Econ 2
Principles of Macroeconomics

Lecture 17:
Aggregate Demand/Aggregate Supply

Effects of Inflation

- Example: $\overline{Y}$ = 10,000 (full employment GDP), r_1 = 5%, M_1 = 1 trillion, CPI_1 = 100

Aggregate Demand Curve

- How are prices and levels of Y=AE related?

- Aggregate Demand Curve: “Equilibrium Level of Spending at Every Price Level” Curve
  As general level of prices rise, equilibrium level of spending (Y*=AE*) decreases
- Moving along the aggregate demand curve?

Aggregate Demand Curve

- Shifts in the AD Curve

Aggregate Supply Curve

- Aggregate Supply: The amount that firms are willing and able to produce at various price levels
- In the short-run:

  -firms respond to the costs of production
  -production costs are determined by level of Y in short-run
  -as Y increases, new (less productive) workers are hired
  -additional Y costs more than previous Y

Aggregate Supply Curve

- Movement Along vs. Shifts in Supply
- What shifts AS?
- Anything that changes the amount firms are willing to produce that is not the price
- Examples:

Complete Macroeconomic Equilibrium

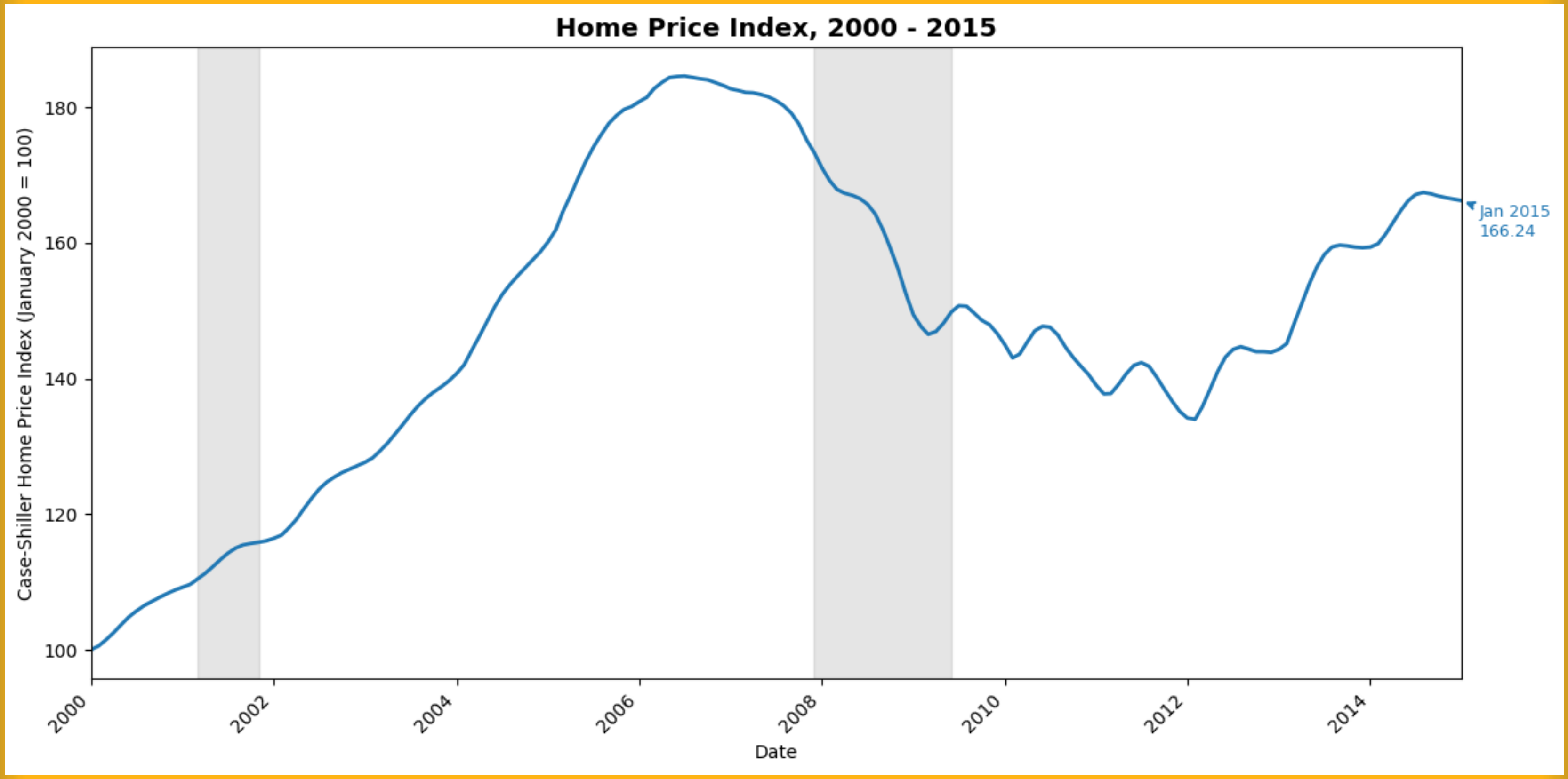
Entire Macroeconomy

- Money Supply = 1 trillion
  Interest Rate = 5%
  Price Level = 100
  Y=Y-bar = 10,000

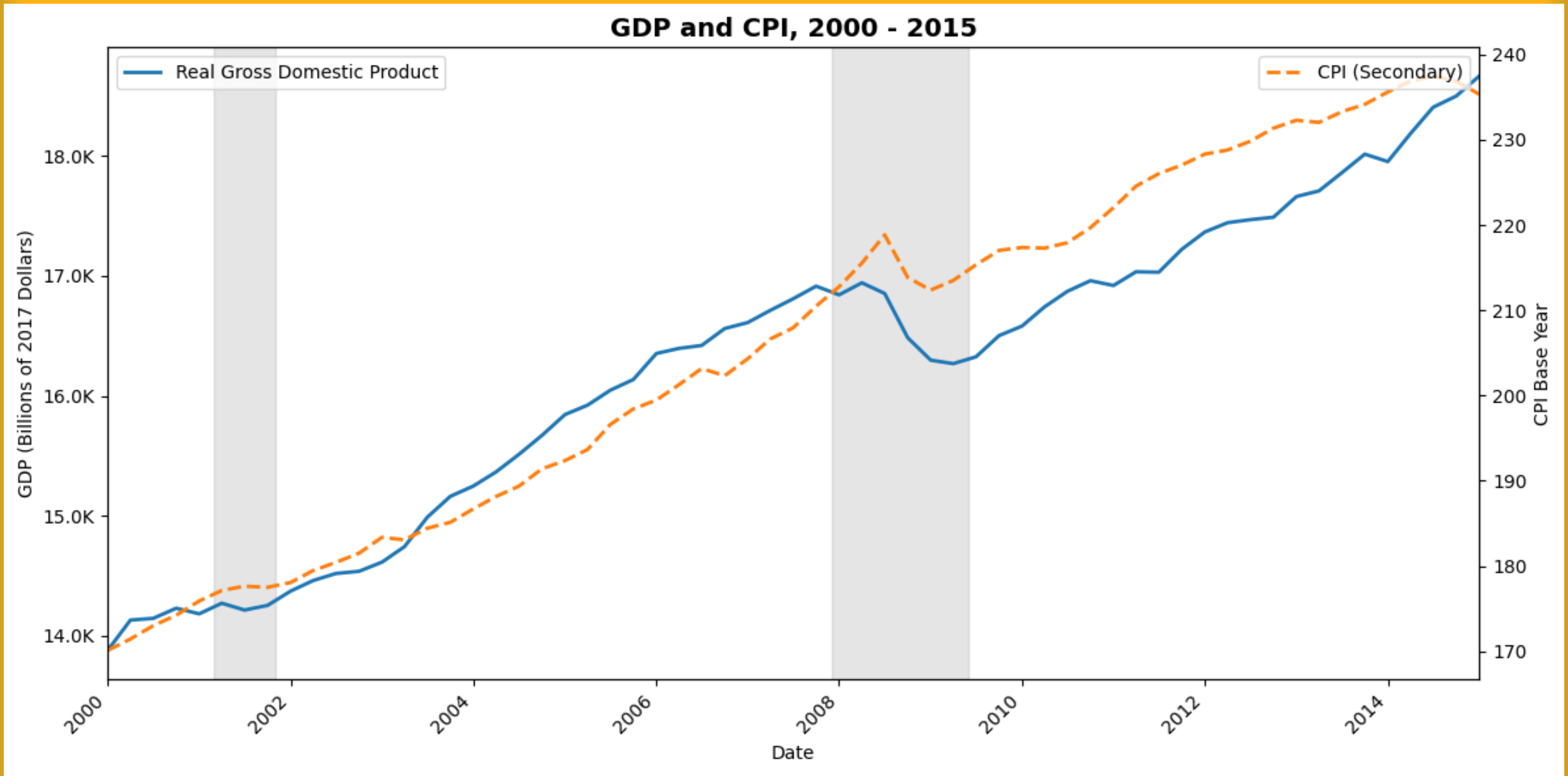
Shocks to the Macroeconomy

- Connect model to real-world data
- During the Great Recession, is there evidence that:
  - housing prices fell
  - output and CPI decreased
  - government spending increased
  - tax revenue decreased
  - interest rates decreased (money supply increased)

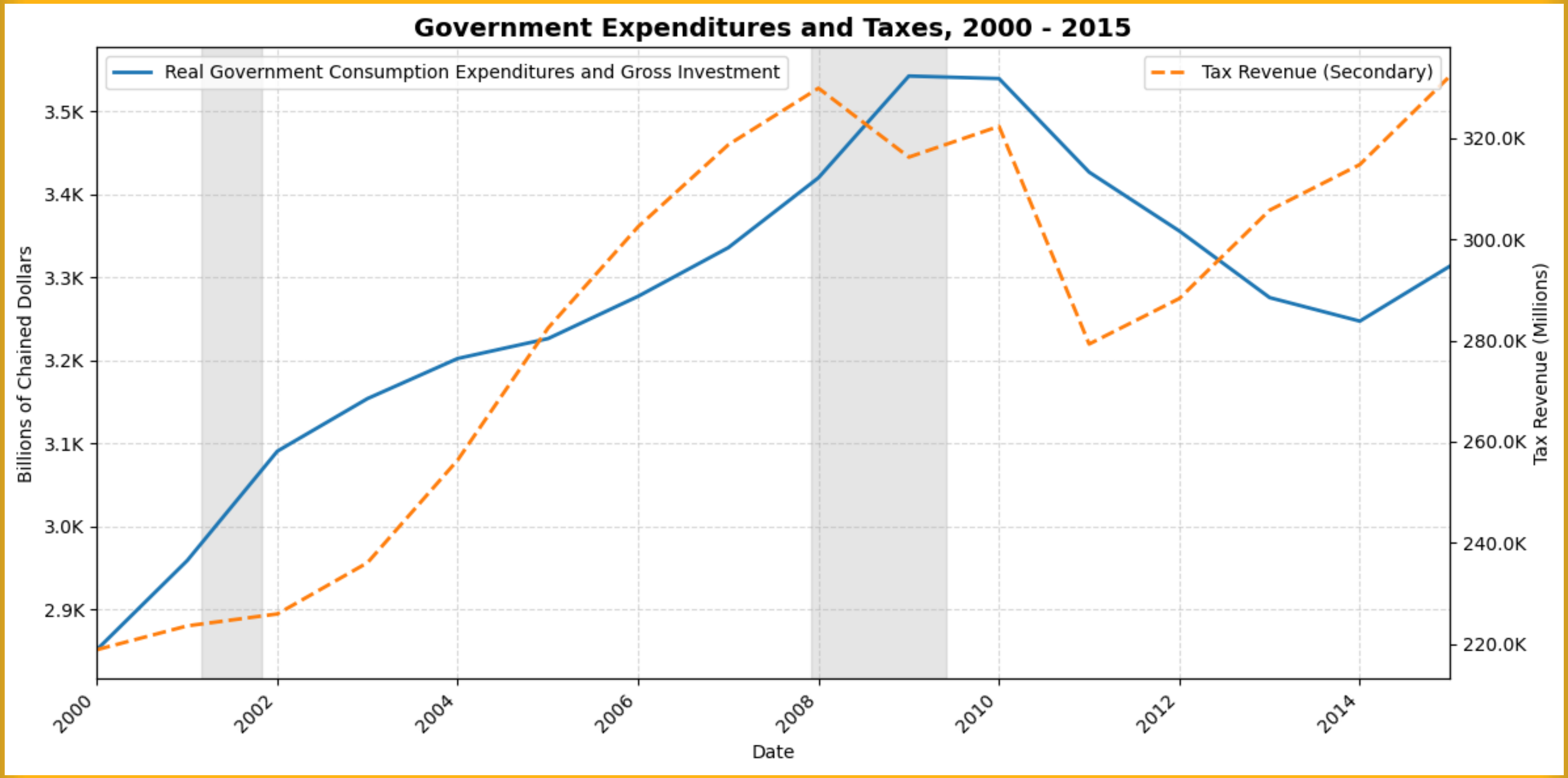
Housing Prices



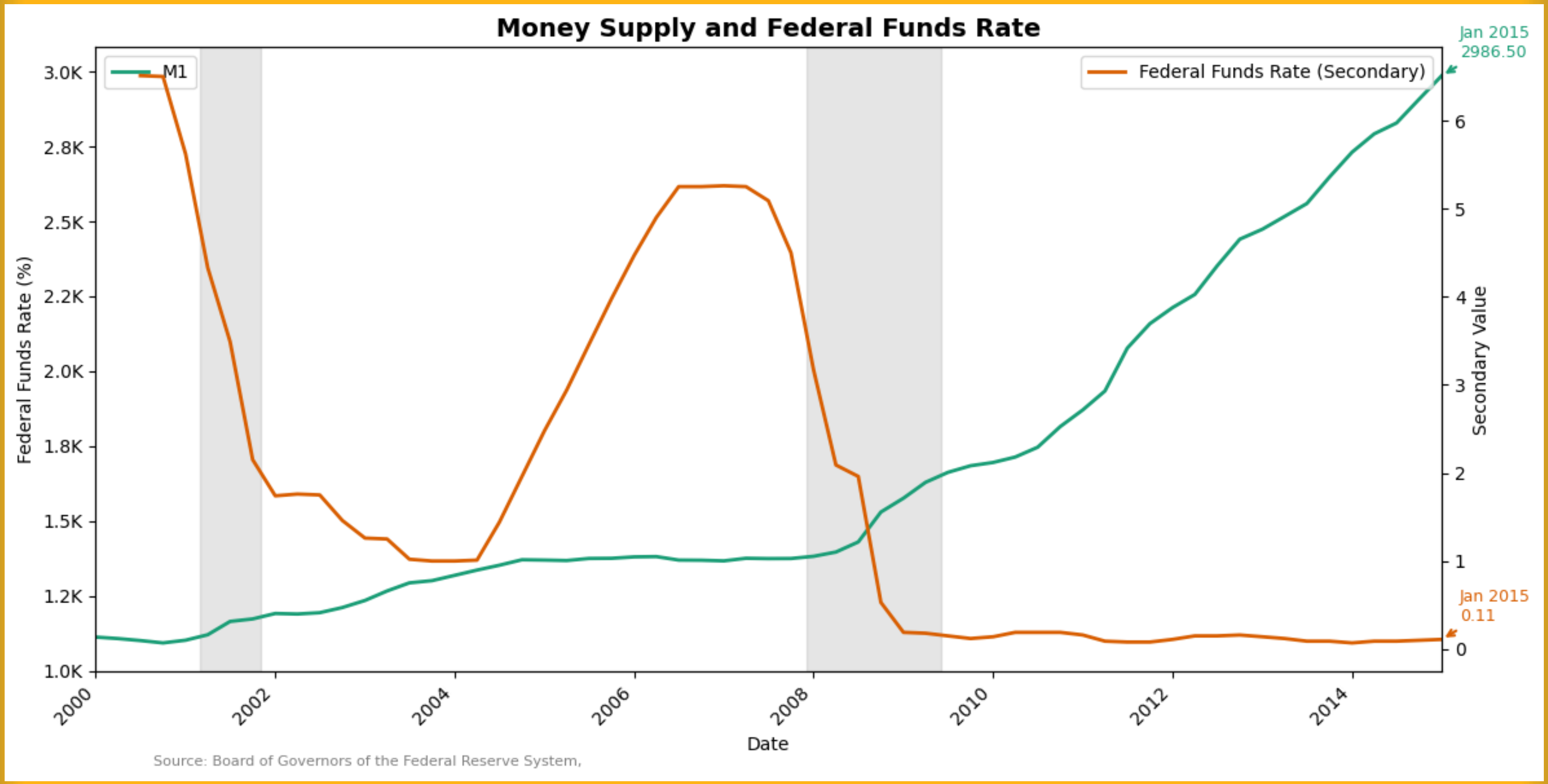
GDP/CPI


GDP and CPI, 2000 - 2015
Real Gross Domestic Product
CPI (Secondary)
GDP (Billions of 2017 Dollars)
CPI Base Year
Date
14.0K
15.0K
16.0K
17.0K
18.0K
170
180
190
200
210
220
230
240
2000
2002
2004
2006
2008
2010
2012
2014

Taxes and Government Expenditures



Interest Rate and Money Supply



Shocks to the Macroeconomy

- Start at Full-Employment output
- Covid-19 Pandemic: how do P* and Y* change?

Shocks to the Macroeconomy

- Start at Full-Employment output
- Covid-19 Pandemic: how do P* and Y* change?
- How should the government or Fed respond?

Demand Shocks to the Macroeconomy

- Demand Shock:

- Counter-Cyclical Policy:

The Federal Reserve During COVID

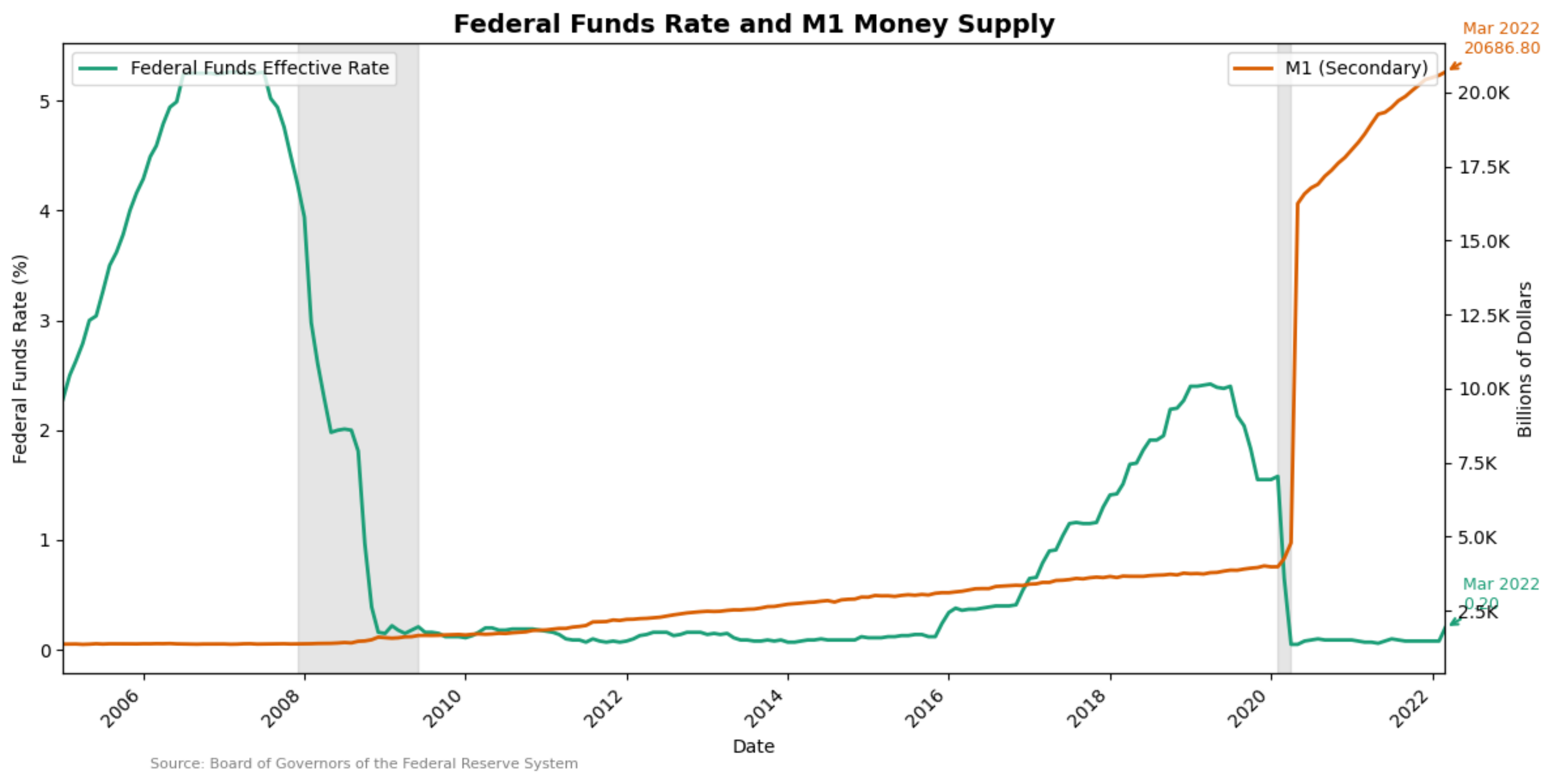
- Emergency Rate Cut I on March 3rd, 2020
  - Fed Funds Rate: 1.0 to 1.25%

- Emergency Rate Cut II on March 15th, 2020
  - Fed Funds Rate: 0 to 0.25%

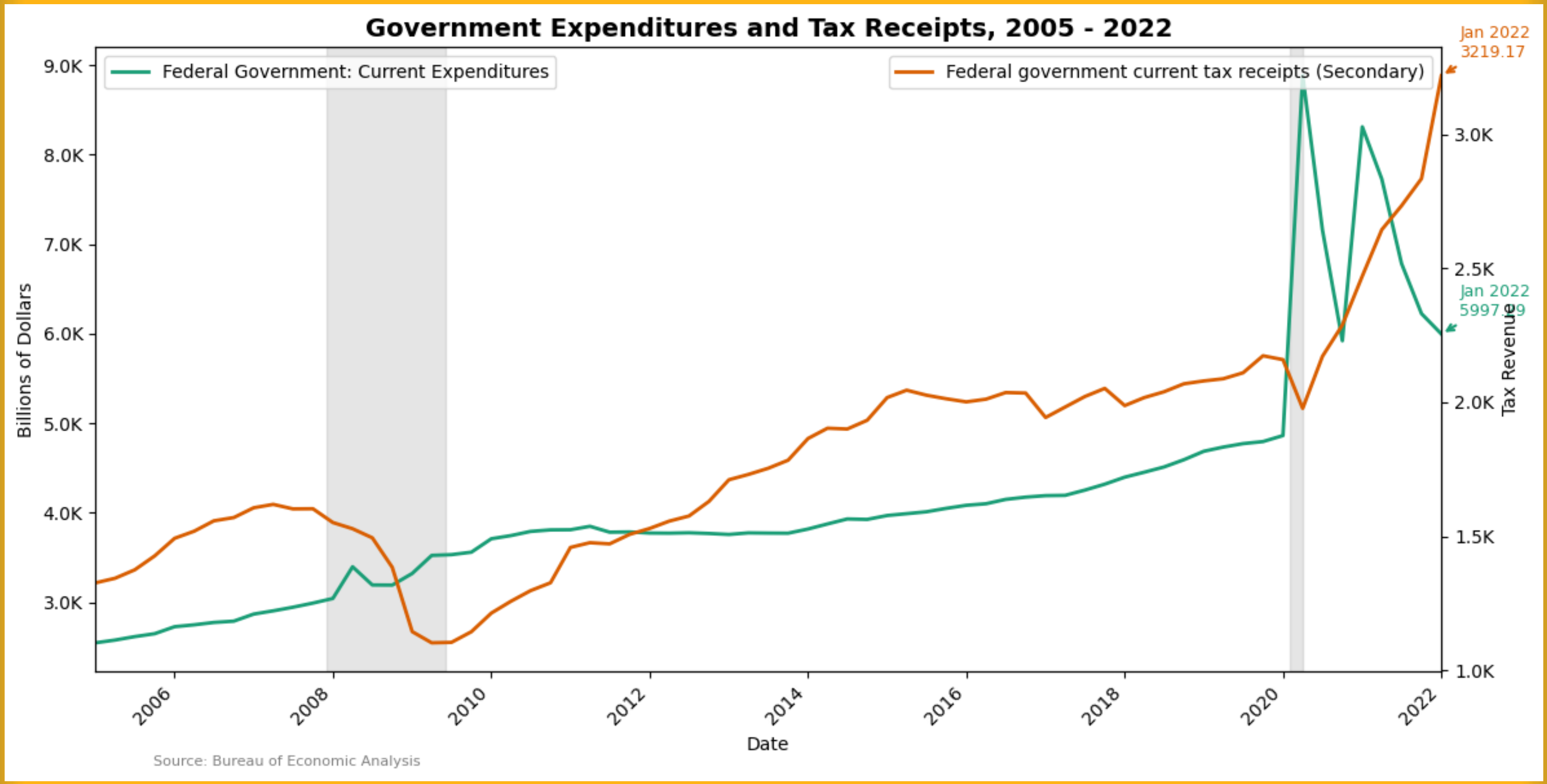
- Only unconventional tools remain
  - Buying mortgage-backed securities
  - Lower reserve requirements for banks

- All meant to increase AC, I^P

Federal Funds Rate and M1, 2005-2022



Government Expenditures and Taxes, 2005 - 2022



Supply Shocks

- Supply Shock: Change in AS that moves economy away from full-employment equilibrium
- How do we know if a recession is caused by a supply shock instead of demand shock?

Supply Shock

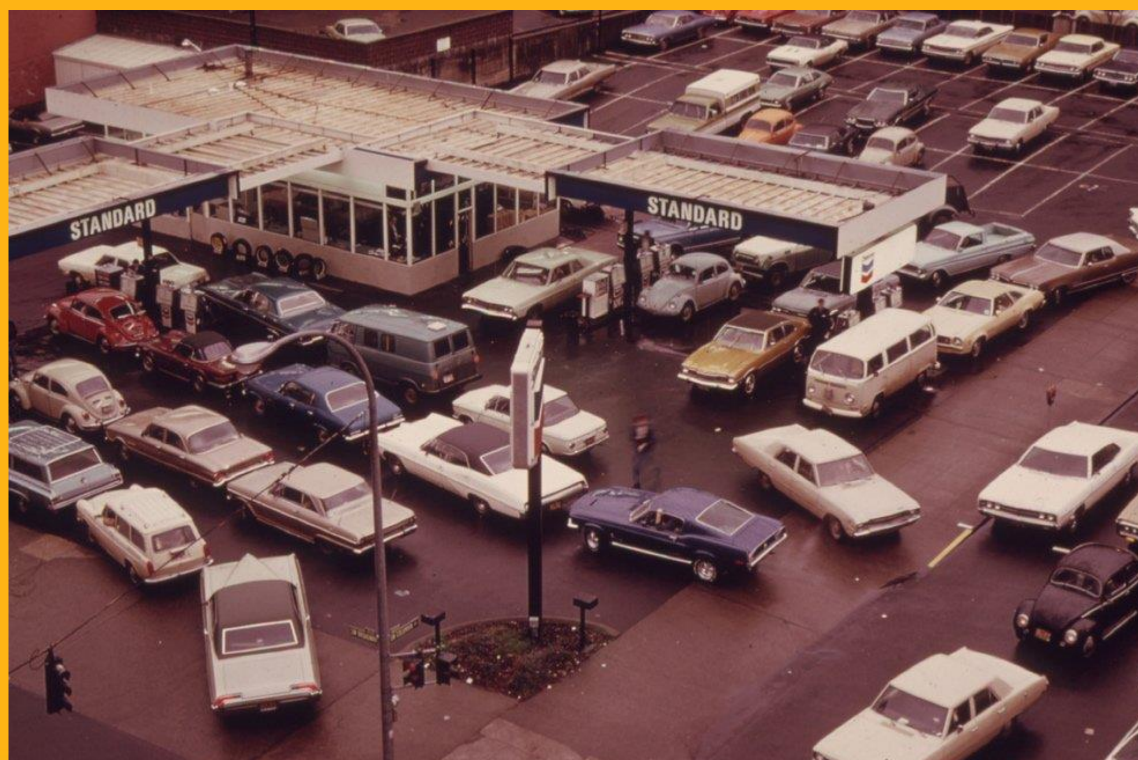
- How should the government respond to a recession driven by a decrease in AS?
- Option 1: Fight unemployment, bring economy back to Y-bar

Supply Shock

- How should the government respond to a recession driven by a decrease in AS?
- Option 2: Fight rising prices, bring prices back to P*

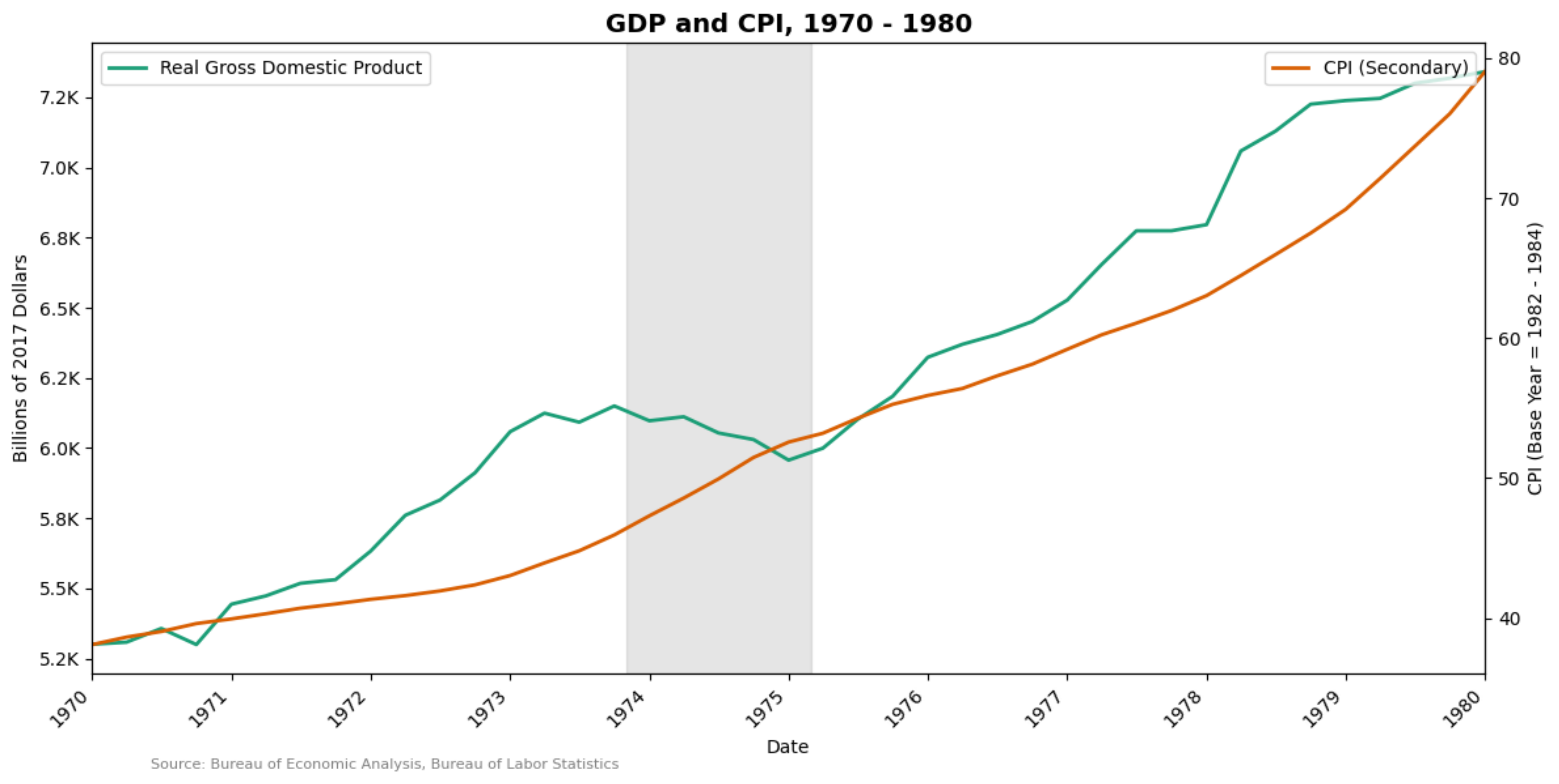
Historical Supply Shocks

- OPEC Oil Embargo in the early 1970s
- Microeconomic Consequences: Gasoline shortage



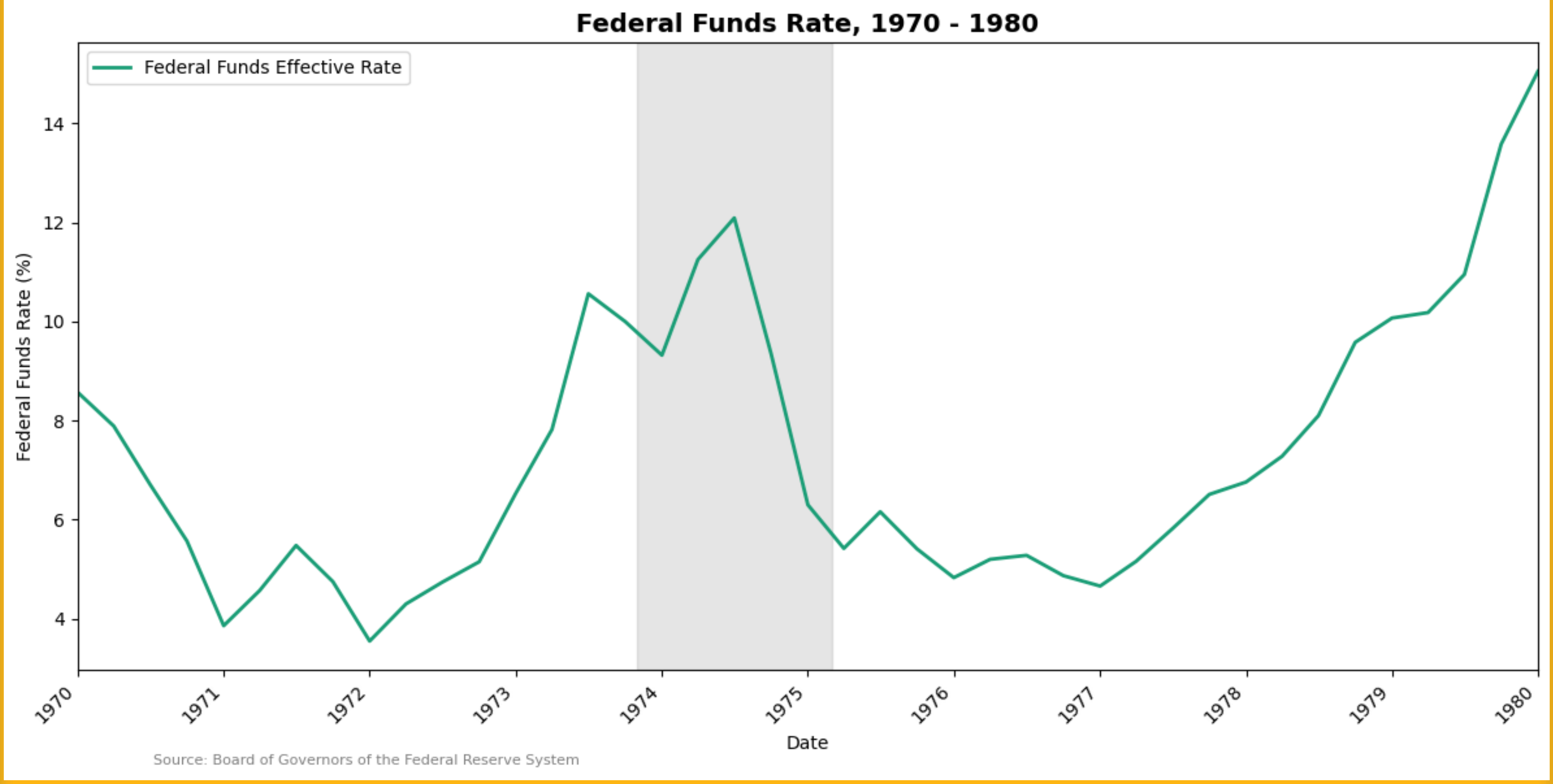
Historical Supply Shocks

- Did prices rise as output fell?

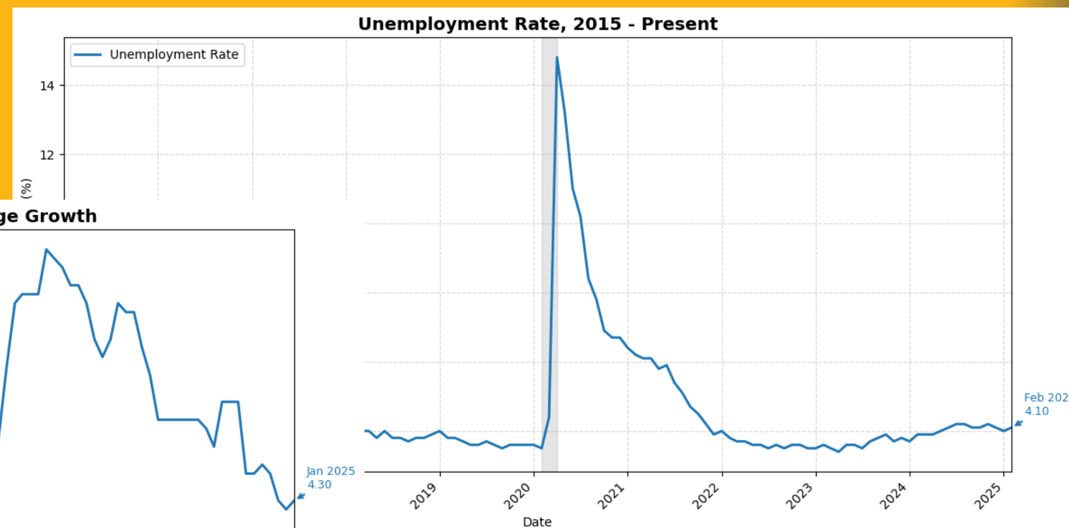


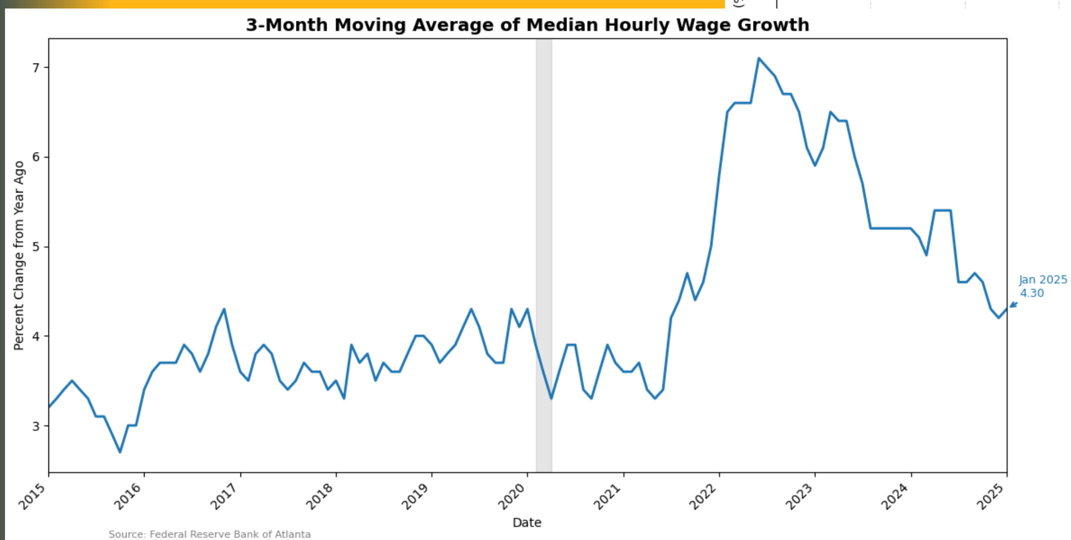
Historical Supply Shocks

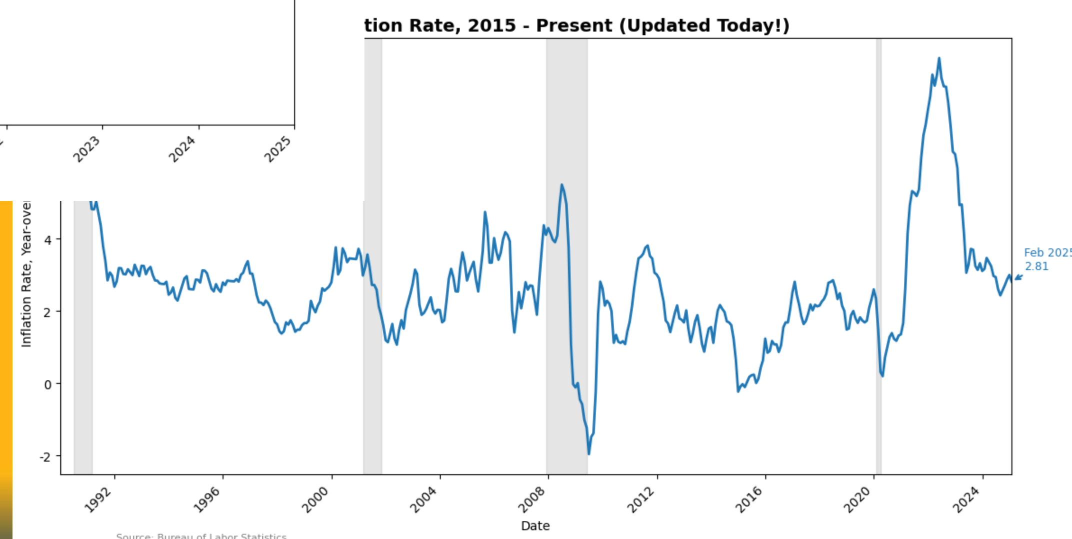
- How did the Federal Reserve respond?



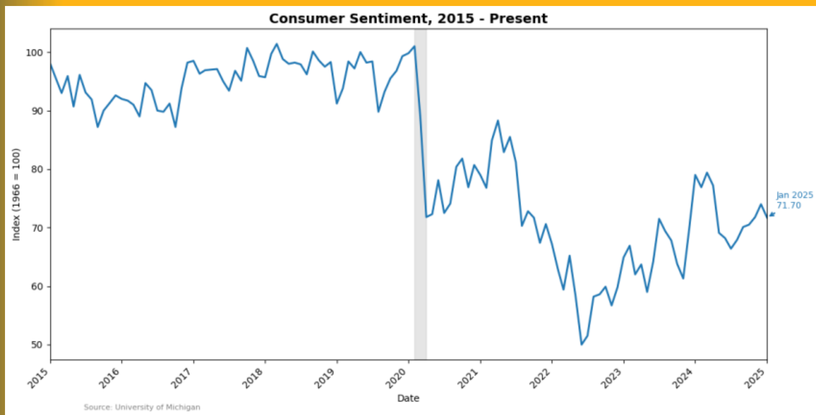
Federal Reserve Today

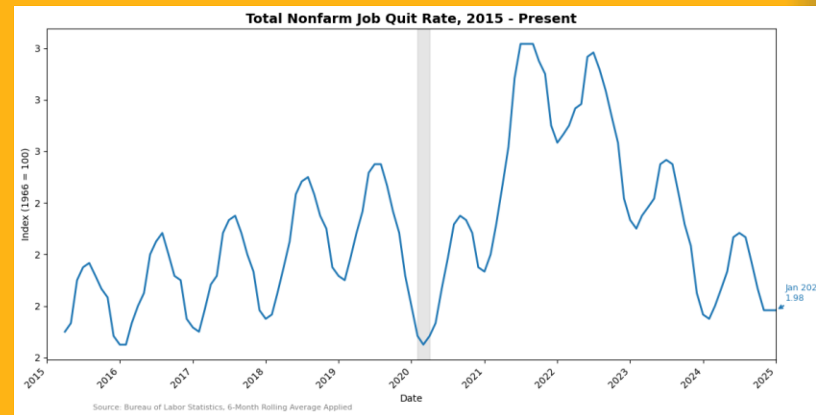


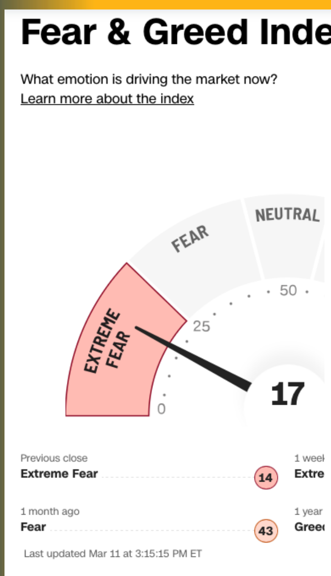


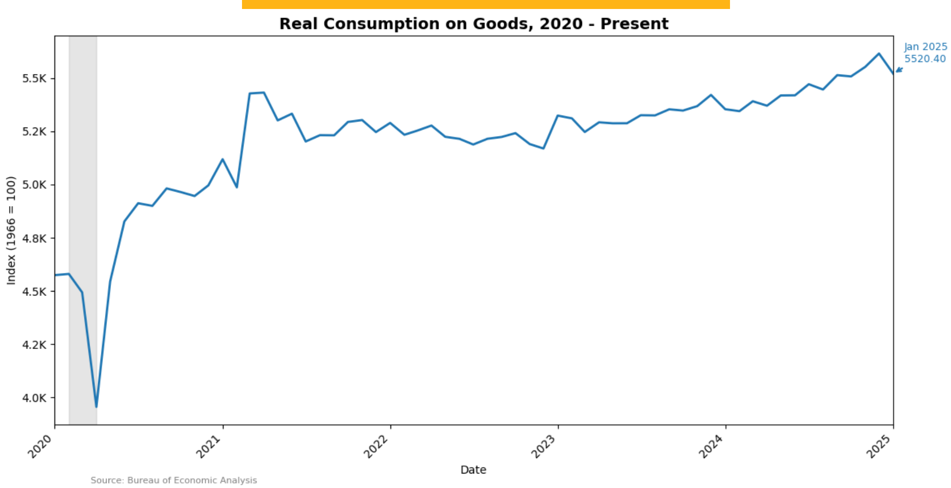


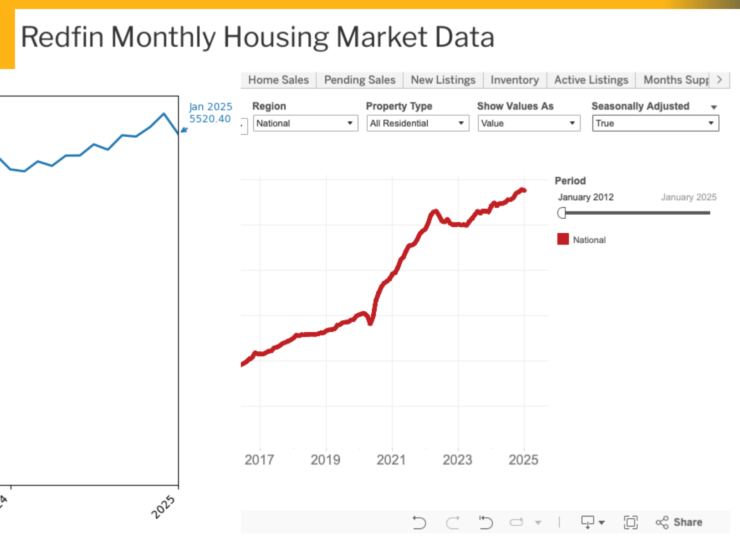
Federal Reserve Today











Federal Reserve Today

- Political and Economic Uncertainty
- Tariffs → inflationary?
- 2025 Q1 GDP → Negative
- Forward-looking markets are down -10%+ from recent highs
- Involuntary Part-Time Workers up from 3.6M (July 2022) to 4.9M

- What will they do at their meeting next week?
- What will they do by the end-of-the-year?

Housekeeping

- Final Exam: Tuesday, June 10^{th}, 12 – 2:30pm
- 30 Questions, spread roughly even among topics
- Unless you have heard otherwise, you have full participation

- Indeed.com: apply, apply, apply!
- Evaluations

Topics for the Final Exam

Part 1 (Weeks 1 – 5)

- Supply and Demand (Chapter 2)
  - Gasoline Market (2.3, 2.4)
  - Housing Market (2.5)
- Course Goals (Chapter 3)
  - High Standard of Living (3.1)
    - Real vs. Nominal GDP
    - GDP Deflator Inflation Rate
  - Stable Prices (3.2)
    - CPI Inflation Rate
    - CPI vs. GDP Deflator
  - Unemployment Rate (3.3)
    - BLS Calculation
    - Involuntary Part-Time Workers
    - Discouraged Workers
    - Limitations

Part 2 (Weeks 5 – 10)

- Short-Run Equilibrium (Chapter 4)
  - Consumption Function (4.1)
  - Aggregate Expenditures (4.2)
  - Short-Run Equilibrium (4.3)
- Fiscal Policy (Chapter 5)
- Monetary Policy (Chapter 6)
  - Money Market (6.1, 6.2)
  - Monetary Policy (6.3)
- Agg. Demand/Agg. Supply (Chapter 7)
  - Agg. Demand/Agg. Supply (7.1)
  - Complete Equilibrium (7.2)
  - Policy Responses (7.3, 7.4)