

# Financial Institutions and the Economy I

## Part I

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THE FEDERAL RESERVE BANK OF RICHMOND  
RICHMOND ■ BALTIMORE ■ CHARLOTTE





# Goals & Objectives

## Year 1

- Learn about the economy – what drives long-run growth and become familiar with how the economy operates during the business cycle
- Understand key economic indicators & know how they are used to follow the economy
- Learn what monetary policy is, how it is conducted, and when it is appropriate

## Between Year 1 & Year 2

- Project: Section on the economy & monetary policy

## Year 2

- Using what was learned in year 1, evaluate the economy and put together a presentation that summarizes the economy, the risks to the outlook and give a monetary policy decision as if you were the FOMC





# Overview of the Economy

- Economic growth: long run vs. short run
- Following the economy
  - Economic output: Real GDP
  - Labor market
- Inflation
- Financial Markets
- Assessing the Regional Economy





# Economic Growth

- Long-run or potential growth
  - Depends on factors of production (land, labor, capital, technology)
  - Can decompose growth into labor & productivity
  - Productivity is key: determines growth in income & living standards
- Short-run Business cycle
  - Expansion → Recession → Recovery → Return to Expansion
  - GDP & employment vary considerably over the business cycle
  - Explaining the business cycle is difficult (no consensus)





# The economy in the long-run: potential growth

## How fast can labor can increase?

- Population – it only increases so fast
- Labor force participation – not everyone is willing or able to participate (retirees, disabled, unskilled, etc..)
- Economists generally think that labor force growth changes very slowly over time
- **Importantly, changes in the labor force are not influenced by monetary policy**





# The economy in the long-run: potential growth

## What determines productivity?

- Worker productivity is output per worker
- Factors that influence worker productivity include:
  - Technological innovations (e.g. computing, communications)
  - Industrial organization (e.g. structure of firms and markets)
  - Level of education of the workforce
  - Regulations
- Economists generally think that long-run (average) productivity cannot be influenced by monetary policy!





# The economy in the long-run: potential growth

- Real Output (Y) = Number of Employed x Worker Productivity
- Any change in the number or workers or productivity will change real output:

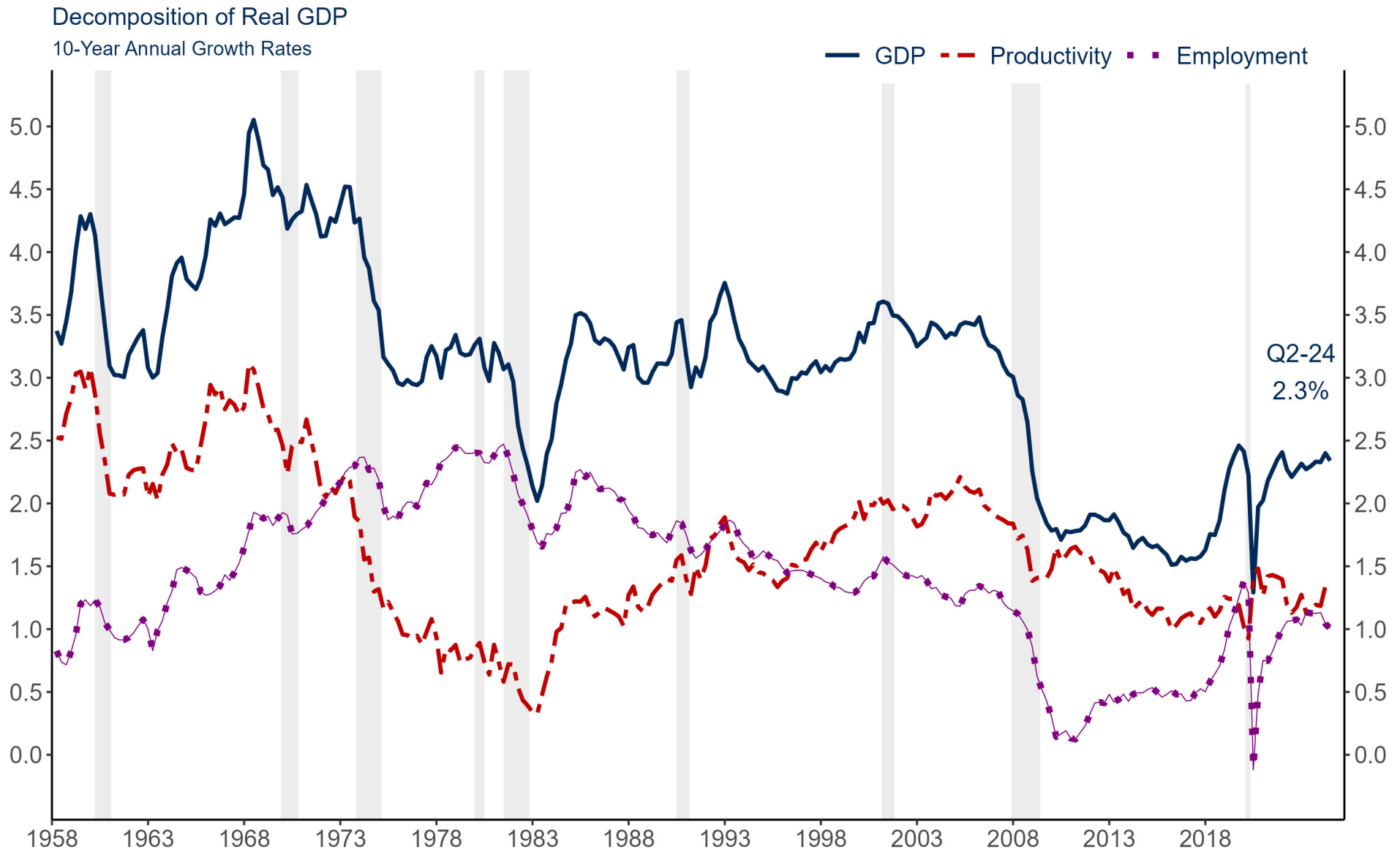
$$\% \Delta \text{ Output} = \% \Delta \text{ Employed} + \% \Delta \text{ Productivity}$$

$$\% \Delta \text{ Output} = 1.2\% + 1.8\%$$

- \* In this example, the real economy's long run growth potential is 3.0%



# Decomposition of Real GDP



Note: Productivity is calculated as real GDP per employee, from the Household Survey.

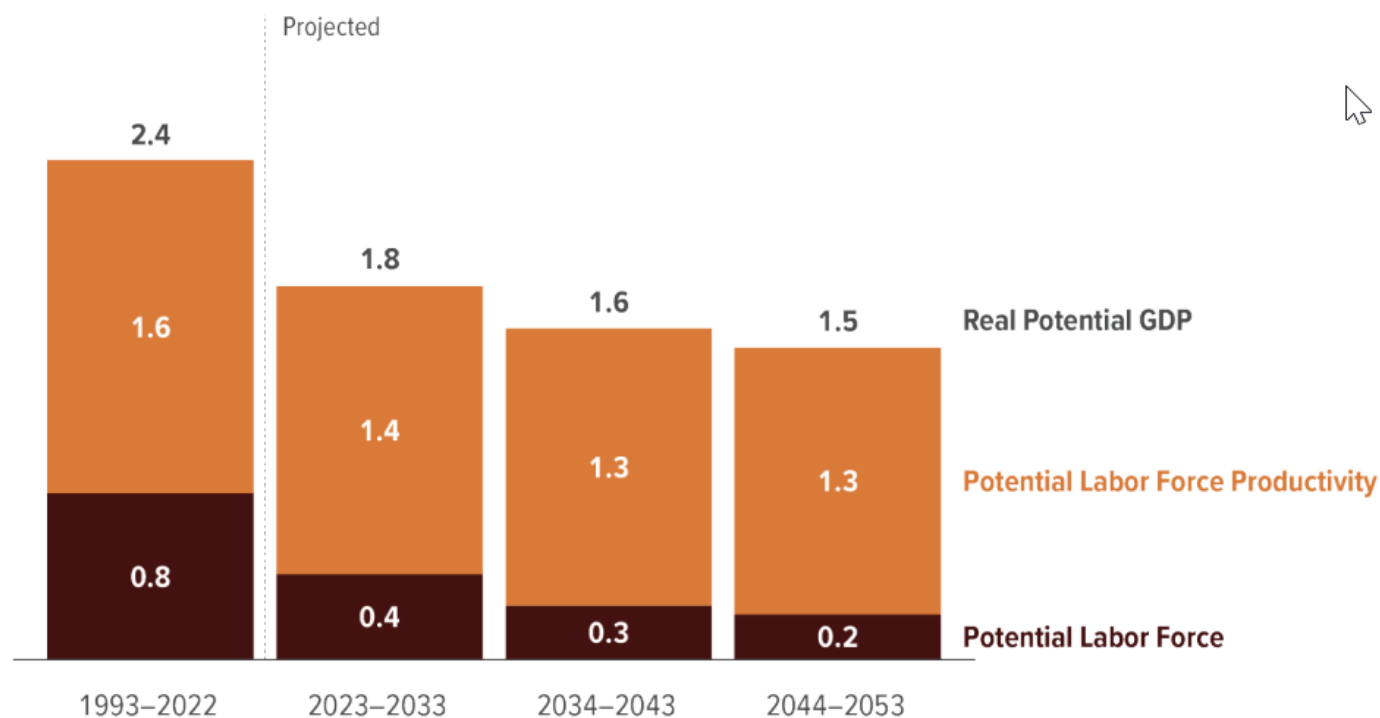
Source: Bureau of Economic Analysis and Bureau of Labor Statistics via Haver Analytics



# Estimates of potential output

## Average Annual Growth of Real Potential GDP and Its Components

Percent



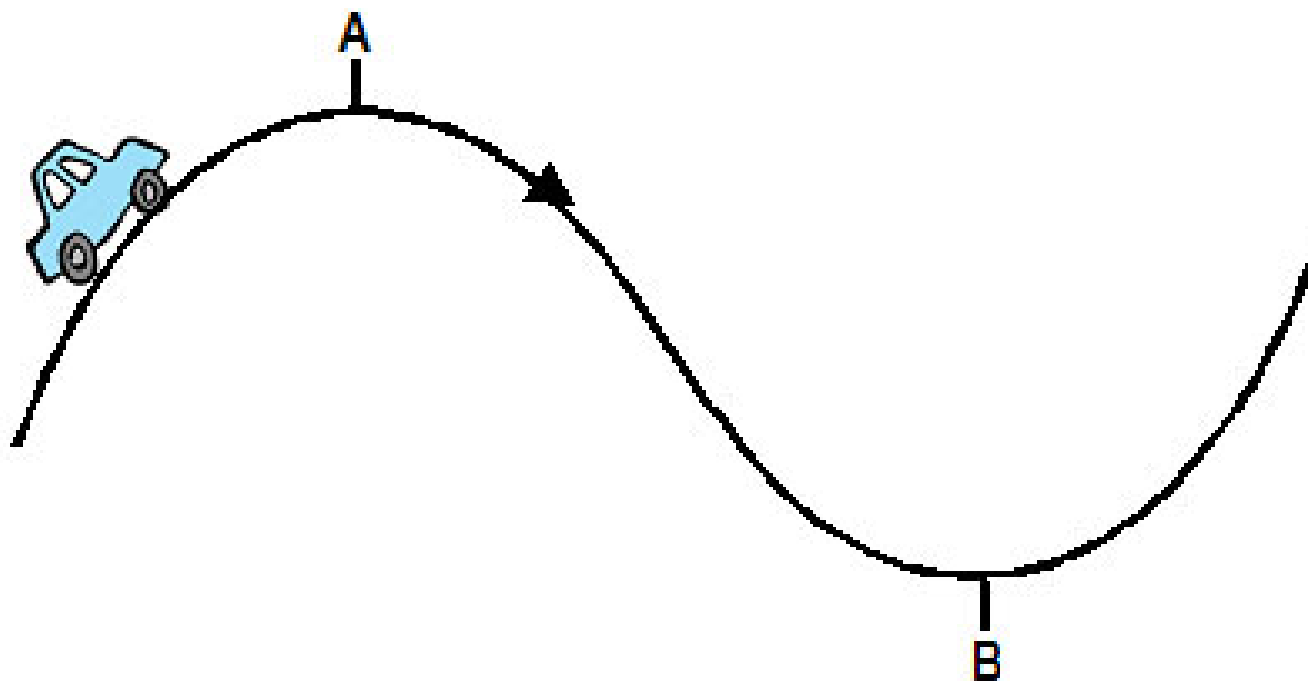
In CBO's projections, real potential GDP grows more slowly throughout the 2023–2053 period than it has, on average, over the past 30 years.

That slower growth is explained by slower growth in the potential labor force and in potential labor force productivity.

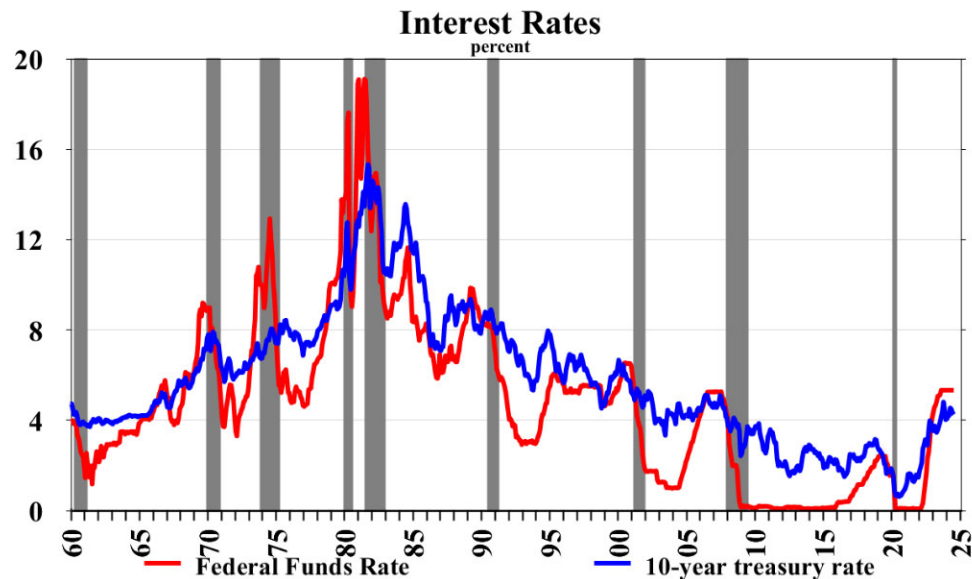
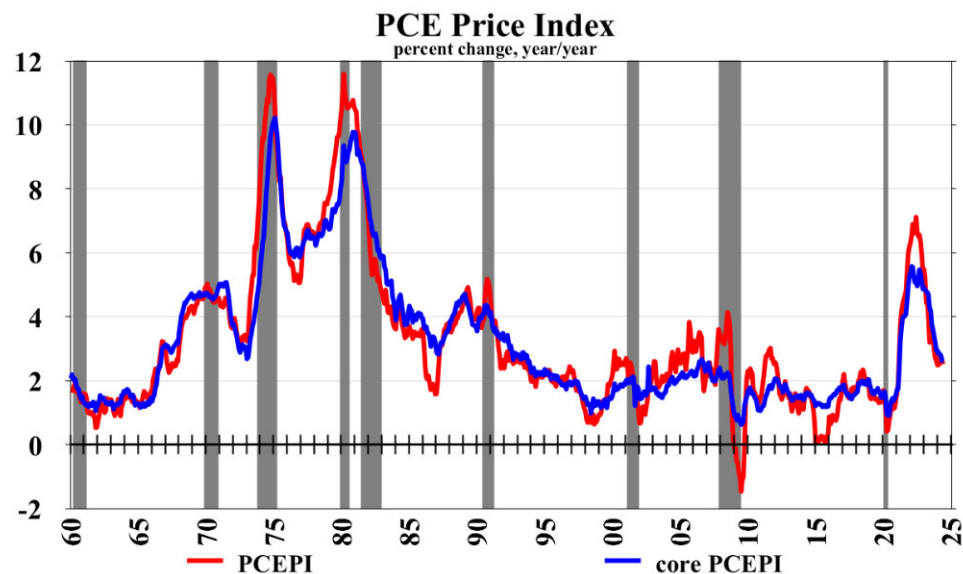
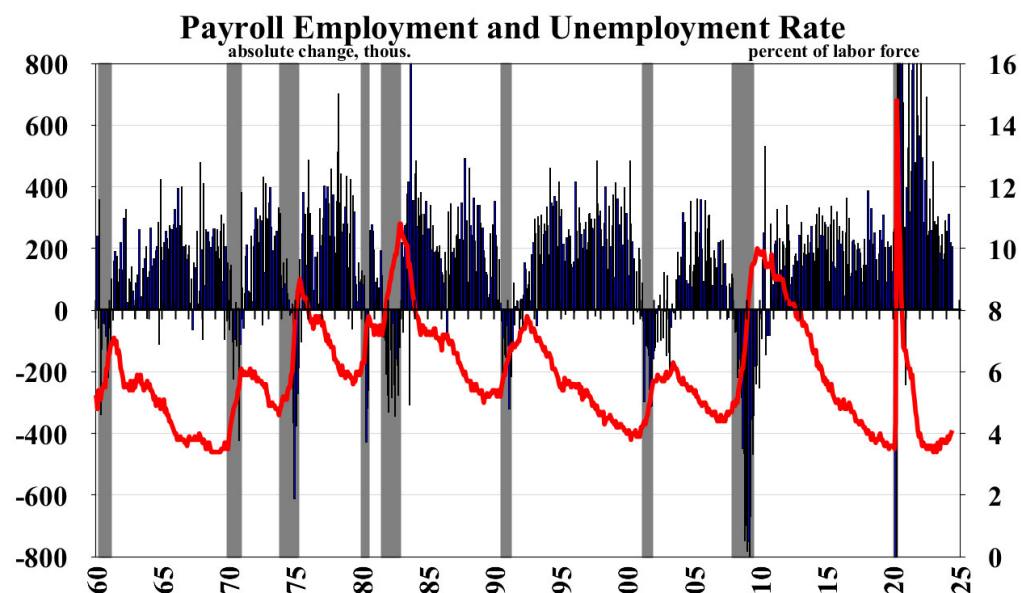
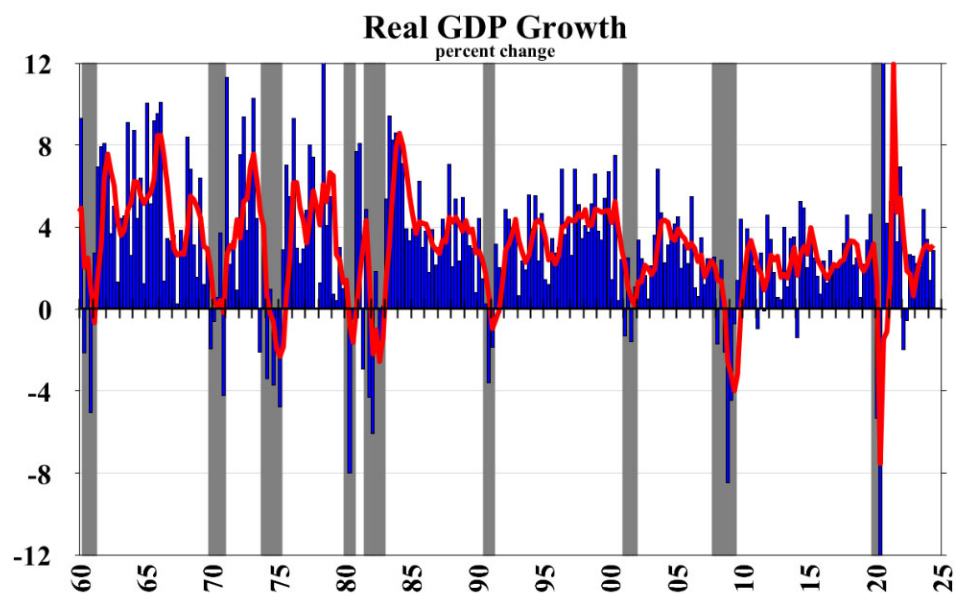




# The business cycle...



# The business cycle...





# Following the economy – output

## Real GDP

- Is the value of all final goods & services produced within a country in a given period of time
- Measures total income of everyone in the economy
- Measures total expenditure on the economy's output of goods & services
- Real GDP =
  - Consumption (70%)
  - Investment
    - Fixed Investment (12%)
    - Change in Private Inventories (0.6%)
  - Government (21%)
  - Net exports [exports less imports] (-3.5%)



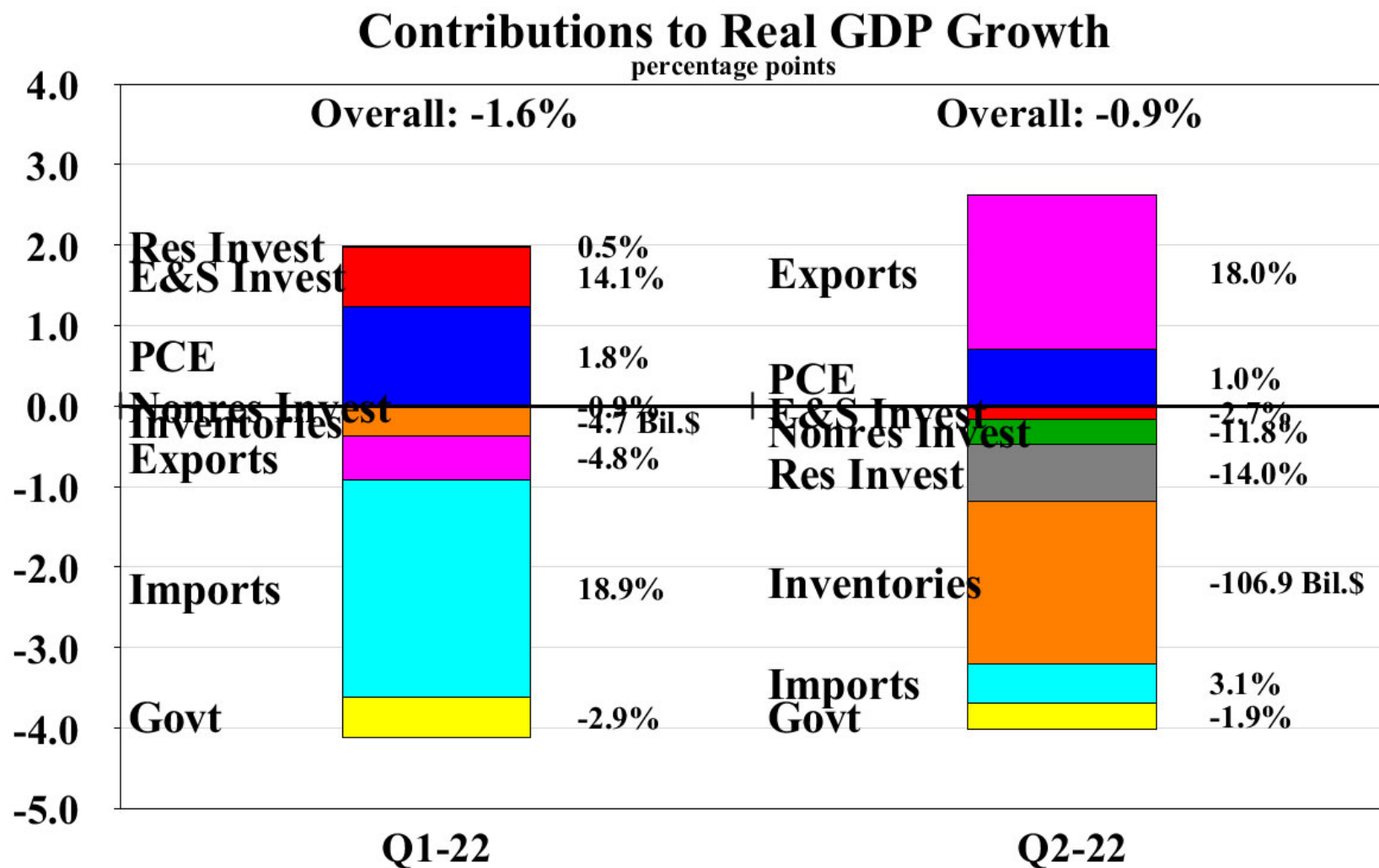


# Real Gross Domestic Product

	2023				2024
	Q1	Q2	Q3	Q4	Q1
<b>CHANGE FROM PREVIOUS QUARTER AT COMPOUND ANNUAL RATE [Percent]:</b>					
Gross Domestic Product	2.2	2.1	4.9	3.4	1.4
Personal Consumption Expenditures	3.8	0.8	3.1	3.3	1.5
Nonresidential Fixed Investment	5.7	7.4	1.4	3.7	4.4
Structures	30.3	16.1	11.2	10.9	3.4
Equipment	-4.1	7.7	-4.4	-1.1	1.6
Intellectual Property	3.8	2.7	1.8	4.3	7.7
Residential Fixed Investment	-5.3	-2.2	6.7	2.8	16.0
Exports of Goods & Services	6.8	-9.3	5.4	5.1	1.6
Imports of Goods & Services	1.3	-7.6	4.2	2.2	6.1
Government Consumption Expenditures & Gross Investment	4.8	3.3	5.8	4.6	1.8
Final Sales to Domestic Purchasers	3.8	2.0	3.5	3.5	2.4
<b>LEVEL IN QUARTER AT SEASONALLY ADJUSTED ANNUAL RATE [Billions of Chained (2012) Dollars]:</b>					
Change in Private Inventories	27.2	14.9	77.8	54.9	28.6
Net Exports of Goods & Services	-935.1	-928.2	-930.7	-918.5	-960.3



# Following the economy – Real GDP





## Following the economy – other indicators

- Unfortunately, real GDP comes out with a lag and is subject to revision? How to get a better sense of current economic conditions?
- Real-time real GDP measures:
  - Atlanta Fed “nowcasting”
- Surveys – Institute for Supply Management (ISM)
  - Federal Reserve surveys
    - Federal Reserve Bank Surveys of Economic Activity
    - Board Survey of Senior Loan Officers
  - Industry surveys: National Association of Homebuilders, Architecture Billings Index (AIA), NIFB Small Business Survey, Conference Board Survey of Consumer Confidence, University of Michigan Survey of Consumer Sentiment,...
- Anecdotal information





## Following the economy – other indicators

- Unfortunately, real GDP comes out with a lag and is subject to revision? How to get a better sense of current economic conditions?
- Data releases:
  - Consumer sector: retail sales, personal income & sales, light vehicle sales, consumer credit, household finances
  - Manufacturing: surveys, industrial production, orders & shipments, inventories
  - Housing: starts & permits, sales, home prices, inventories, delinquencies & foreclosures, household formation
  - Commercial real estate: property values, new construction, rental rates, vacancy rates, absorption rates,....
  - Labor market indicators: monthly labor report, initial claims, JOLTS, surveys
  - Inflation: CPI, PCEPI, PPI, commodity prices



# Following the economy...key sectors

## Consumer Spending

Factors supporting spending:

- Household income
- Changes in wealth
- Expectations of future income
- Changes in prices, taxes

## Residential Investment

Factors supporting demand:

- Household income
- Changes in wealth
- Expectations of future income
- Changes in prices
- Household formation

Supply factors:

- Cost of land, labor, materials, finance
- Regulatory factors
- Uncertainty



# Following the economy...key sectors

## Business Investment

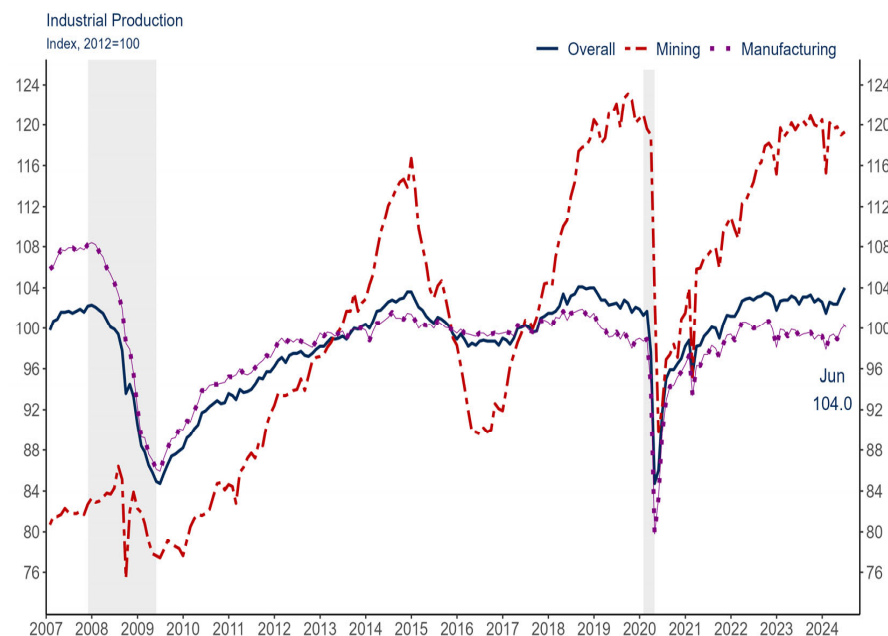
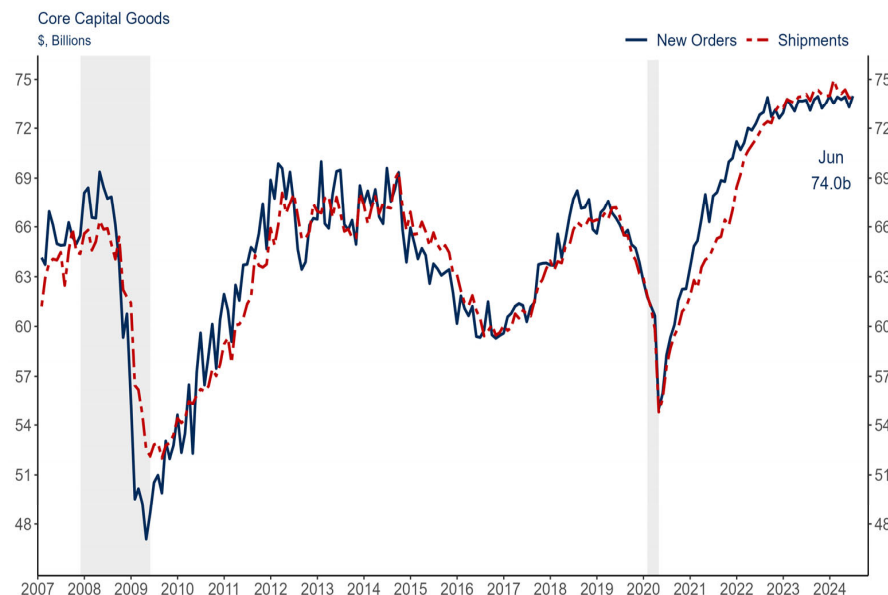
Factors affecting investment:

- Positive NPV (net present value)
  - Project costs
  - Expected cash flow
  - Discount rate
- Financing costs/Availability of capital
- Uncertainty
- Technology

## Manufacturing

Factors affecting manufacturing:

- DD consumer goods
- Business investment – durable goods
  - machinery, computers & electronic products, electrical equipment, transportation...
- Nondurable goods
  - food products, textiles, apparel, petroleum products, chemicals...

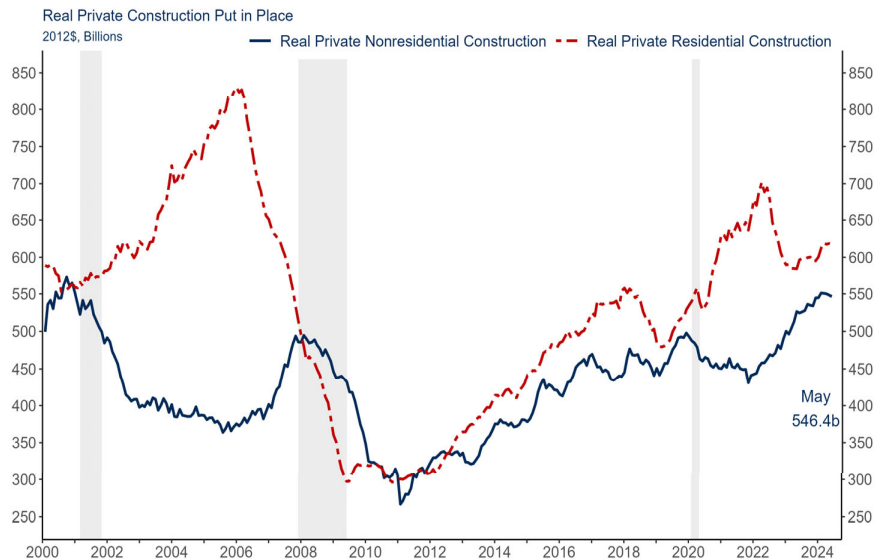


Source: Census Bureau, Federal Reserve

# Following the economy...key sectors

## Commercial Real Estate

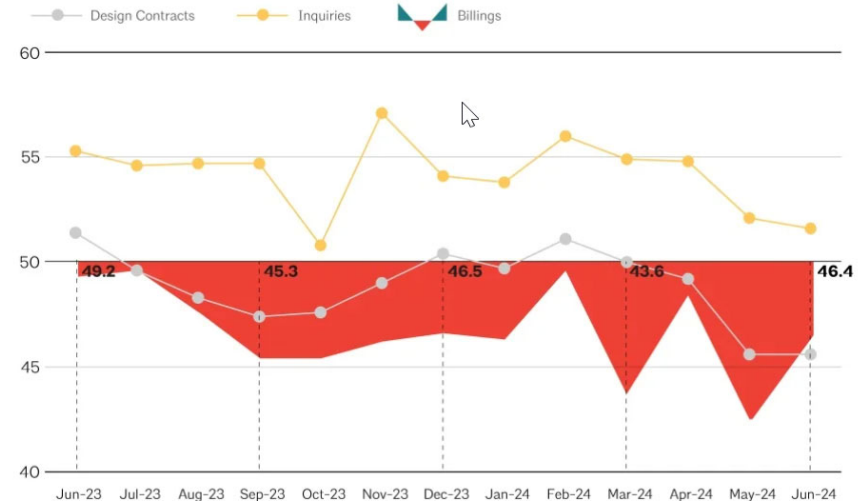
- Office
- Industrial
- Retail
- Hotel
- Other



## National

Architecture firm billings continued to decline in June

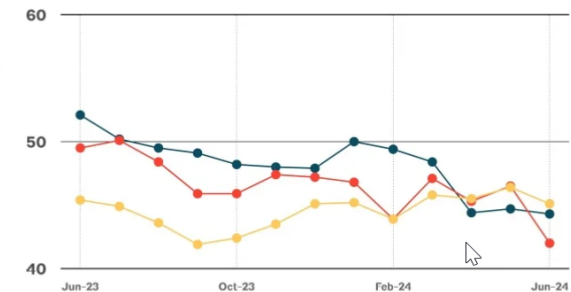
Graphs represent data from June 2023–June 2024.



## Sector

Firms of all specializations continue to experience soft business conditions

Graphs represent data from June 2023–June 2024 across the three sectors. 50 represents the diffusion center. A score of 50 equals no change from the previous month. Above 50 shows increase; Below 50 shows decrease. 3-month moving average.



Source: Census Bureau, American Institutes of Architects



# Following the economy – the labor market

- Labor market indicators closely followed
  - Demand for labor is derived demand – reflects demand for final goods & services
  - Monthly payroll employment growth timely gauge for economic growth (used to determine recessions)
  - Unemployment rate also used as indication of health of overall economy (rising unemployment rate = weakness)
- Recall current economic income & expectations of future income are factors supporting consumer spending
  - Strong payroll employment (more workers = more income)
  - If tight labor market ➡ rising wages = more income
  - Tight labor market may increase income expectations
- Labor productivity important for overall growth
  - Should determine real wage growth





# Following the economy – the labor market

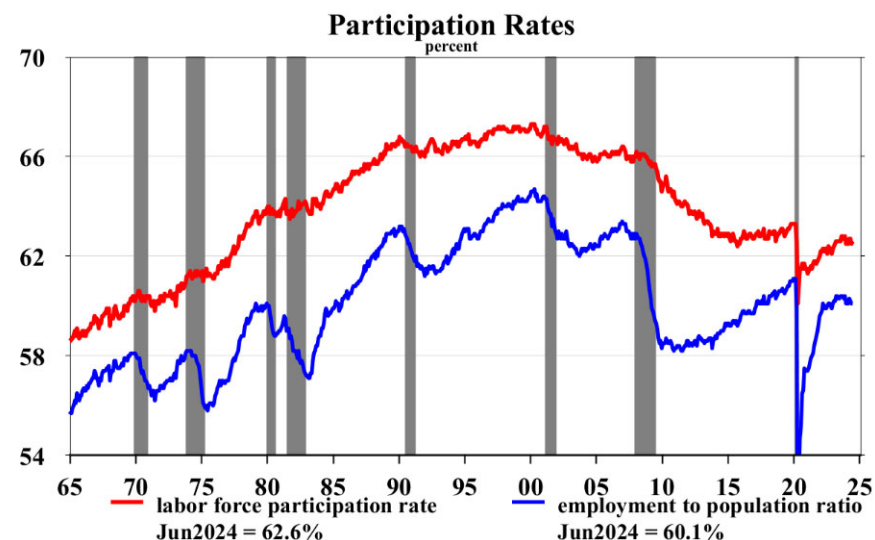
- Principle sources for labor information
  - Establishment Survey
    - Payroll employment – jobs lost/gained
    - Weekly & Aggregate Hours || Average earnings
  - Household Survey
    - Unemployment rate
    - Number employed/unemployed & labor force
  - Unemployment Insurance Claims
    - Weekly indicator of initial & continuing claims for unemployment insurance
  - JOLTS – job openings and labor turnover survey
  - Other surveys (Federal Reserve, ISM, Business/Industry)



# Following the economy – the labor market

## Current labor market issues:

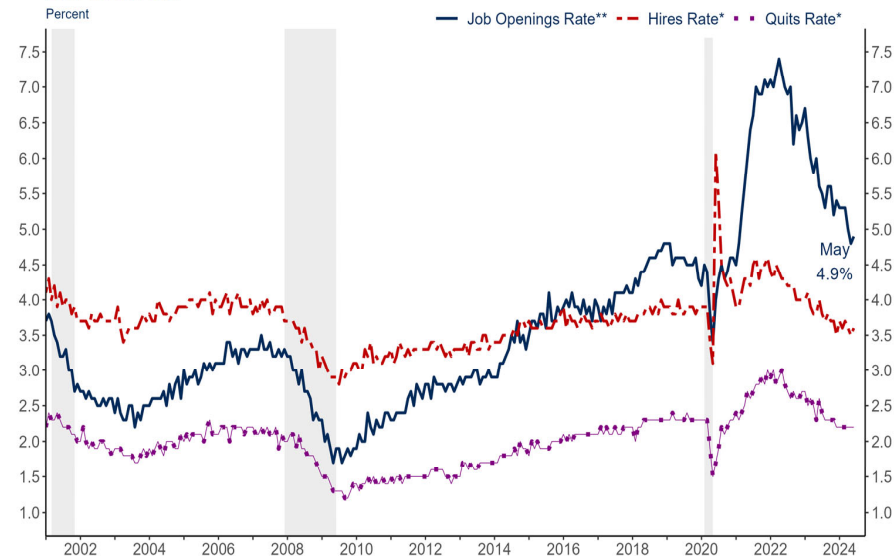
- Labor force participation
  - COVID Issues
  - Demographics
- Labor availability
  - Skills mismatch
- Rising wages
- Future of the office



Average Hourly Earnings  
Year over Year Percent Change



Labor Market Flows  
Percent



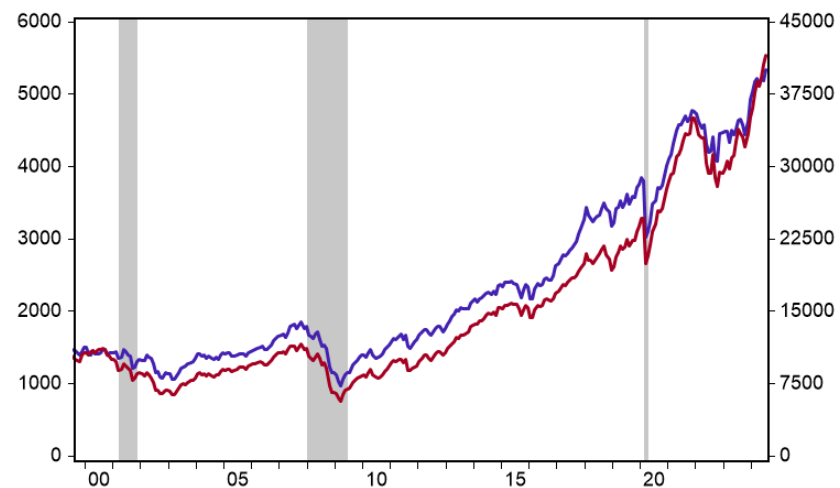
# Following the economy – financial markets

## Equity Markets:

- Changes in market values impact consumer wealth
  - Could lead to increases in current spending
- Higher company valuations improves credit worthiness
  - Could lead to greater borrowing

Stock Price Index: Standard & Poor's 500 Composite  
1941-43=10

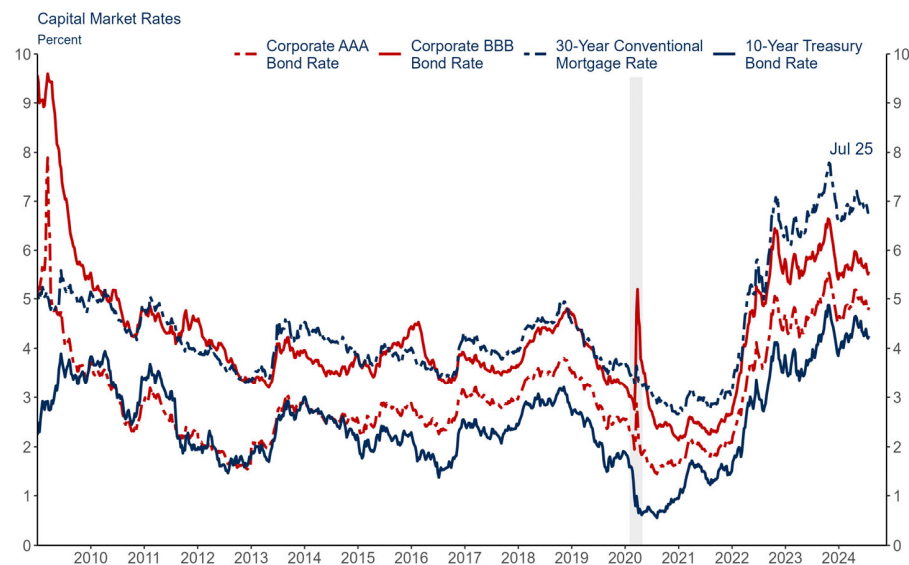
Dow Jones: 30 Industrial Stocks: Average Price Close  
AVG, May-26-1896=40.94



Sources: Standard & Poor's, Wall Street Journal/Haver Analytics

## Bond Markets:

- Changes in market rates impacts consumer/business desire to borrow & save
- Rising rates give signals to risk

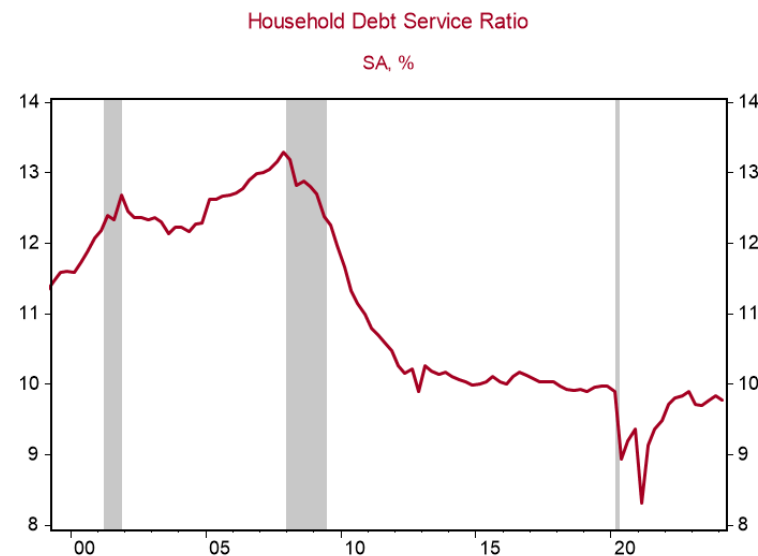
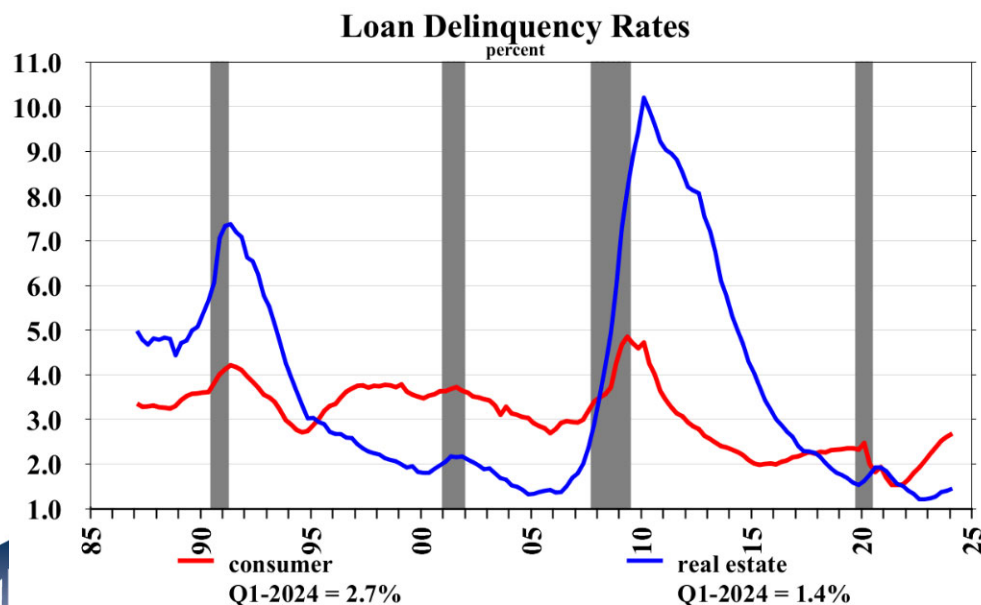
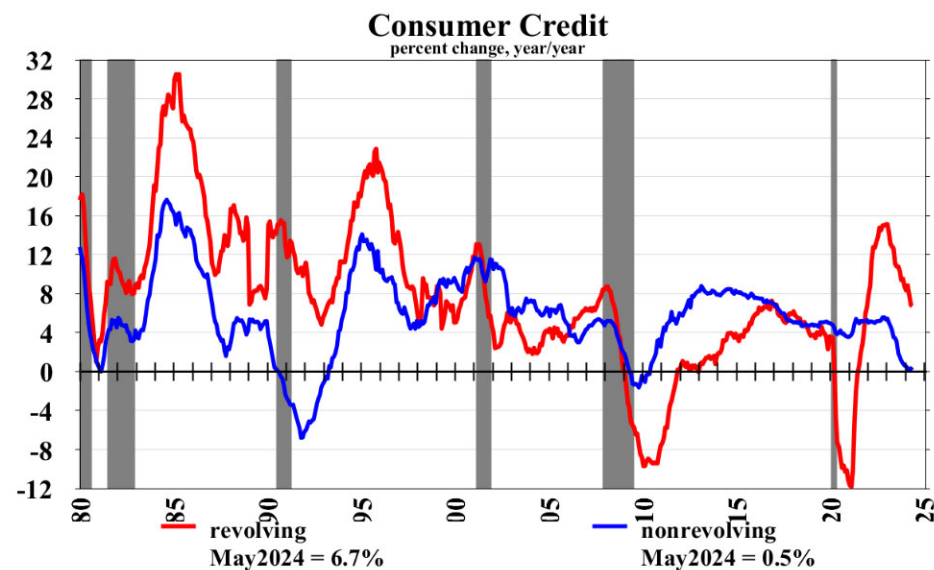


Source: Standard & Poor's, Federal Reserve, Wall Street Journal

# Following the economy – financial markets

## Household Credit Conditions:

- Strong credit demand is positive indicator for growth
  - Durable goods (light vehicles, furniture)
  - Housing
  - Consumer loans & credit card spending
- Weakness in credit also an indicator
  - Slowdown in demand for credit



Source: Federal Reserve Board/Haver Analytics

Source: Federal Reserve Board, Haver Analytics



# Following the economy – inflation

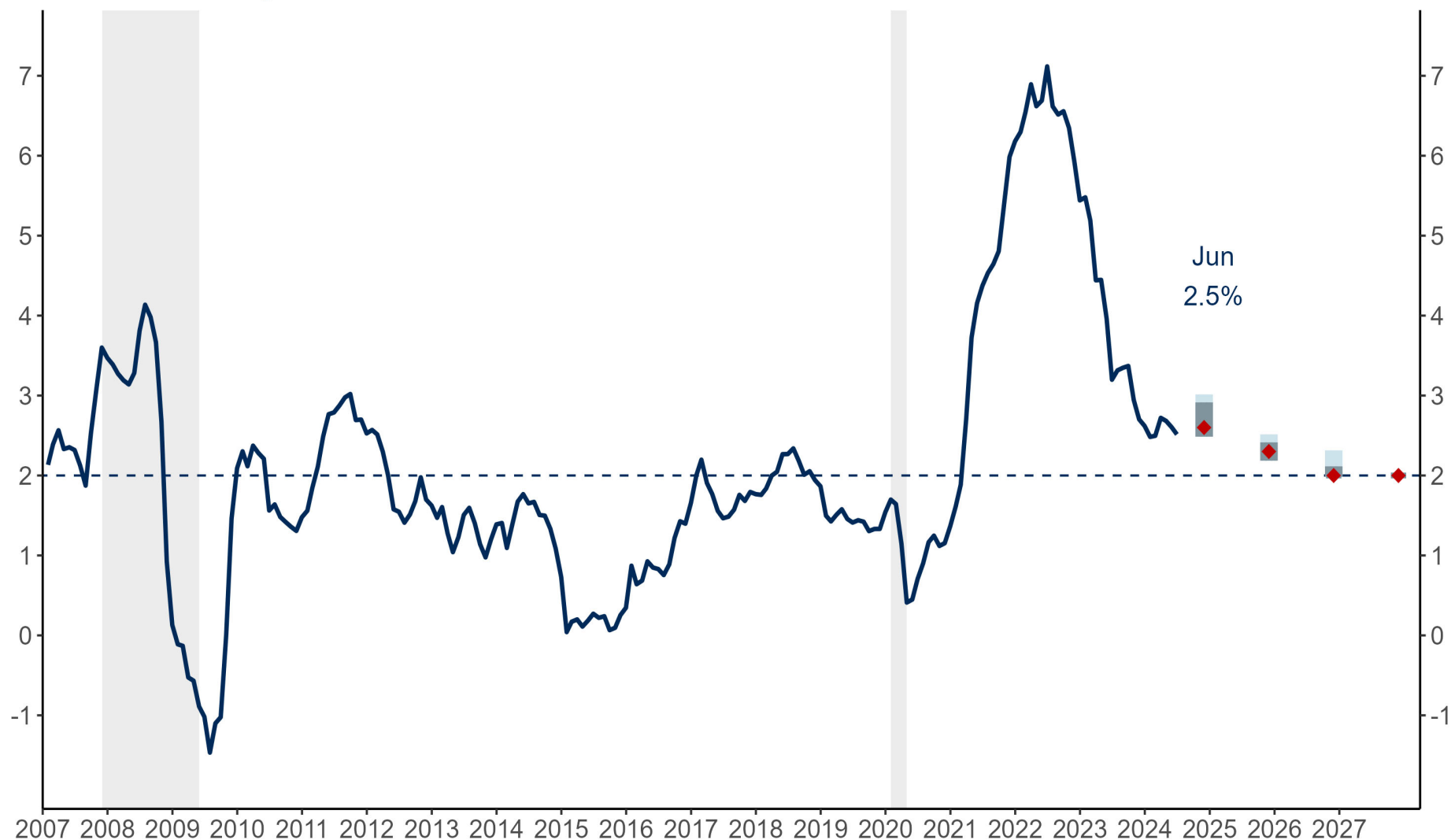
- What causes inflation?
  - Too much money chasing too few goods
- How do we measure inflation?
  - Consumer inflation measures (most common)
    - Consumer Price Index (CPI)
    - Personal Consumption Expenditure (PCE) Price Index
  - Also look at commodity prices, survey measures, producer-price index
- Inflation expectations are very important
  - Survey measures- Blue Chip/Survey of Professional Forecasters, University of Michigan
  - Financial markets – difference between nominal treasury securities and inflation-protection treasury securities





# Following the economy – inflation

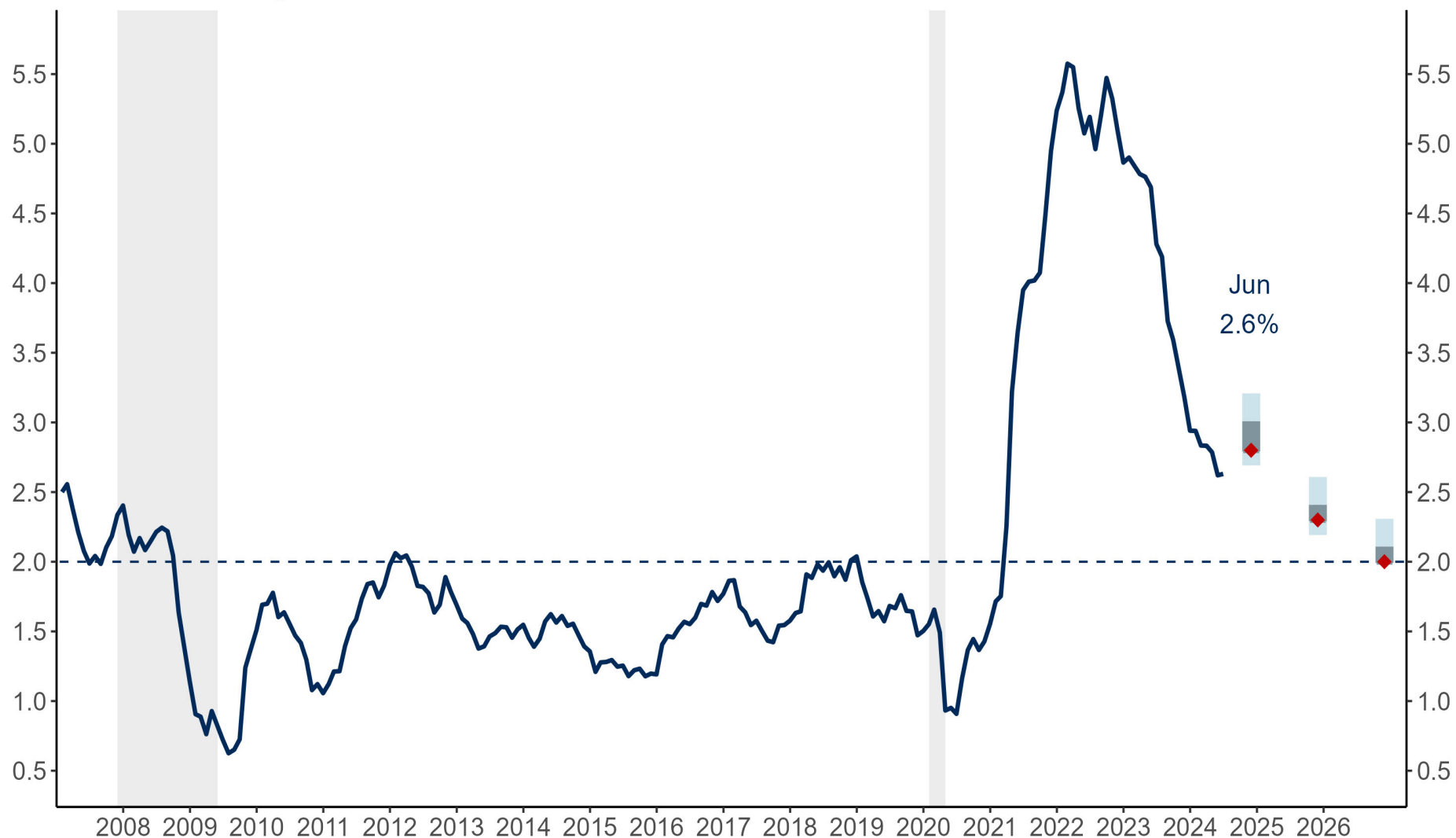
Personal Consumption Expenditures Price Index  
12 Month Percent Change





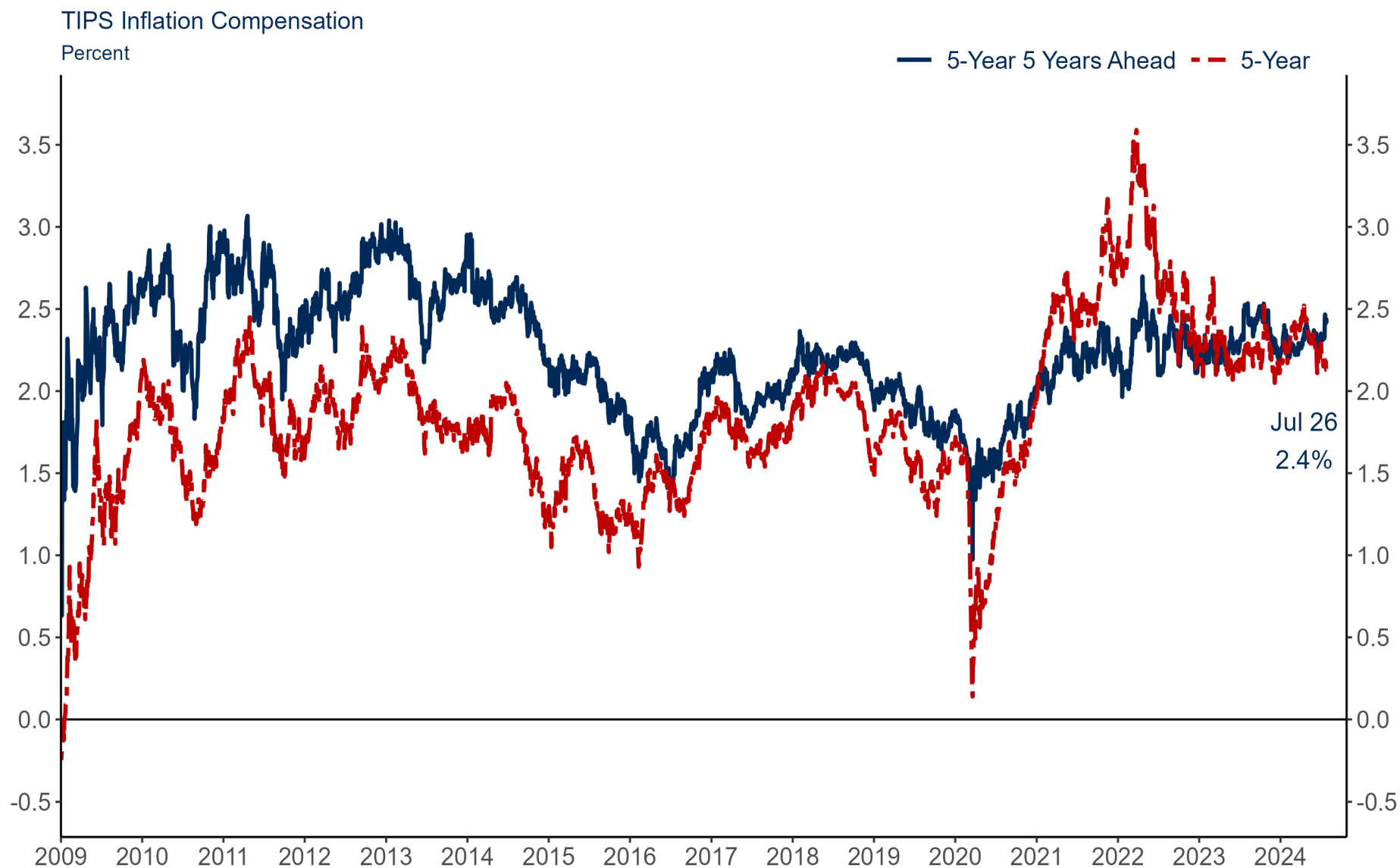
# Following the economy – inflation

Core Personal Consumption Expenditures Price Index  
12 Month Percent Change





# TIPS Inflation Compensation





## Following the economy – forecasts

- Should you need to get a forecast for the economy, there are a variety of places to go:
- Surveys of forecasters
  - Survey of Professional Forecasters – Philadelphia Fed
  - Blue Chip Economic/Financial Indicators
- FOMC forecasts
- Individual forecasts
  - Banks, trade associations (NAR, NAHB), Fannie
- Government – Congressional Budget Office





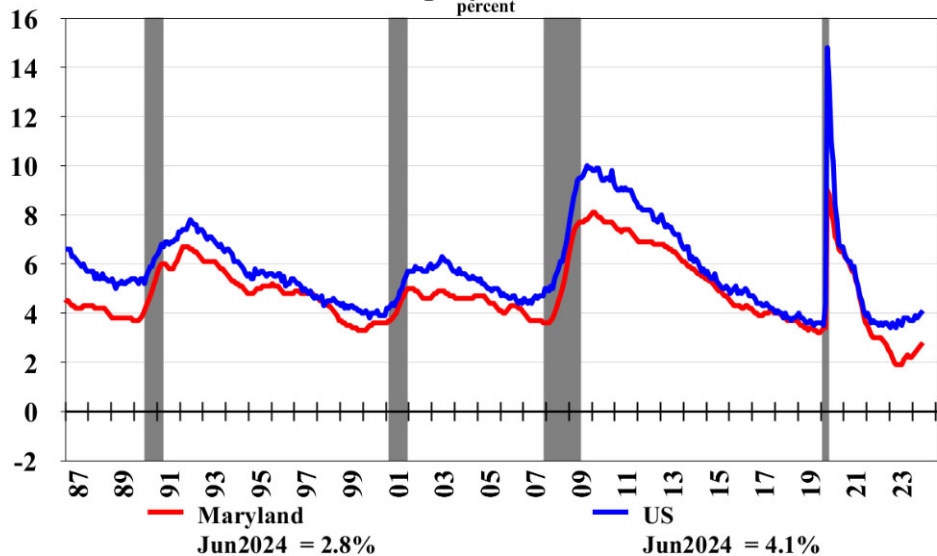
# Assessing the Regional Economy

- Data released with a greater lag & less comprehensive
- Less comprehensive
  - No quarterly GDP for state economies
  - No monthly income, consumption or manufacturing data
- Limited spending data (auto sales, sales tax collections)
- What data do we have?
  - Labor (state, metro, county)
  - Housing (permits, starts, sales, mortgage delinquencies)
  - Commercial real estate (rents, completions, absorption, usage)
  - Income (quarterly)
  - Business establishments (quarterly)
  - NYFED starting to put out household credit conditions
- Surveys & anecdotal information

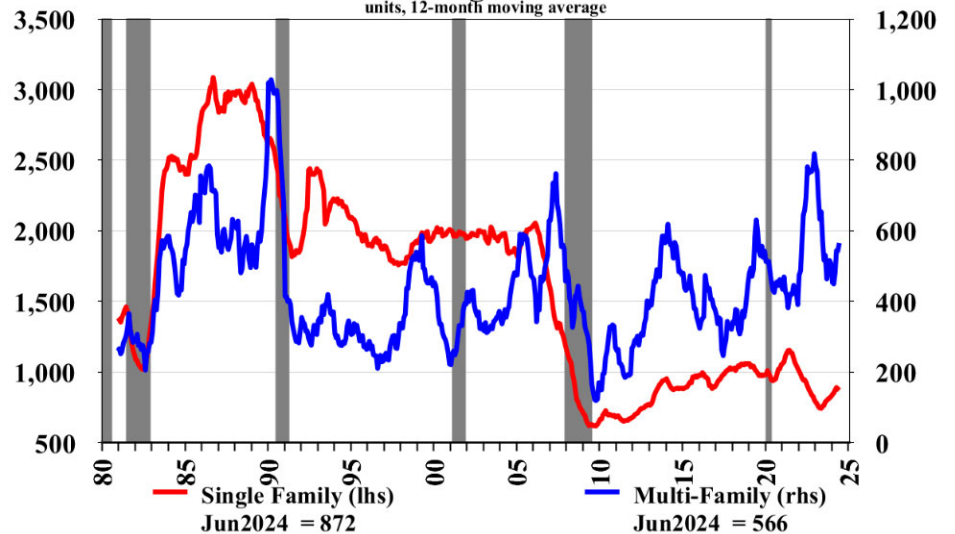


# Assessing the Regional Economy – Labor Market

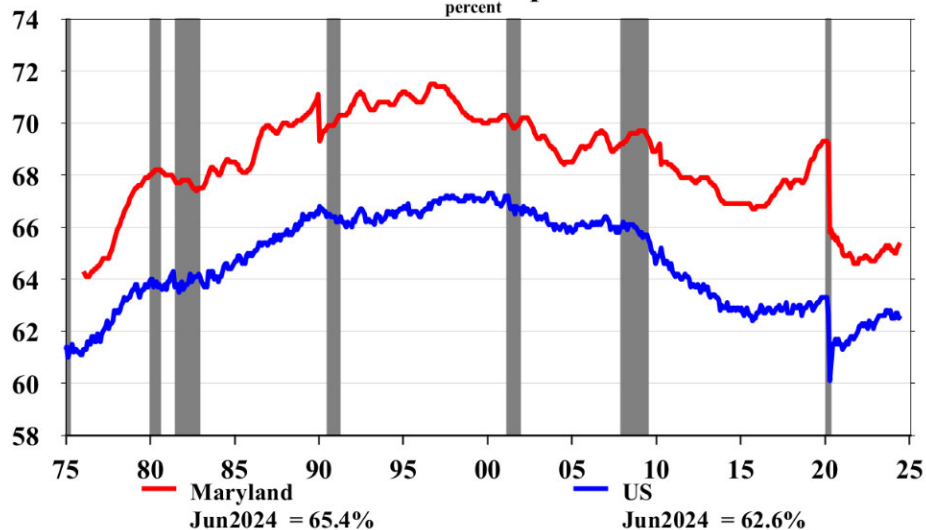
**Unemployment Rate**  
percent



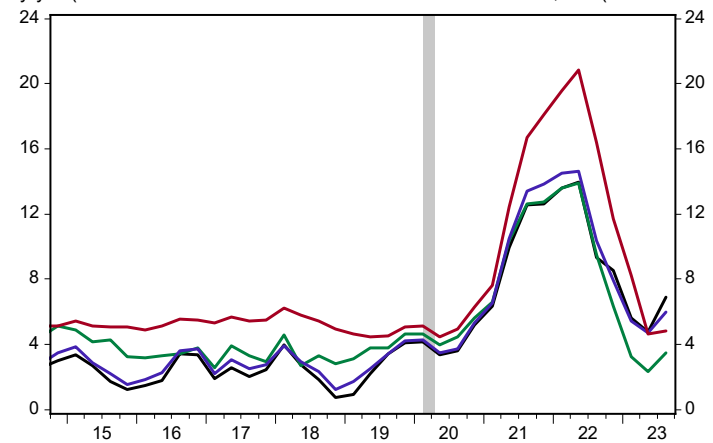
**Housing Permits**  
units, 12-month moving average



**Labor Force Participation Rate**  
percent



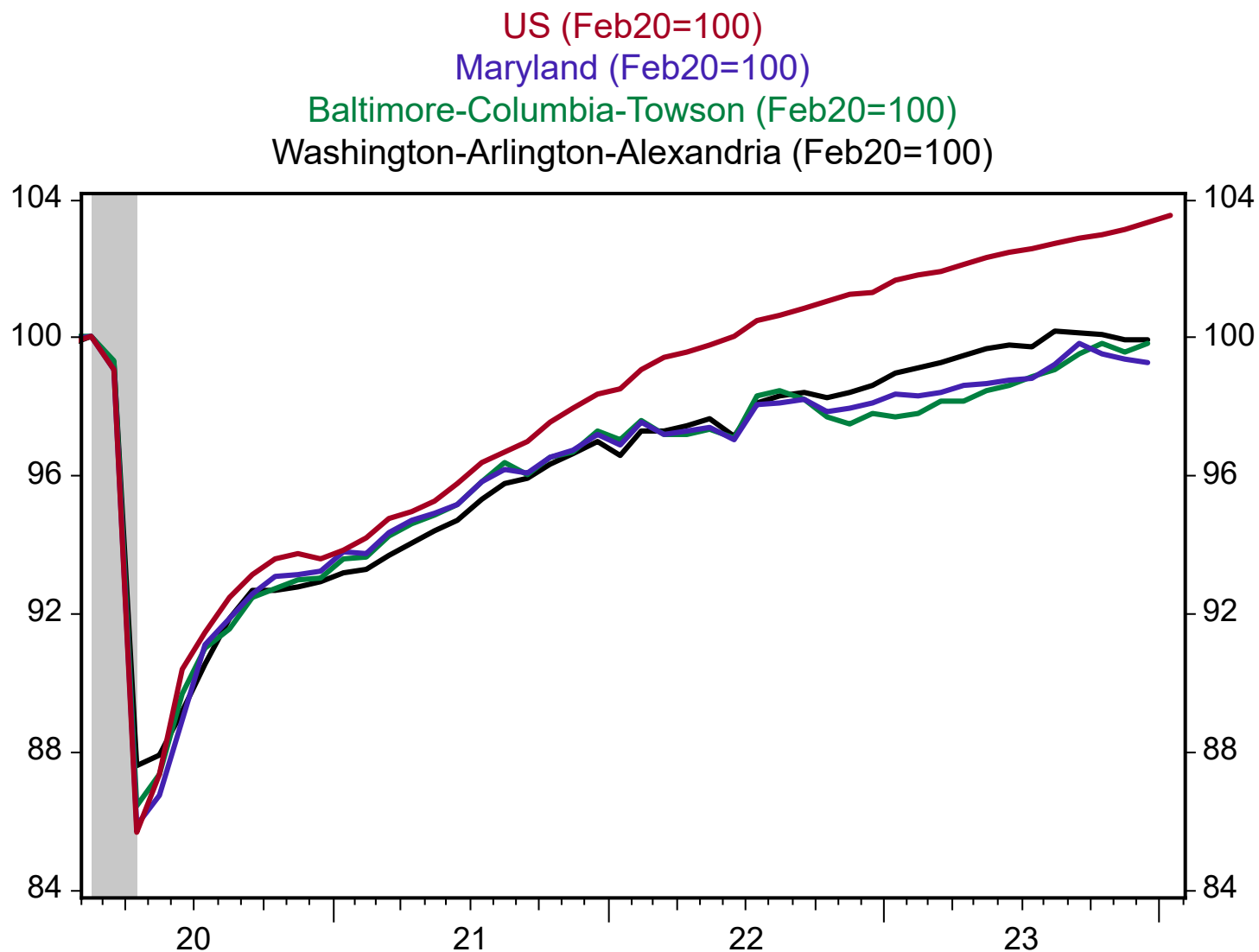
yyr%(FHFA House Price Index: United States (Q1-80=100))  
yyr%(FHFA House Price Index: Maryland (Q1-80=100))  
yyr%(FHFA HPI: Washington-Arlington-Alexandria, DC-VA-MD-WV MetDiv ...  
yyr%(FHFA House Price Index: Baltimore-Columbia-Towson, MD (Q1-95=1...



Source: Federal Housing Finance Agency/Haver Analytics

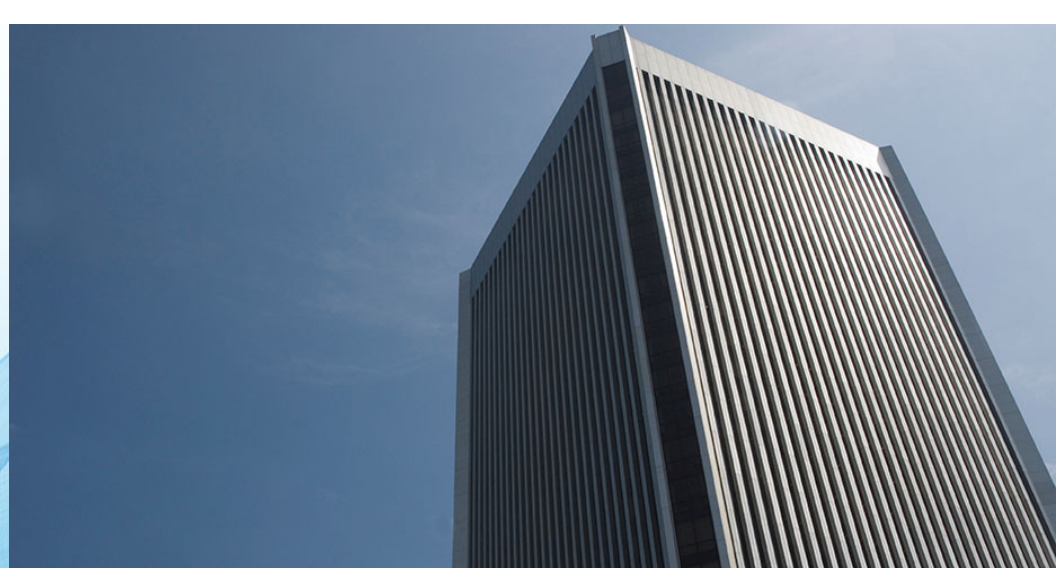


# Assessing the Regional Economy – Labor Market



Source: Bureau of Labor Statistics/Haver Analytics





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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