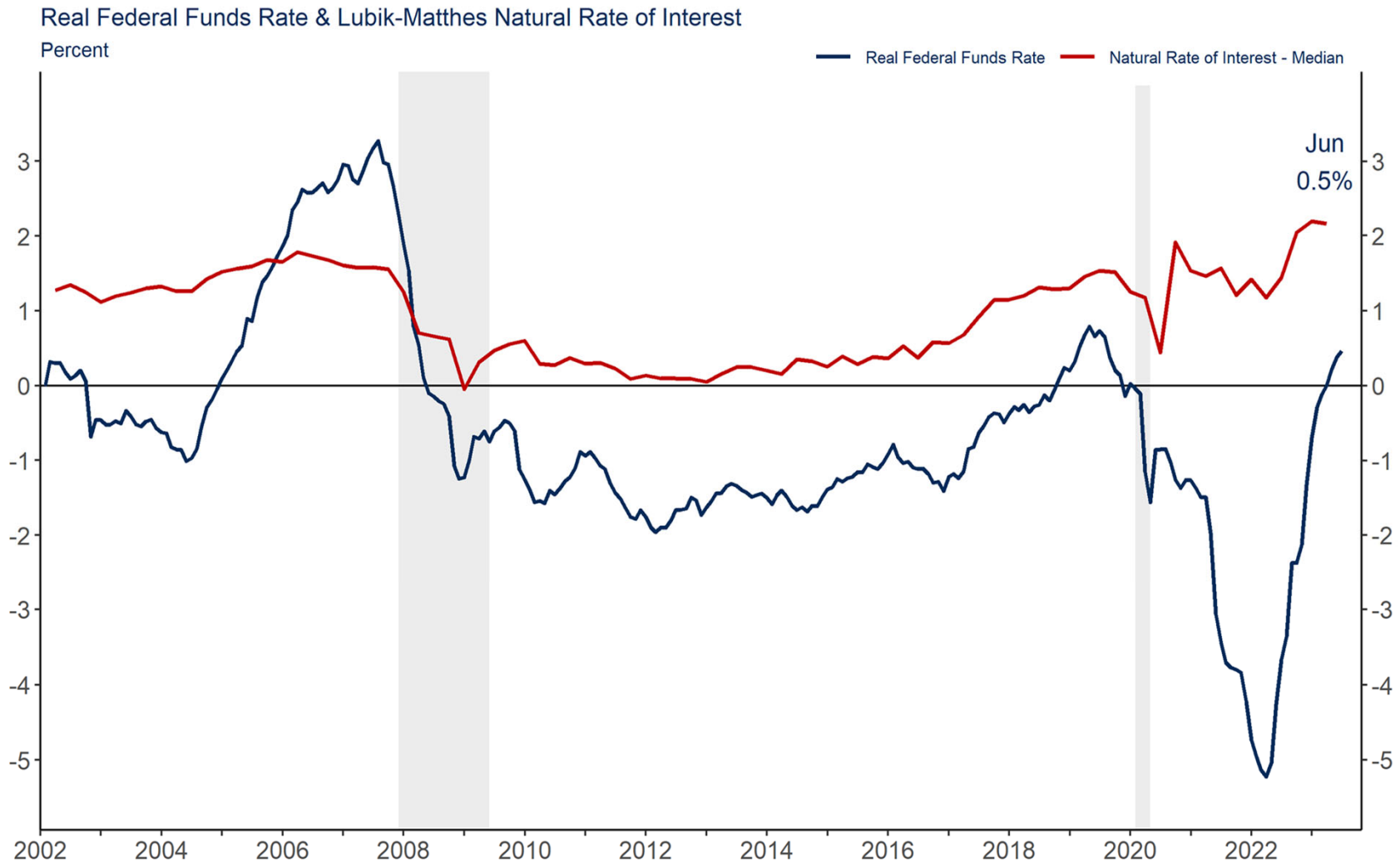


So where is policy now?

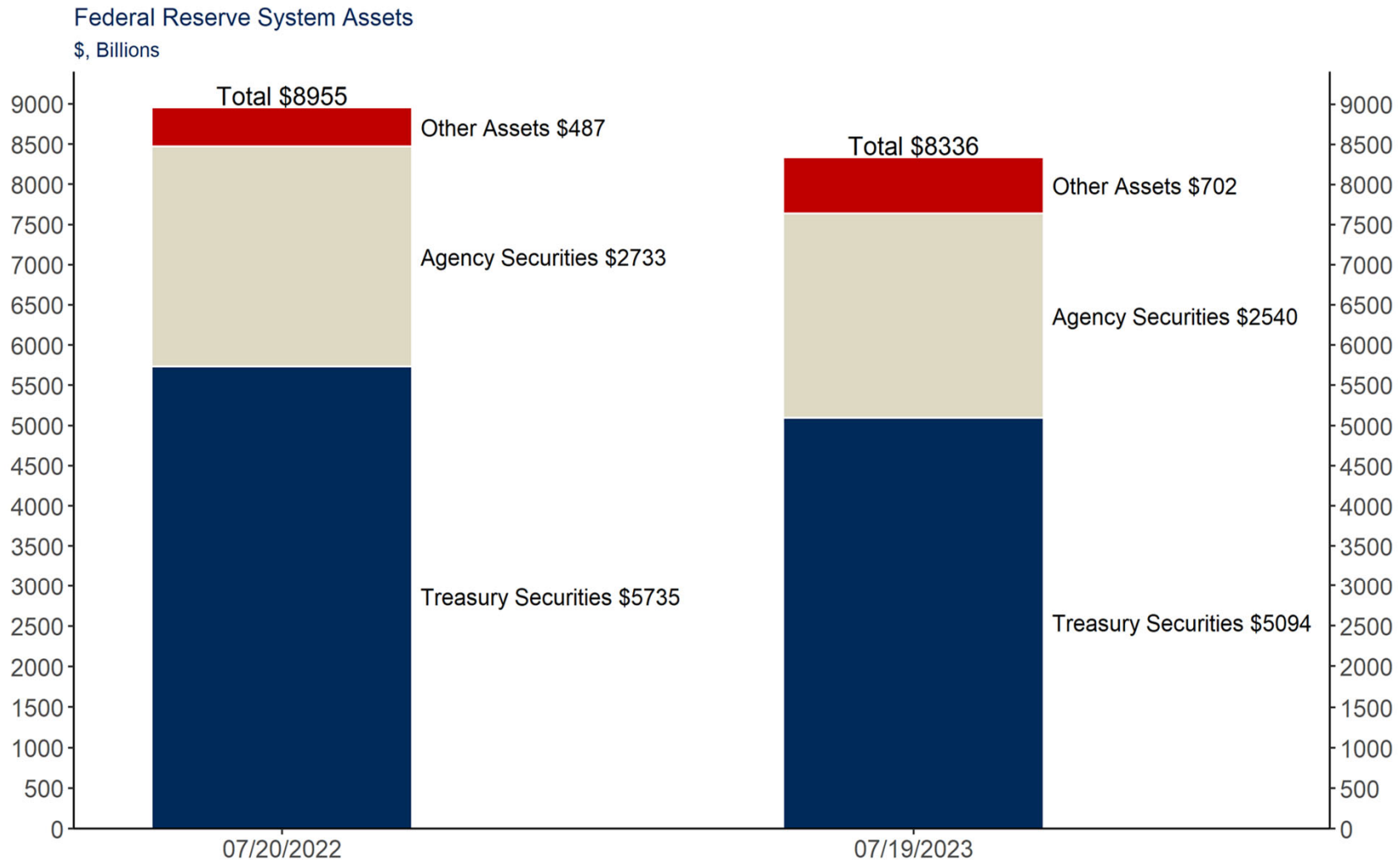
# Monetary Policy Instruments



# Monetary Policy Instruments



# Federal Reserve System Assets



Note: Numbers may not add up due to rounding.

Source: Board of Governors via Haver Analytics 18

# FOMC Statement

July 26, 2023

Recent indicators suggest that economic activity has been expanding at a moderate pace. Job gains have been robust in recent months, and the unemployment rate has remained low. Inflation remains elevated.

The U.S. banking system is sound and resilient. Tighter credit conditions for households and businesses are likely to weigh on economic activity, hiring, and inflation. The extent of these effects remains uncertain. The Committee remains highly attentive to inflation risks.

The Committee seeks to achieve maximum employment and inflation at the rate of 2 percent over the longer run. In support of these goals, ***the Committee decided to raise the target range for the federal funds rate to 5-1/4 to 5-1/2 percent.*** The Committee will continue to assess additional information and its implications for monetary policy. In determining the extent of additional policy firming that may be appropriate to return inflation to 2 percent over time, the Committee will take into account the cumulative tightening of monetary policy, the lags with which monetary policy affects economic activity and inflation, and economic and financial developments. In addition, the Committee will continue reducing its holdings of Treasury securities and agency debt and agency mortgage-backed securities, as described in its previously announced plans. The Committee is strongly committed to returning inflation to its 2 percent objective.

## Continued...

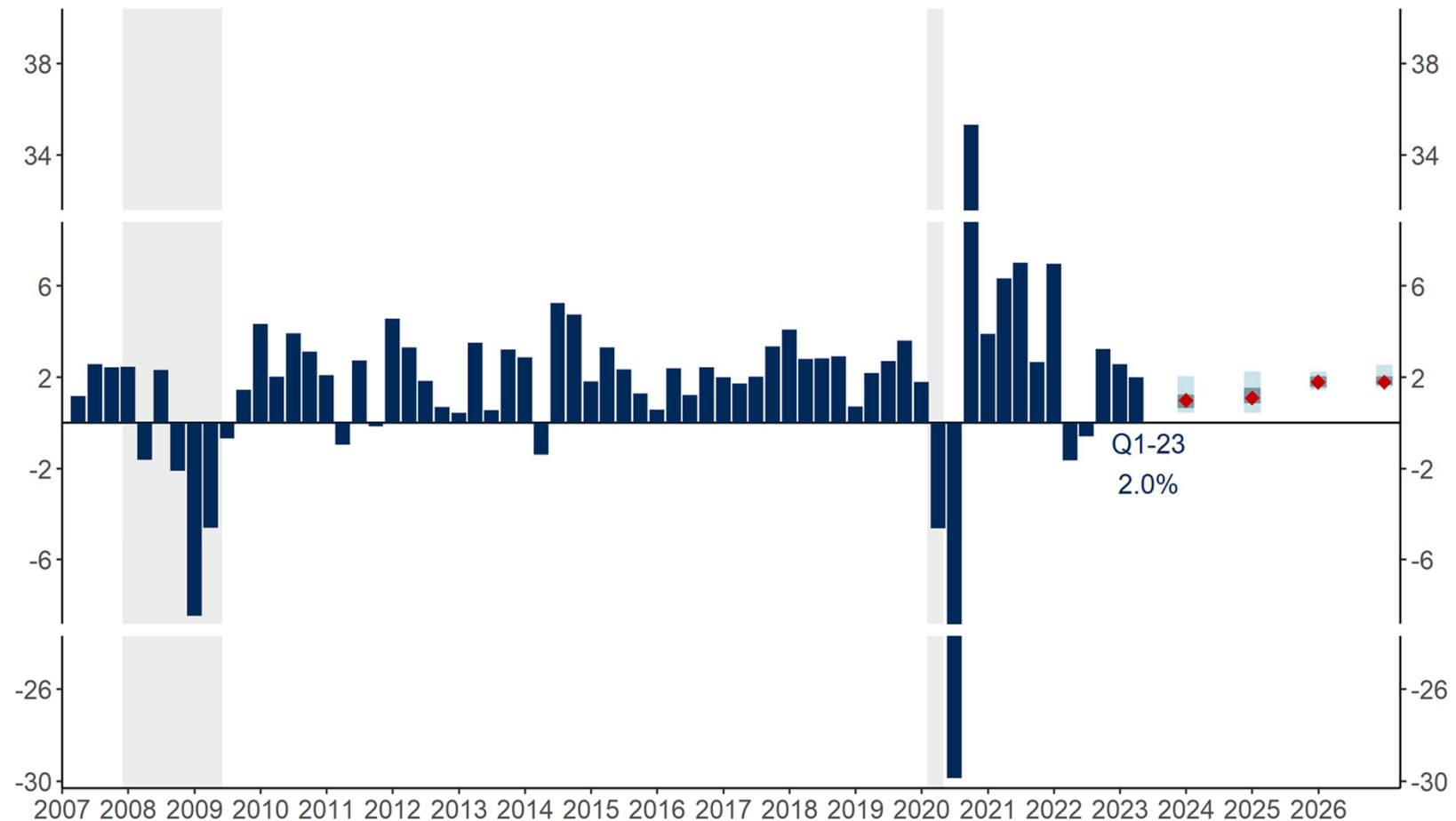
In assessing the appropriate stance of monetary policy, the Committee will continue to monitor the implications of incoming information for the economic outlook. The Committee would be prepared to adjust the stance of monetary policy as appropriate if risks emerge that could impede the attainment of the Committee's goals. The Committee's assessments will take into account a wide range of information, including readings on labor market conditions, inflation pressures and inflation expectations, and financial and international developments.

Voting for the monetary policy action were Jerome H. Powell, Chair; John C. Williams, Vice Chair; Michael S. Barr; Michelle W. Bowman; Lisa D. Cook; Austan D. Goolsbee; Patrick Harker; Philip N. Jefferson; Neel Kashkari; Lorie K. Logan; and Christopher J. Waller.

# Real Gross Domestic Product

## Real Gross Domestic Product

Percent change from previous quarter at annual rate

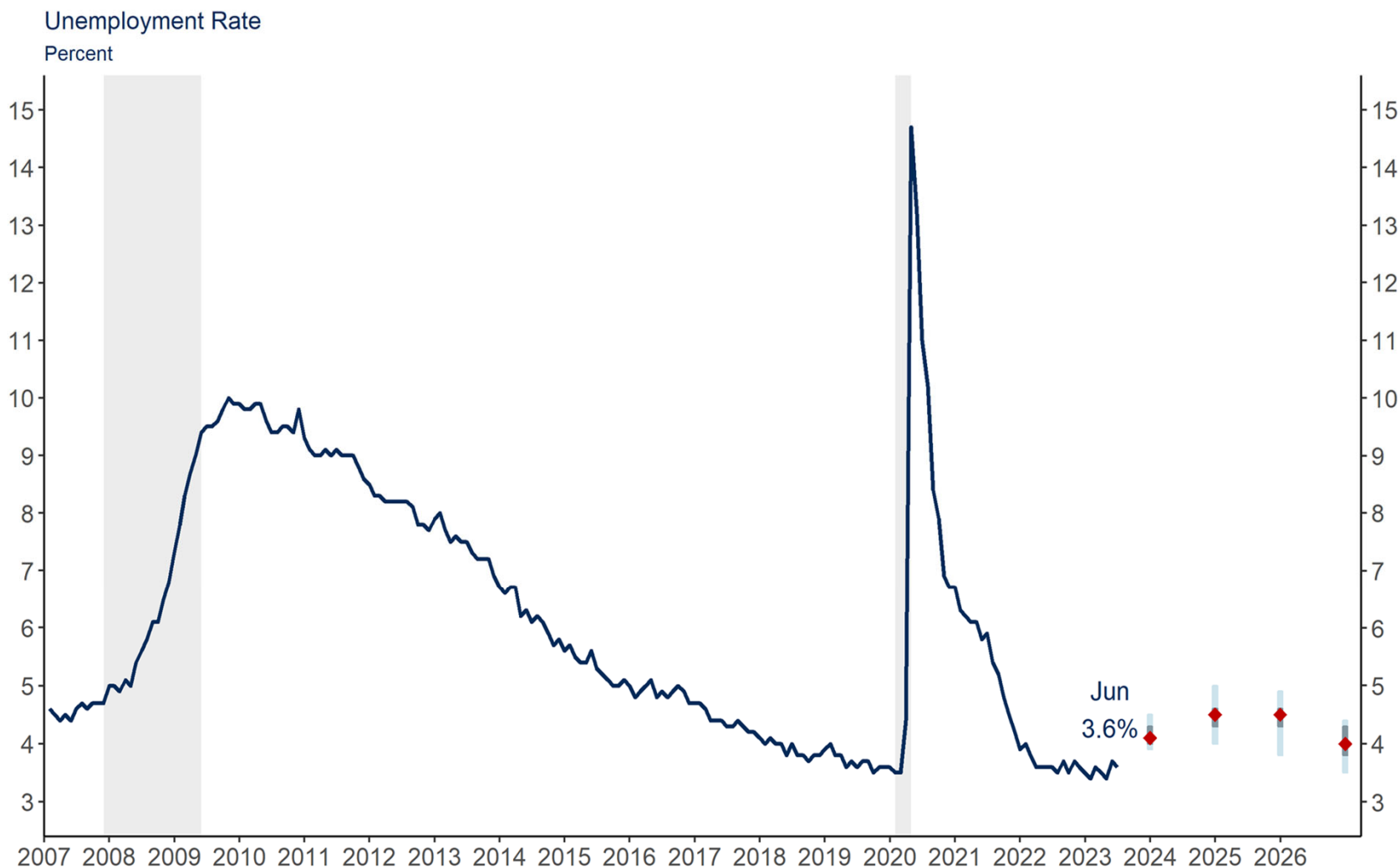


Note: Projection is the median, central tendency, and range from the June 2023 Summary of Economic Projections. Red dots indicate median projections. Projections of change in real gross domestic product (GDP) are from the fourth quarter of the previous year to the fourth quarter of the year indicated.

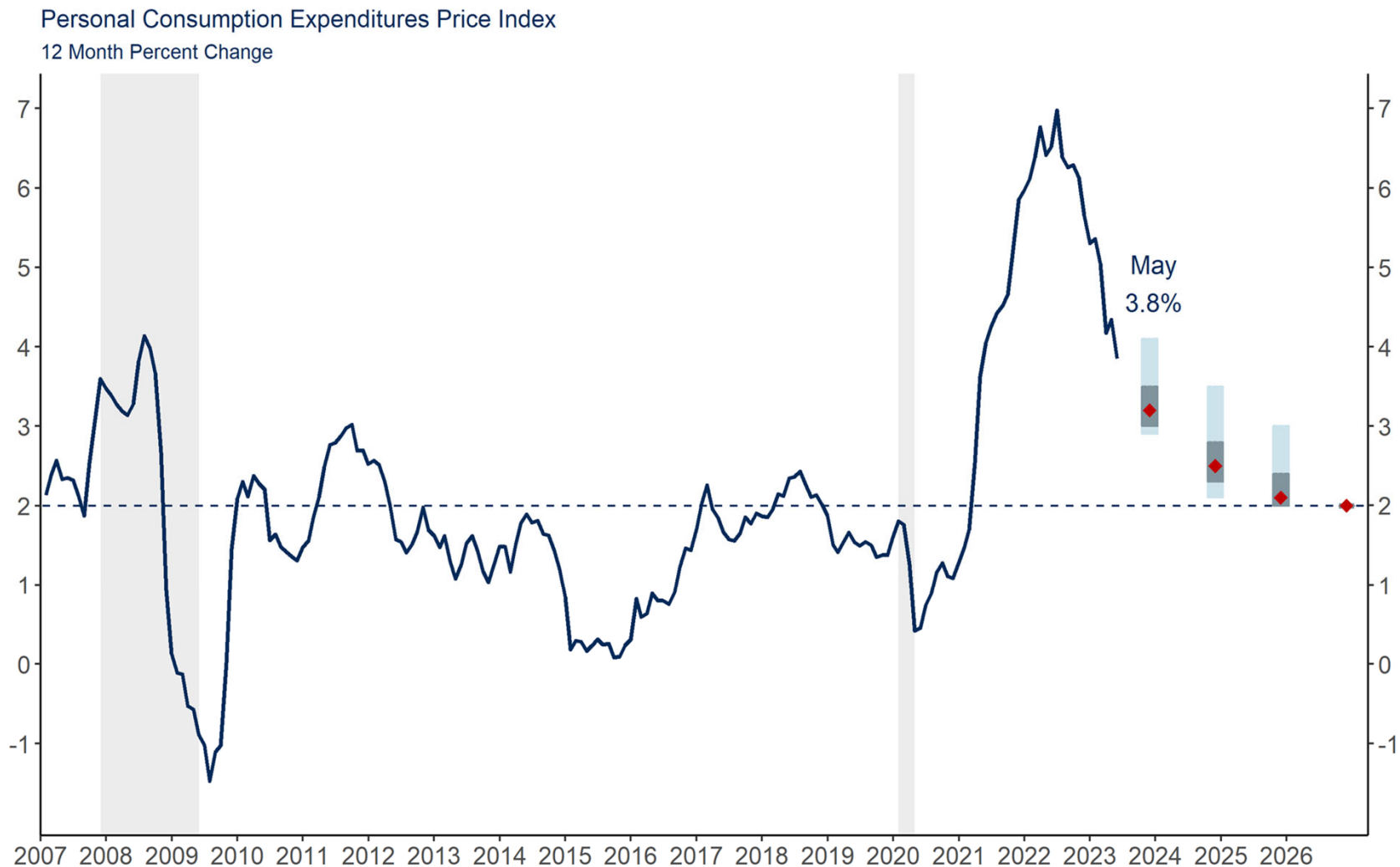
Source: Bureau of Economic Analysis via Haver Analytics & Federal Reserve Board



# Unemployment Rate



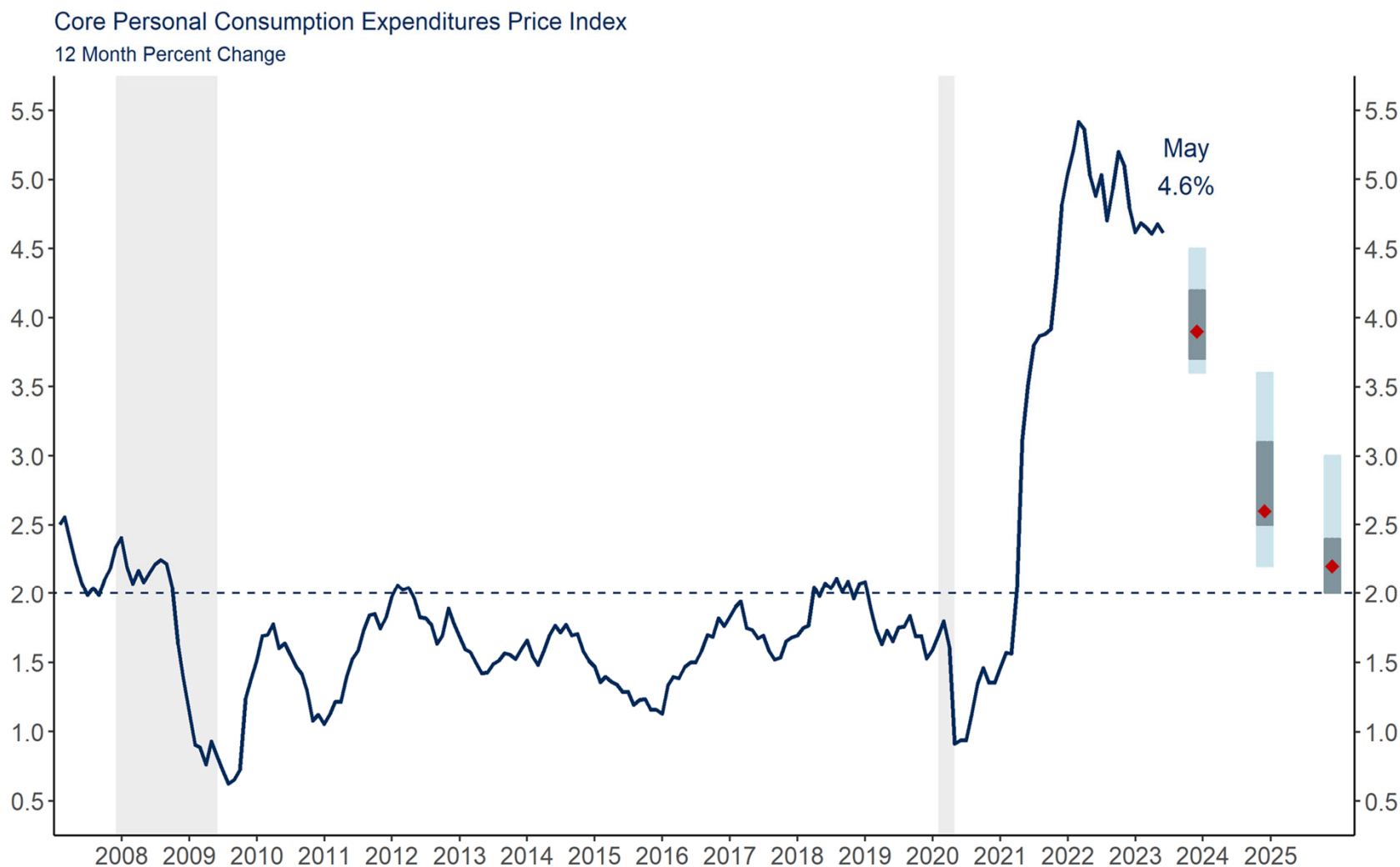
# Personal Consumption Expenditure Price Index



Notes: FOMC projection is the median, range, and central tendency for Q4/Q4 percent changes, from the March 2021 meeting. Red dots indicate median projections.

Source: Bureau of Economic Analysis & Board of Governors via Haver Analytics

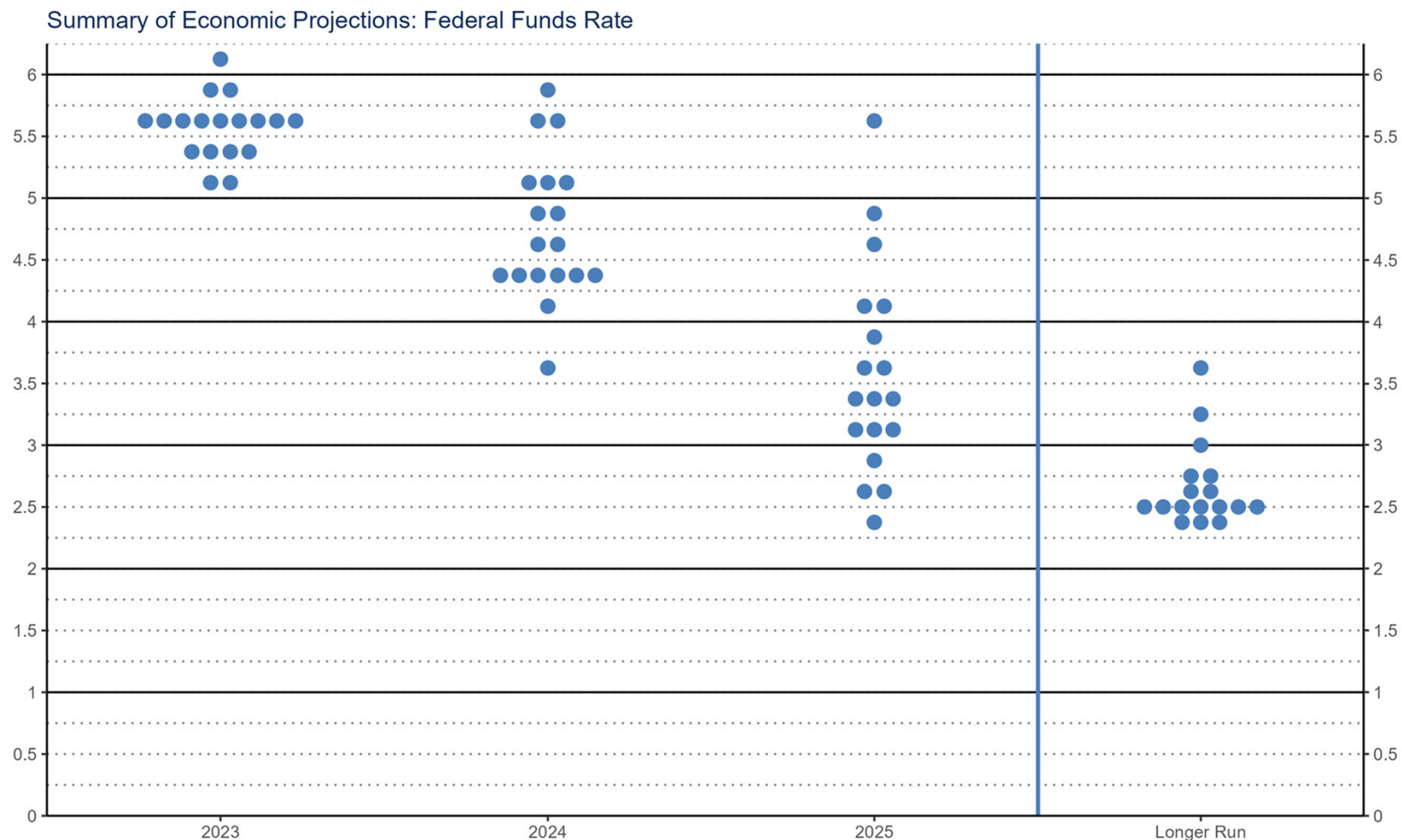
# Core Personal Consumption Expenditure Price Index



Notes: FOMC projection is the median, range, and central tendency for Q4/Q4 percent changes, from the March 2021 meeting. Red dots indicate median projections.

Source: Bureau of Economic Analysis & Board of Governors via Haver Analytics<sup>24</sup>

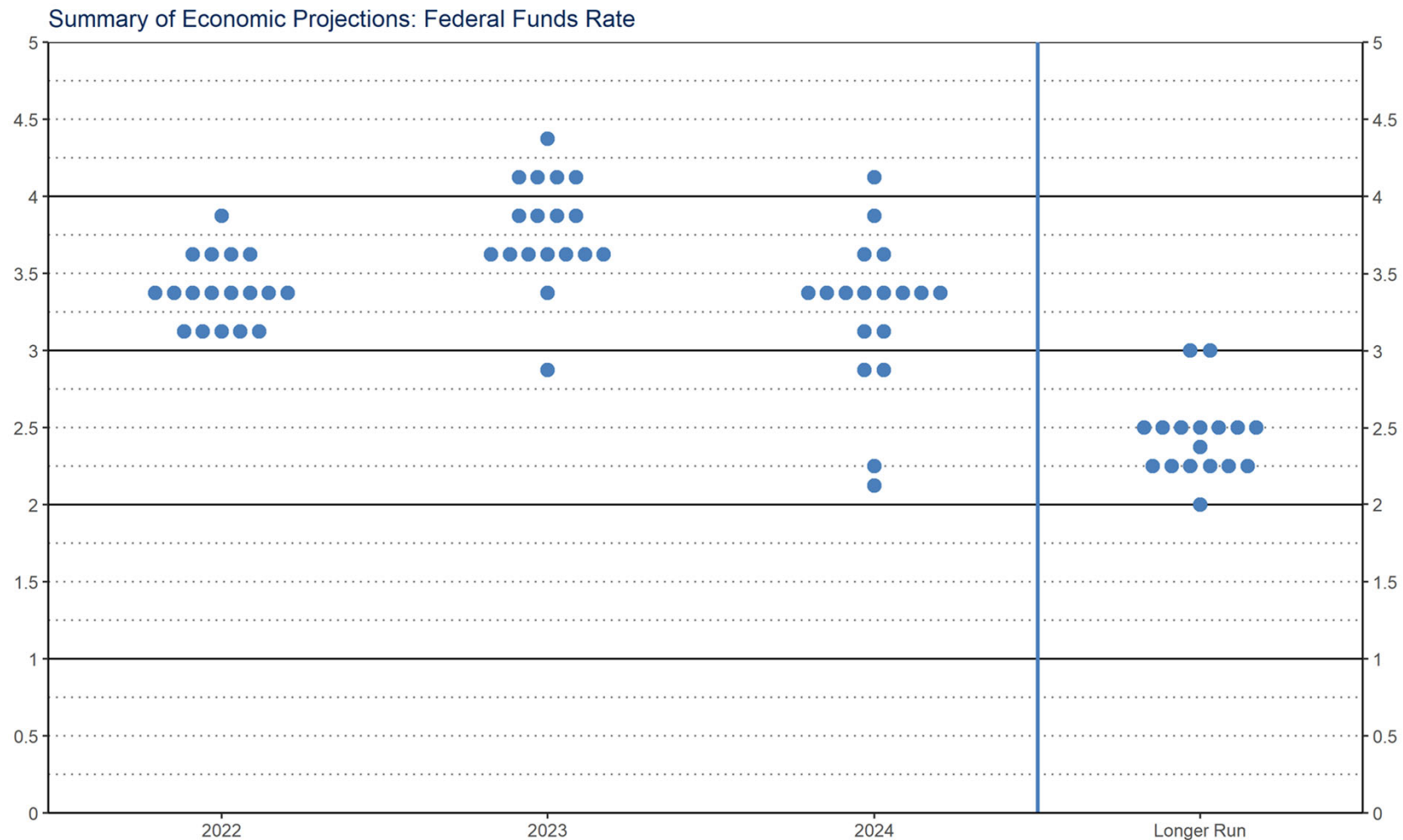
# Summary of Economic Projections: Federal Funds Rate



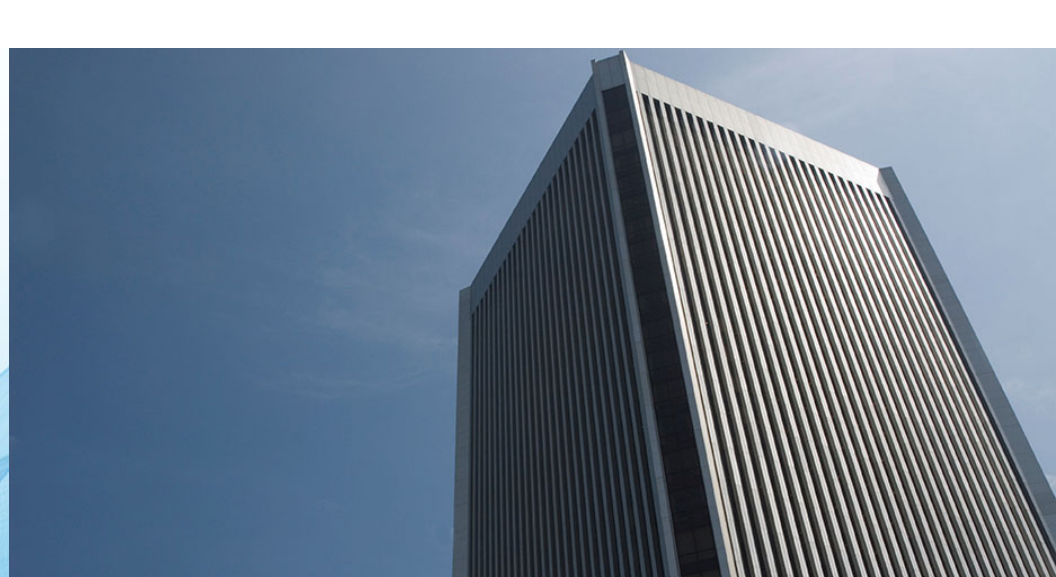
Note: Each dot in the chart represents the value of an FOMC participant's judgment of the midpoint of the appropriate target range (or the appropriate target level) for the federal funds rate at the end of the calendar year. Projections made for the June 2022 meeting.

Source: Board of Governors

# Summary of Economic Projections: Federal Funds Rate



Note: Each dot in the chart represents the value of an FOMC participant's judgment of the midpoint of the appropriate target range (or the appropriate target level) for the federal funds rate at the end of the calendar year. Projections made for the June 2022 meeting.



The views expressed here are those of the author, and do not necessarily represent those of the Federal Reserve Bank of Richmond or the Federal Reserve System.



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