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.

Time:	Monday	10:00 a.m. – 11:30 a.m.
	Tuesday	10:45 a.m. – 12:00 p.m.
	Thursday	8:00 a.m. – 10:30 a.m.
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Course Outline:

<u>Monday</u>

<u>Review of monetary policy</u>

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-Thursday (First Class)

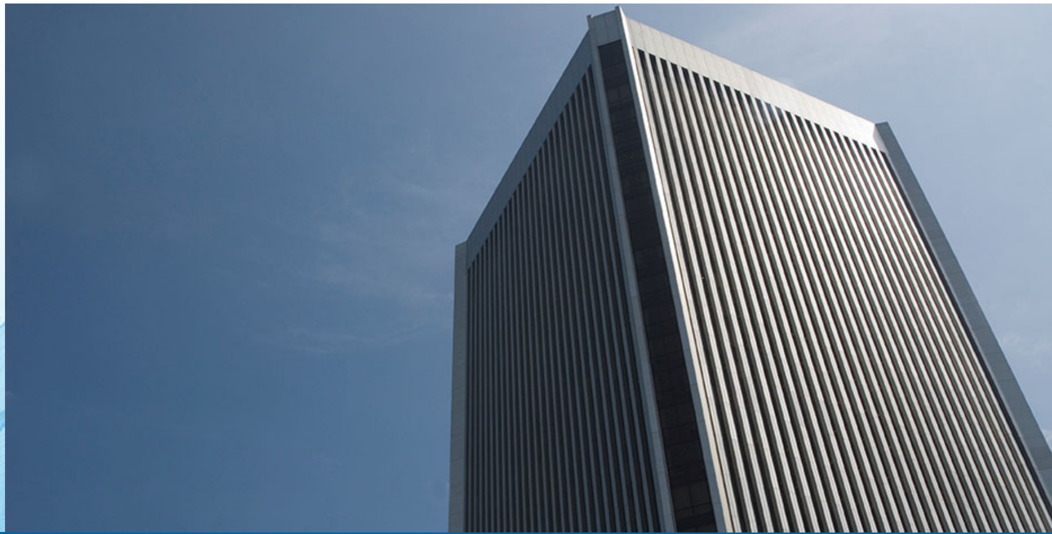
Each day we will meet in the classroom. The beginning of class will be devoted to answering questions. Groups will then split off and work on the presentation. Groups are able to meet in the classroom or go elsewhere to work on the presentation.

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

August 5, 2024

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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.

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The Definition of Monetary Policy

- Actions taken by the central bank to influence interest rates in the economy
- The **Federal Open Market Committee (FOMC)** conducts monetary policy by setting the target range for its policy rate -- the **federal funds rate**, the interest rate that banks charge each other for lending or borrowing reserve balances overnight.
- The federal funds rate is a key short-term interest rate that influences other interest rates in the economy

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"

<u>FOMC consensus statement:</u> (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

The Goals of Monetary Policy – The "Dual Mandate"

Statement on Longer-Run Goals and Monetary Policy Strategy (January 2024)

Price stability

- In order to anchor longer-term inflation expectations at this level (2%), the Committee seeks to achieve inflation that averages 2 percent over time, and therefore judges that, following periods when inflation has been running persistently below 2 percent, appropriate monetary policy will likely aim to achieve inflation moderately above 2 percent for some time.

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%

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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 implement monetary policy?

- The Fed implements the FOMC’s policies by using its monetary policy tools to steer the federal funds rate into the FOMC’s target range. The Fed’s toolbox is composed of many tools, including three key tools with associated interest rates that are referred to as the Fed’s administered rates:
  - **Interest on reserve balances (IORB) rate**: interest rate that banks earn from the Fed on the funds they deposit in their reserve balance accounts. ***IORB is the Fed's primary tool for guiding the federal funds rate***.
  - **Overnight reverse repurchase agreement (ON RRP) rate**: interest rate that a broad set of financial institutions can earn on deposits with the Fed. The ON RRP facility is a supplemental tool of monetary policy to help set a floor on short-term interest rates.
  - **Discount rate**: interest rate charged by the Federal Reserve to banks for loans obtained through the Fed's discount window.

So how does the Fed change the money supply?

- In addition, the Fed uses a fourth tool, **open market operations**, to ensure that the level of reserves in the banking system remains large enough that that small adjustments to the level of reserves do not affect the federal funds rate.
  - Traditionally, the FOMC's primary tool was 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)

Opportunity cost to holding money

- Think of money as the part of your wealth that is readily available to purchase goods and services
- Consumers do not keep all of their wealth readily available in the form of money for purchases. Why?
- There is an opportunity cost to holding money – the nominal interest it could earn elsewhere (CDs, mutual fund, etc.)
- Changes in interest rates changes this opportunity cost and how much money people will want to hold
  - Lower interest rates reduce the opportunity cost, so consumers hold more money (so consumers borrow more for purchases)
  - Higher interest rates increase the opportunity cost, so consumers hold less money (placing money in interest-bearing accounts/investments)

Opportunity cost to holding money

- Changes in interest rates changes this opportunity cost and how much money people will want to hold
  - Lower interest rates make (physical) investment opportunities more attractive, so business borrow more for investment purposes
  - Higher interest rates make (physical) investment opportunities more attractive, so business borrow less for investment purposes

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Monetary policy in action…

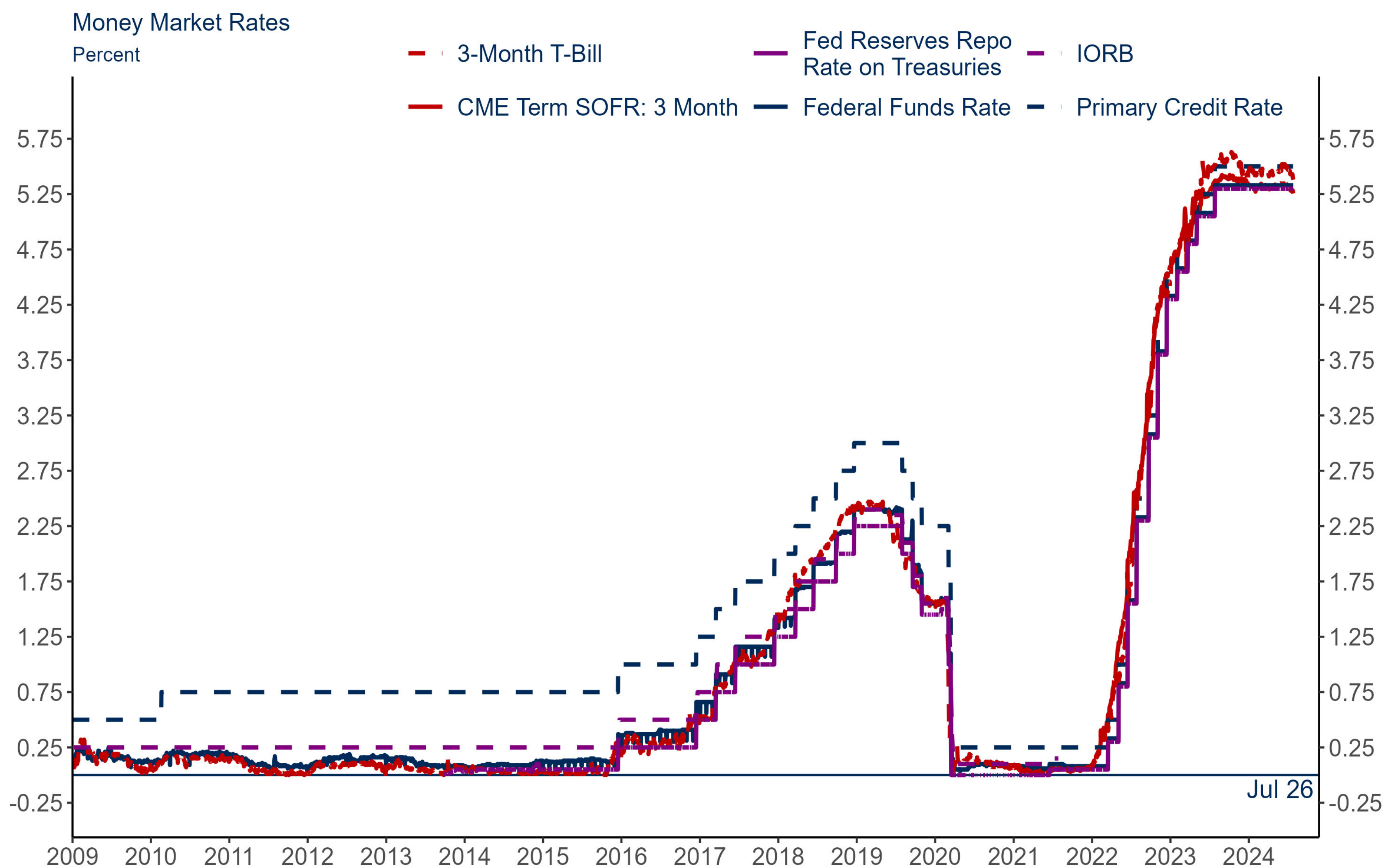
- ***When economic output is below potential*** due to weakness in the economy (weak consumer spending, business investment, government spending, net exports):
    - **Expansionary monetary policy**—lower interest rates and decrease the cost of holding money; stimulating consumer borrowing/spending and business investment

- ***When economic output is above potential*** due to strong demand:
    - **Contractionary monetary policy**—increase interest rates to increase the opportunity cost of holding money; dampening consumer borrowing/spending and business investment

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

Money Market Rates



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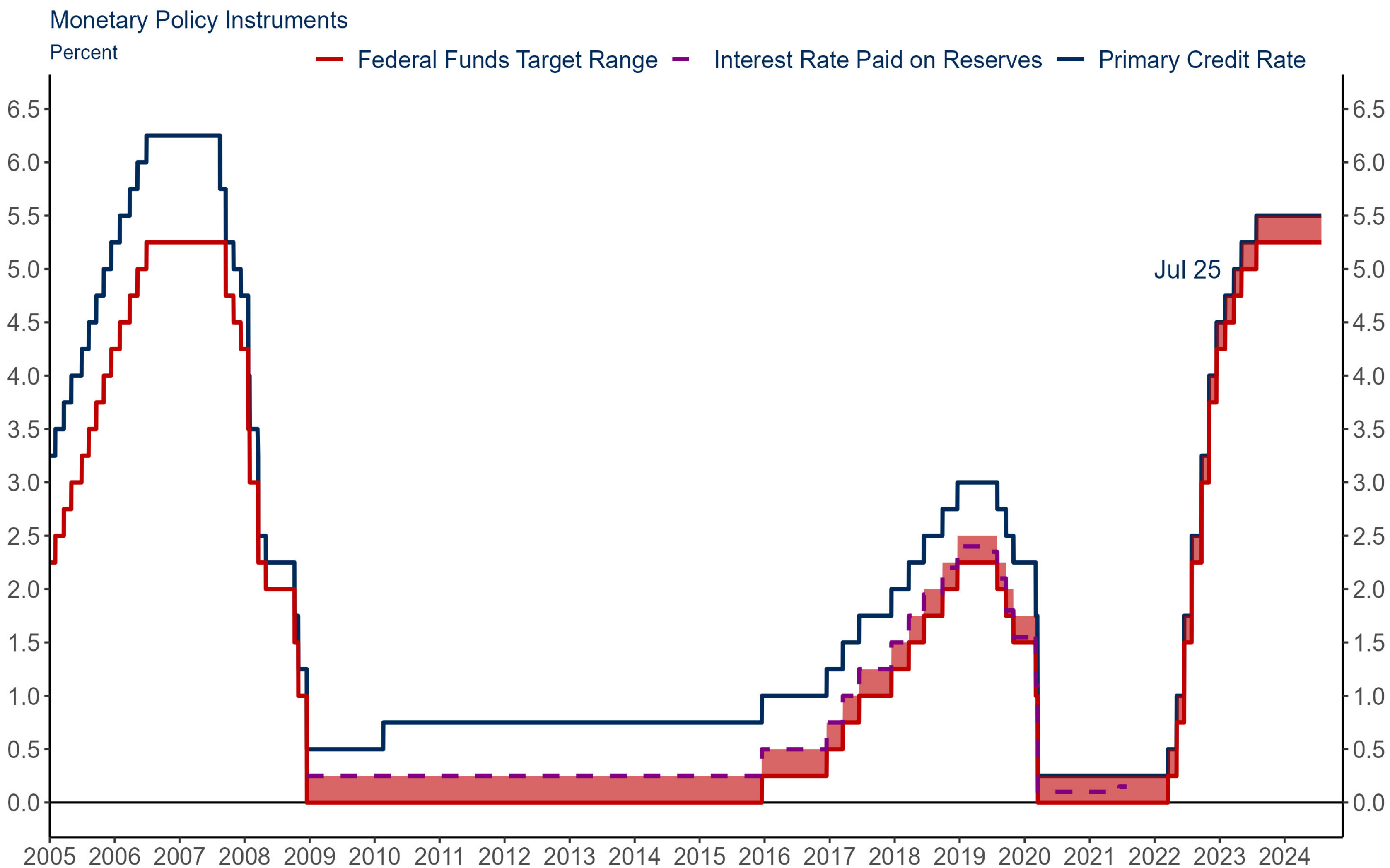
Source: Board of Governors & Financial Times via Haver Analytics & Bloomberg

So where is policy now?

Monetary Policy Instruments



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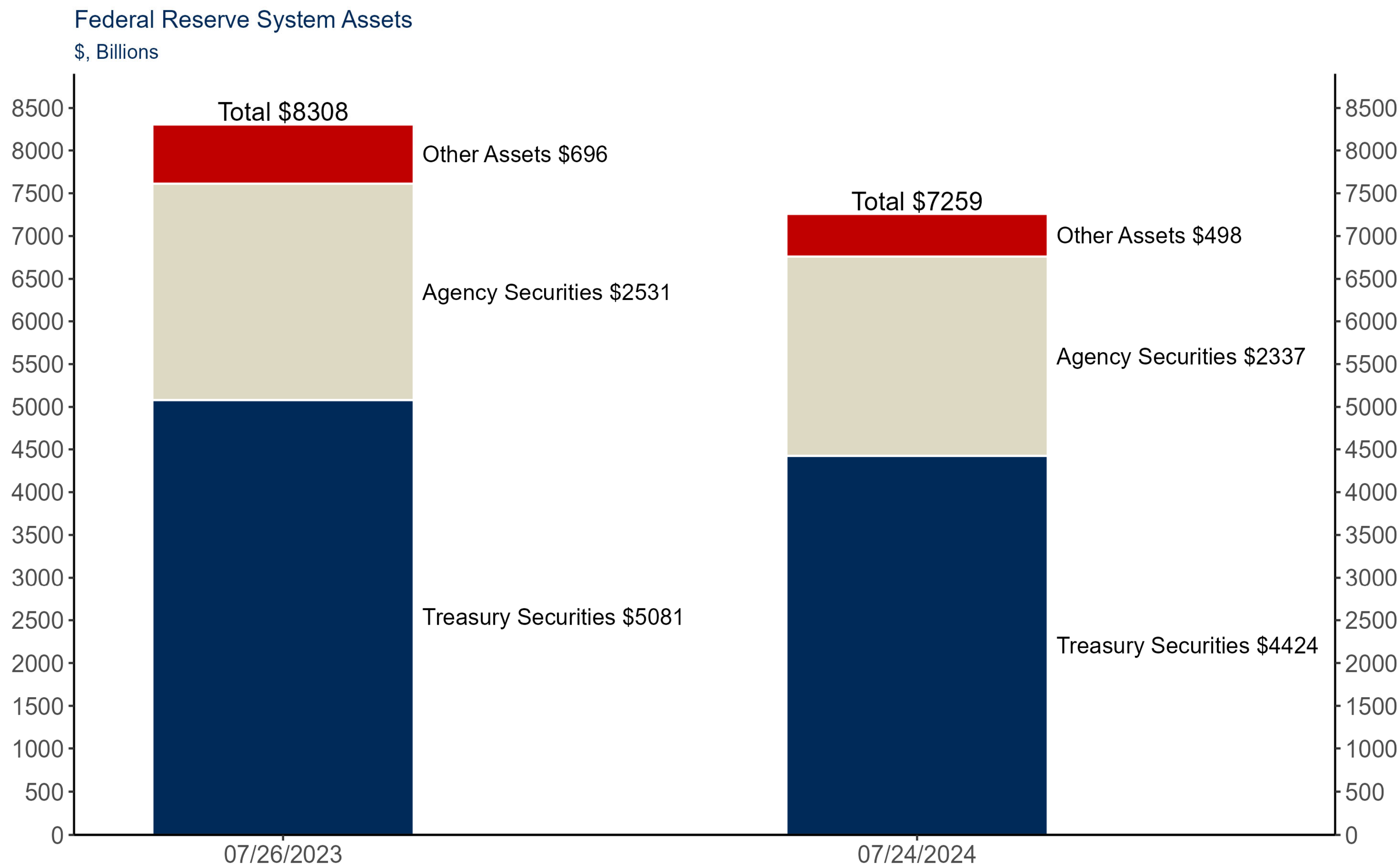
Source: Board of Governors via Haver Analytics

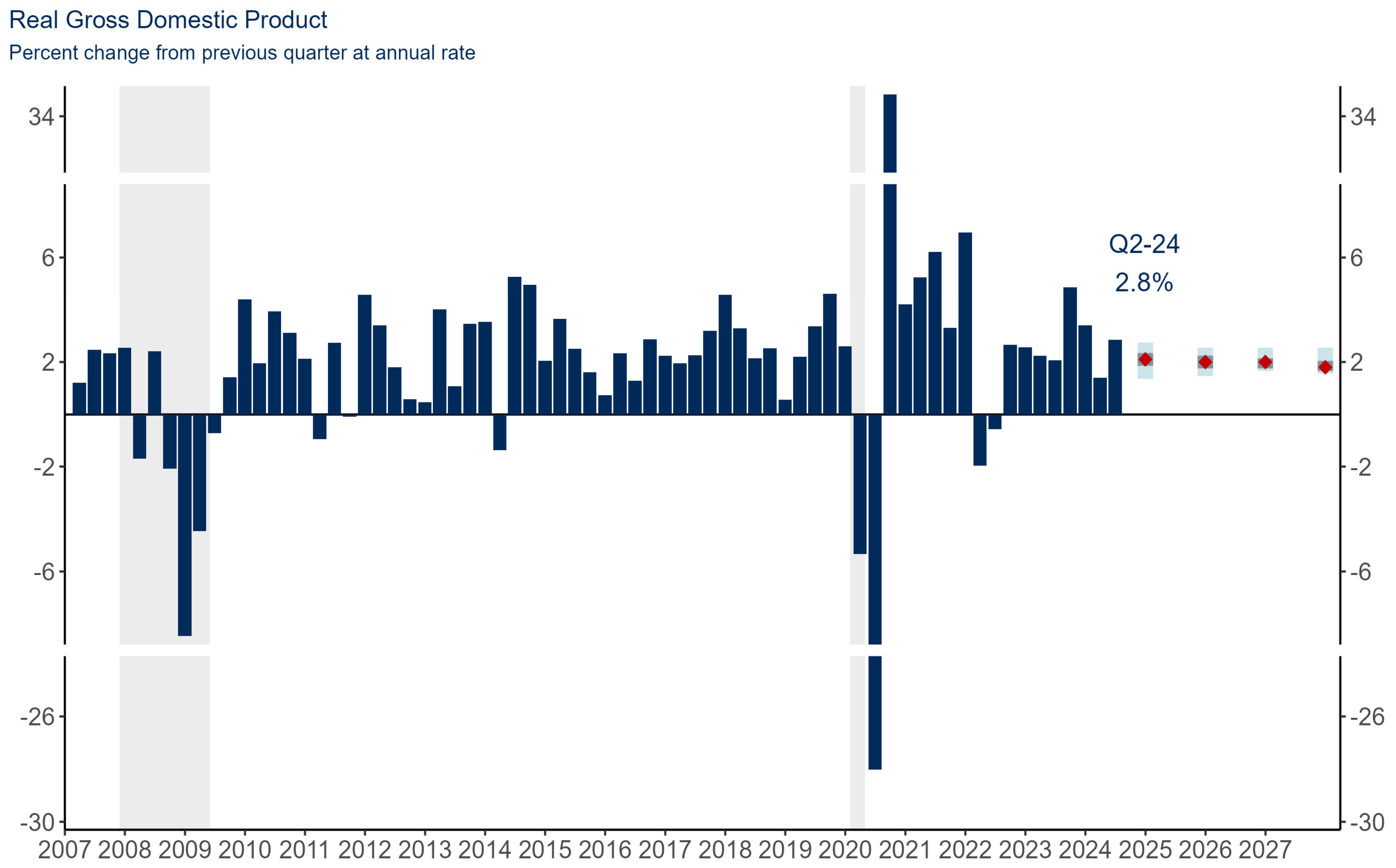
Federal Reserve System Assets



Note: Numbers may not add up due to rounding.

Source: Board of Governors via Haver Analytics

Real Gross Domestic Product



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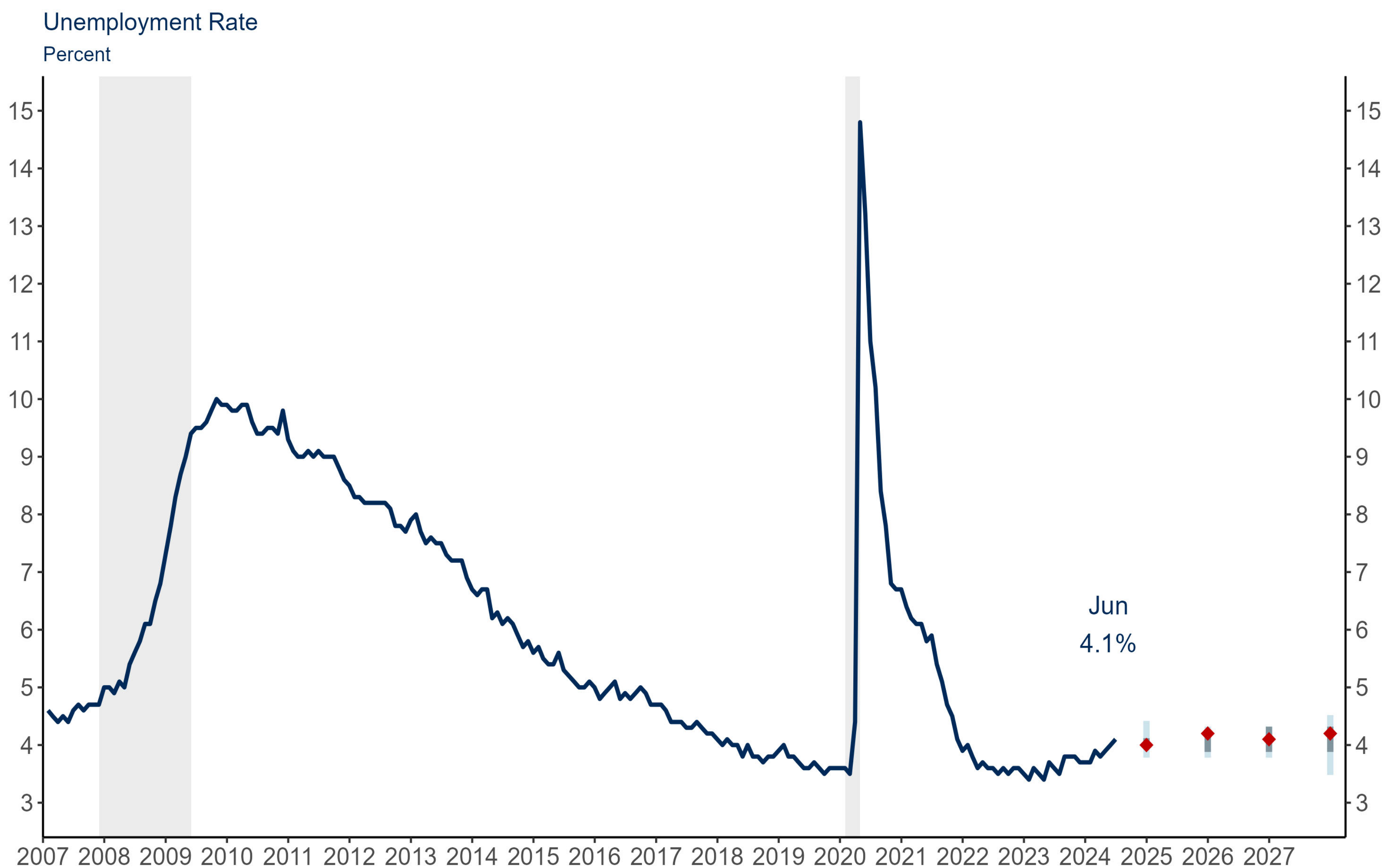
Note: Projection is the median, central tendency, and range from the June 2024 Summary of Economic Projections. Red dots indicate median projections. Projections of change in real gross domestic product (GDP) are from the fourth quarter of the previous year to the fourth quarter of the year indicated.
Source: Bureau of Economic Analysis via Haver Analytics & Federal Reserve Board

Unemployment Rate



Notes: FOMC projection is the median, range, and central tendency for the Q4 levels, from the June 2024 meeting. Red dots indicate median projections

Source: Bureau of Labor Statistics & Board of Governors via Haver Analytics

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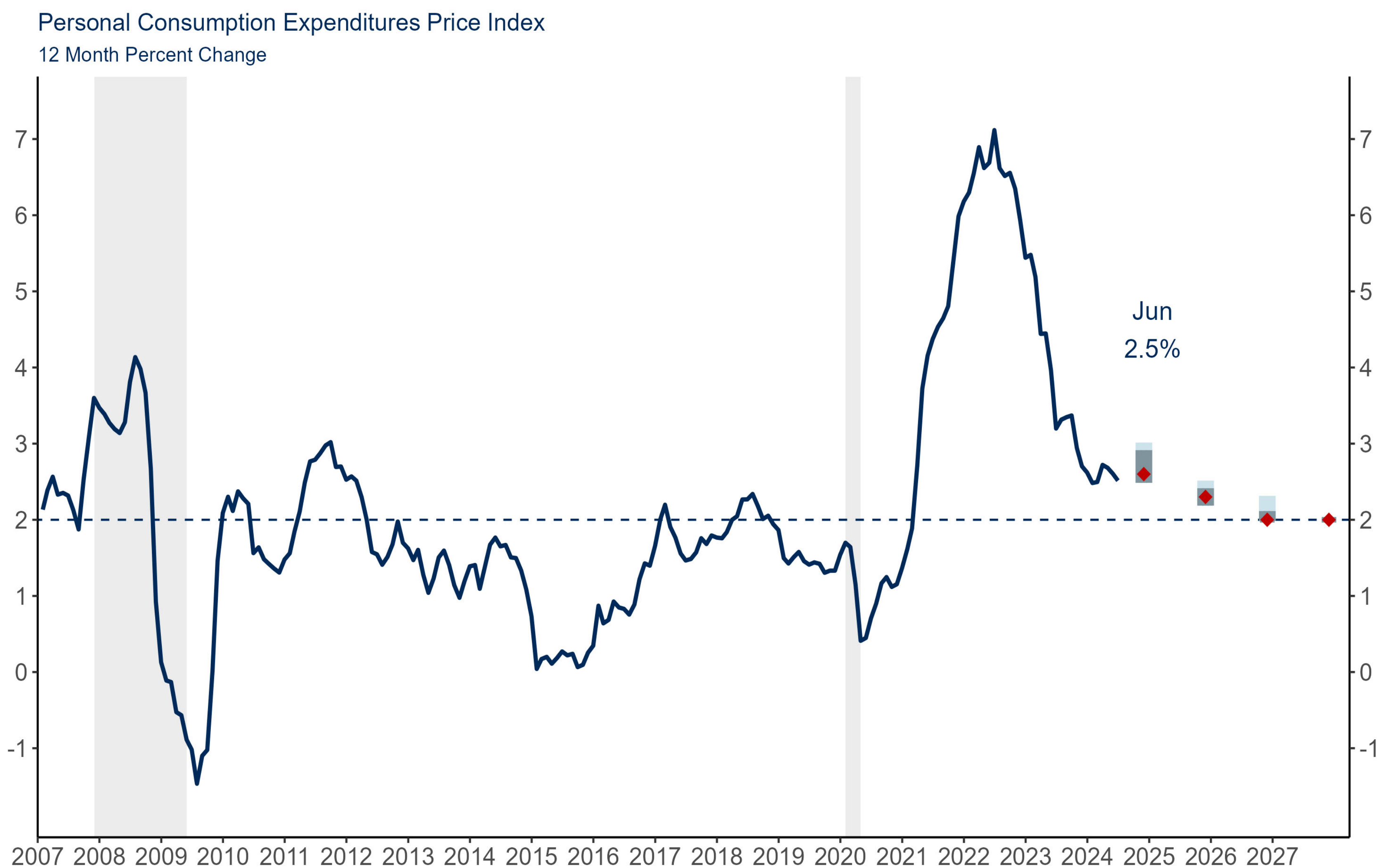
Personal Consumption Expenditure Price Index



Notes: FOMC projection is the median, range, and central tendency for Q4/Q4 percent changes, from the June 2024 meeting. Red dots indicate median projections.

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

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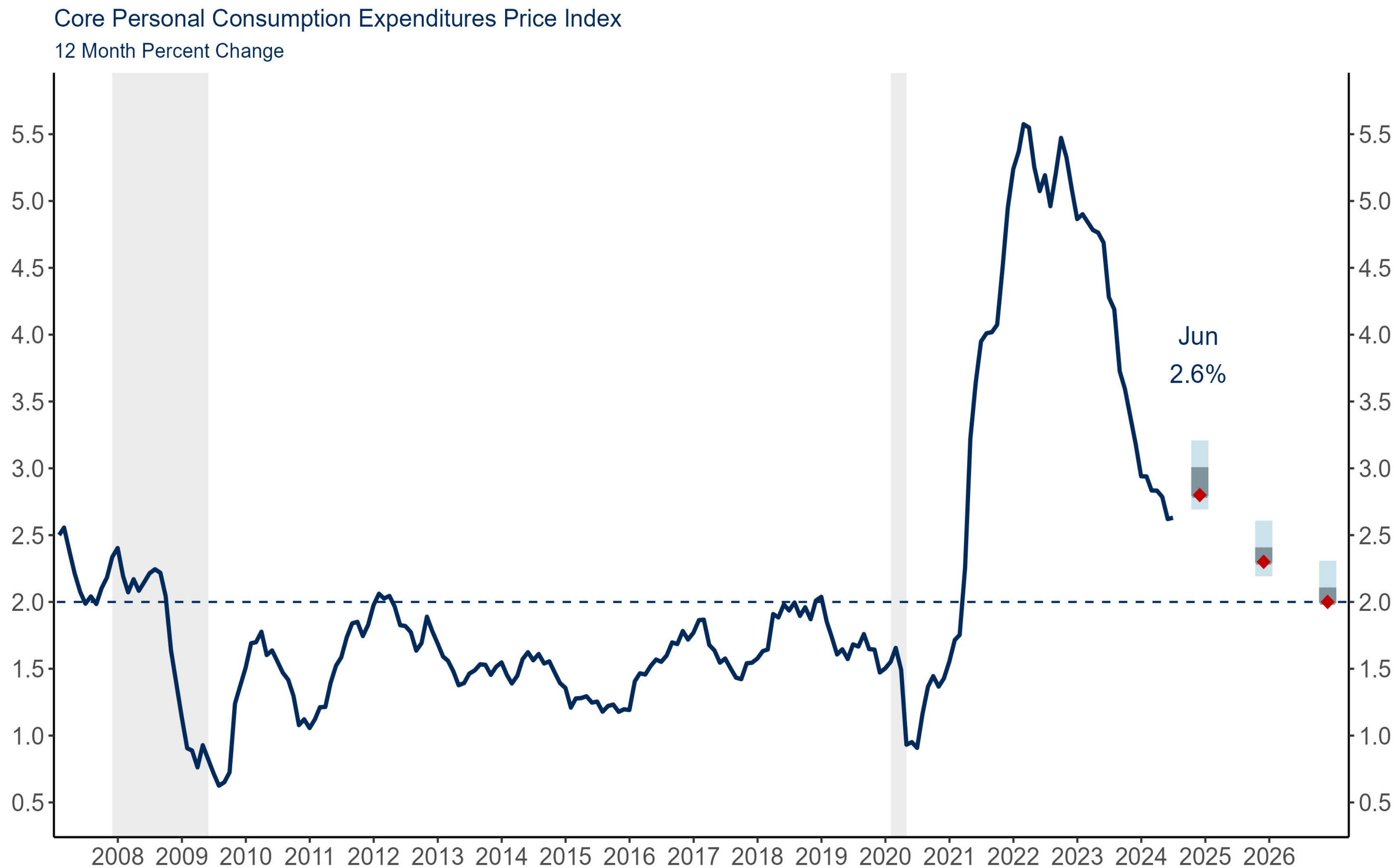
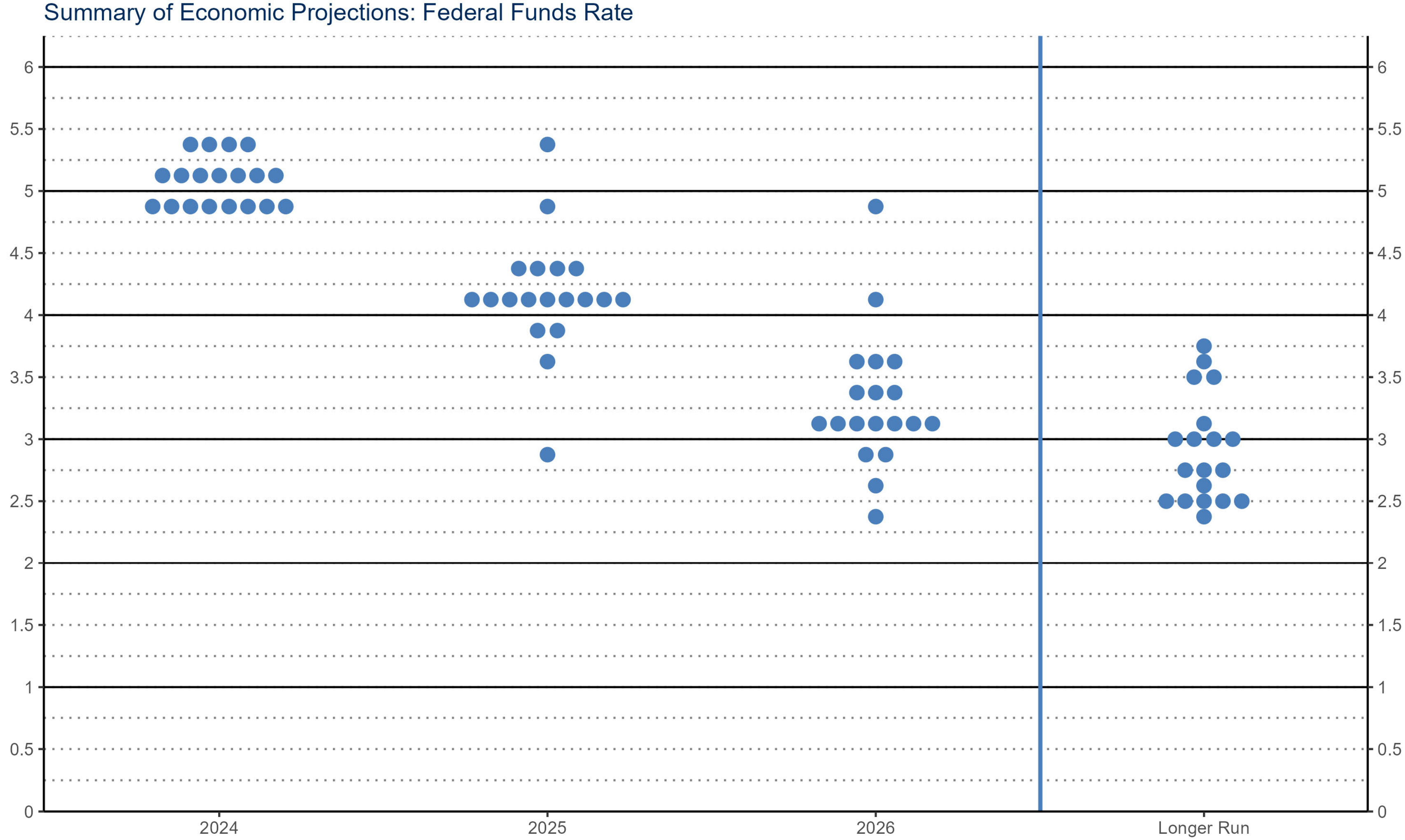
Core Personal Consumption Expenditure Price Index



Notes: FOMC projection is the median, range, and central tendency for Q4/Q4 percent changes, from the June 2024 meeting. Red dots indicate median projections.

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

Summary of Economic Projections: Federal Funds Rate



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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 March 2021 meeting.

Source: Board of Governors

FOMC Statement

July 31, 2024

Recent indicators suggest that economic activity has continued to expand at a solid pace. Job gains have moderated, and the unemployment rate has moved up but remains low. Inflation has eased over the past year but remains somewhat elevated. In recent months, there has been some further progress toward the Committee's 2 percent inflation objective.

The Committee seeks to achieve maximum employment and inflation at the rate of 2 percent over the longer run. The Committee judges that the risks to achieving its employment and inflation goals continue to move into better balance. The economic outlook is uncertain, and the Committee is attentive to the risks to both sides of its dual mandate.

In support of its goals, the Committee ***decided to maintain the target range for the federal funds rate at 5-1/4 to 5-1/2 percent***. In considering any adjustments to the target range for the federal funds rate, the Committee will carefully assess incoming data, the evolving outlook, and the balance of risks. The Committee does not expect it will be appropriate to reduce the target range until it has gained greater confidence that inflation is moving sustainably toward 2 percent. In addition, the Committee will continue reducing its holdings of Treasury securities and agency debt and agency mortgage-backed securities. The Committee is strongly committed to returning inflation to its 2 percent objective.

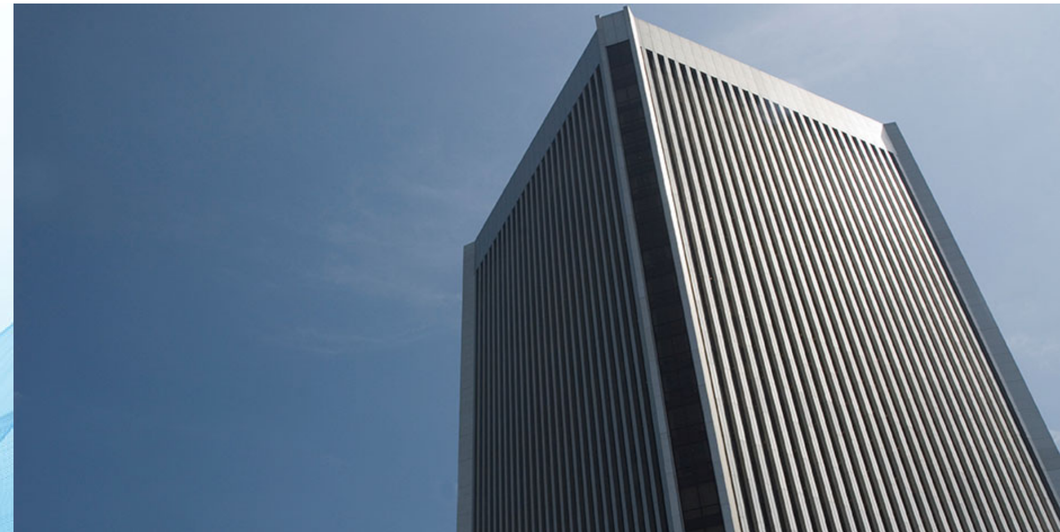
Source: Board of Governors

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; Thomas I. Barkin; Michael S. Barr; Raphael W. Bostic; Michelle W. Bowman; Lisa D. Cook; Mary C. Daly; Austan D. Goolsbee; Philip N. Jefferson; Adriana D. Kugler; and Christopher J. Waller. Austan D. Goolsbee voted as an alternate member at this meeting..

Source: Board of Governors



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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