

Creating a Forecast

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Macroeconomic and Monetary Studies Function

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All views expressed are those of the author only and not necessarily those of the Federal Reserve Bank of New York or the Federal Reserve System

The Role of Forecasts in Monetary Policy

- Because of policy lags, the FOMC needs a sense of:
 - where the economy stands
 - where it is likely to go
- Adjust policy if forecasts point to “undesirable” outcome
- Staff provide forecasts of output, unemployment, inflation
 - Also discuss risks to the outlook
- A forecast is a set of numbers and a narrative
 - What assumptions are behind the forecast?
 - Where is it most likely to go wrong?: alternative “scenarios”

Your Task

- Give reasoned views on the current state of the economy
- Given the state of the economy and policy (monetary and fiscal), present a reasoned view of where the economy is likely to go
 - Discuss risks to the forecast
- Then discuss possible changes in policy
 - Benefits and costs of policy options

Assessing Current Economic Conditions

- Concentrate on GDP
 - $\text{GDP} = \text{Consumption} + \text{Investment Spending} + \text{Government Spending} + \text{Exports} - \text{Imports}$
- Why GDP?
 - Rapid real GDP growth is usually connected with job growth and declining unemployment.
 - A high level of real GDP relative to “potential GDP” (large output gap) is usually associated with higher inflation

Assessing GDP

- GDP estimates take time and are subject to revision
 - Need to look at monthly indicators
- Two approaches:
 1. “Production-side” indicators
 - Hours worked, business activity measures, industrial production
 2. “Expenditure-side” indicators
 - Data for each expenditure category
 - Examples: Retail sales, shipments of capital goods, trade
- Use judgment in reconciling the two approaches

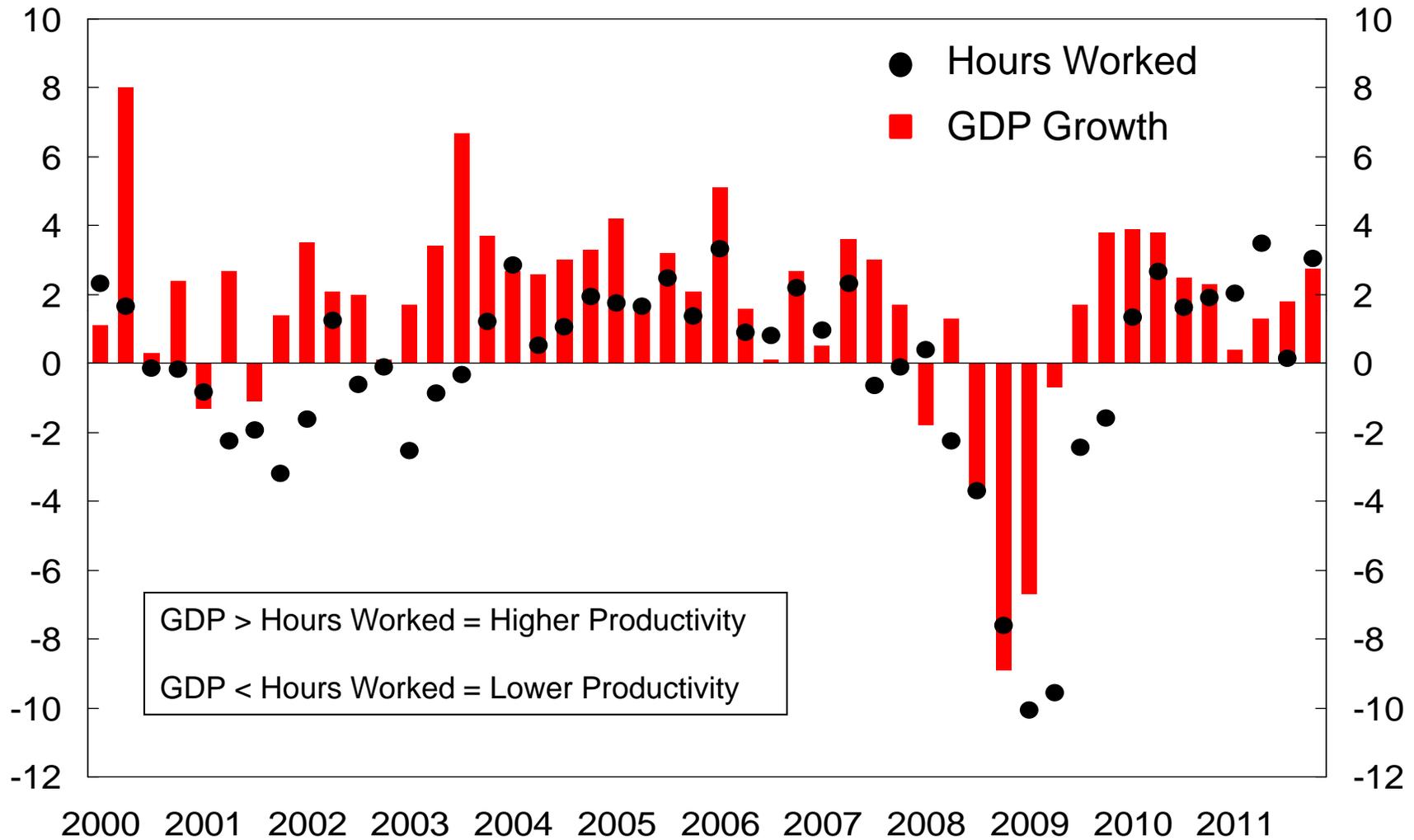
Assessing GDP: Production Side

- Labor hours useful for assessing GDP
 - $\text{GDP} = \text{hours worked} * \text{output per hour (labor productivity)}$
 - Hours information: much comes from monthly labor market report (Bureau of Labor Statistics)
- Using hours is limited by volatility of productivity growth
 - Least helpful at turning points of the business cycle

GDP Growth and Hours Worked

% Change (Annual Rate)

% Change (Annual Rate)

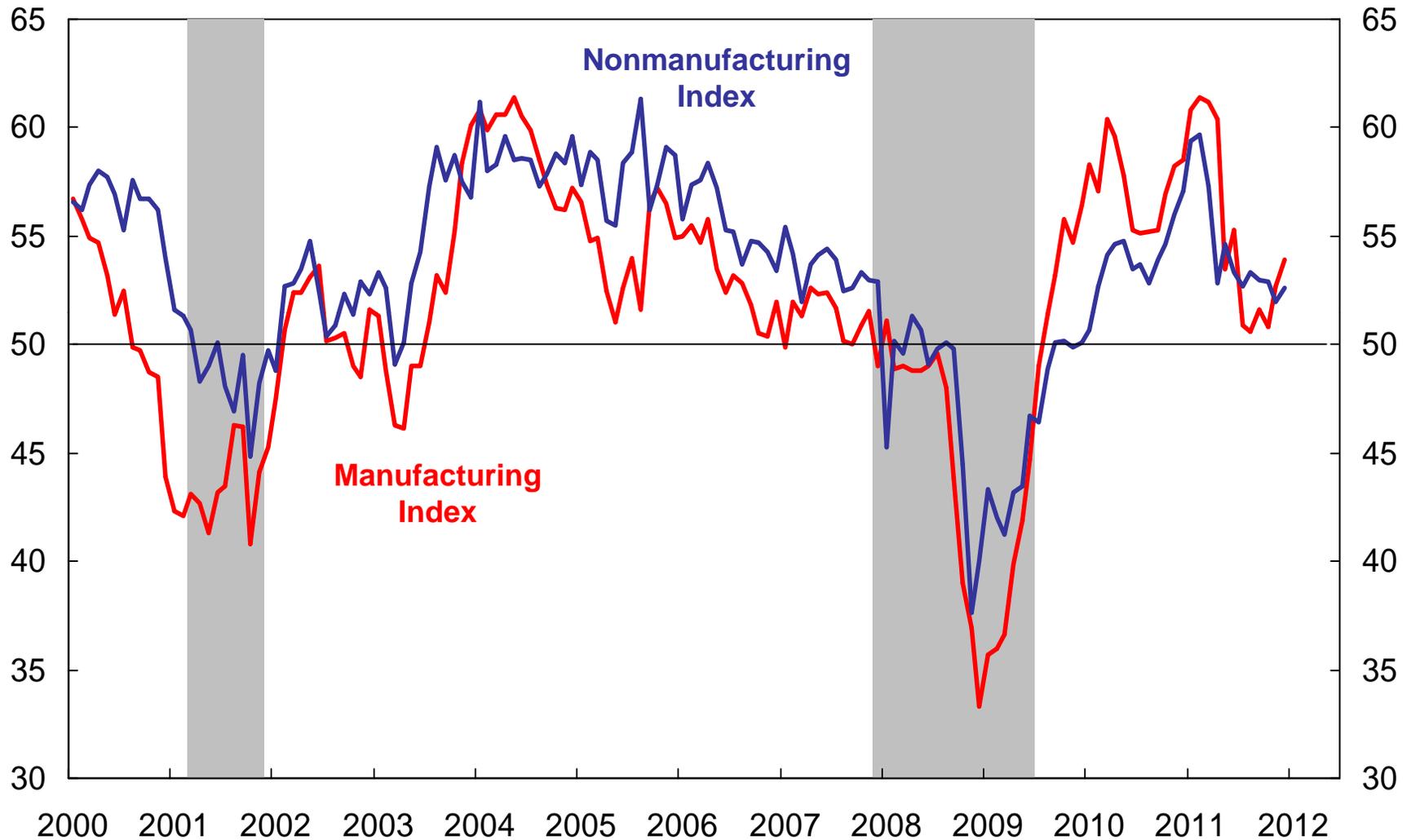


Sources: Bureaus of Labor Statistics and Economic Analysis

ISM Business Activity Survey Measures

Index, 50+ = rising activity

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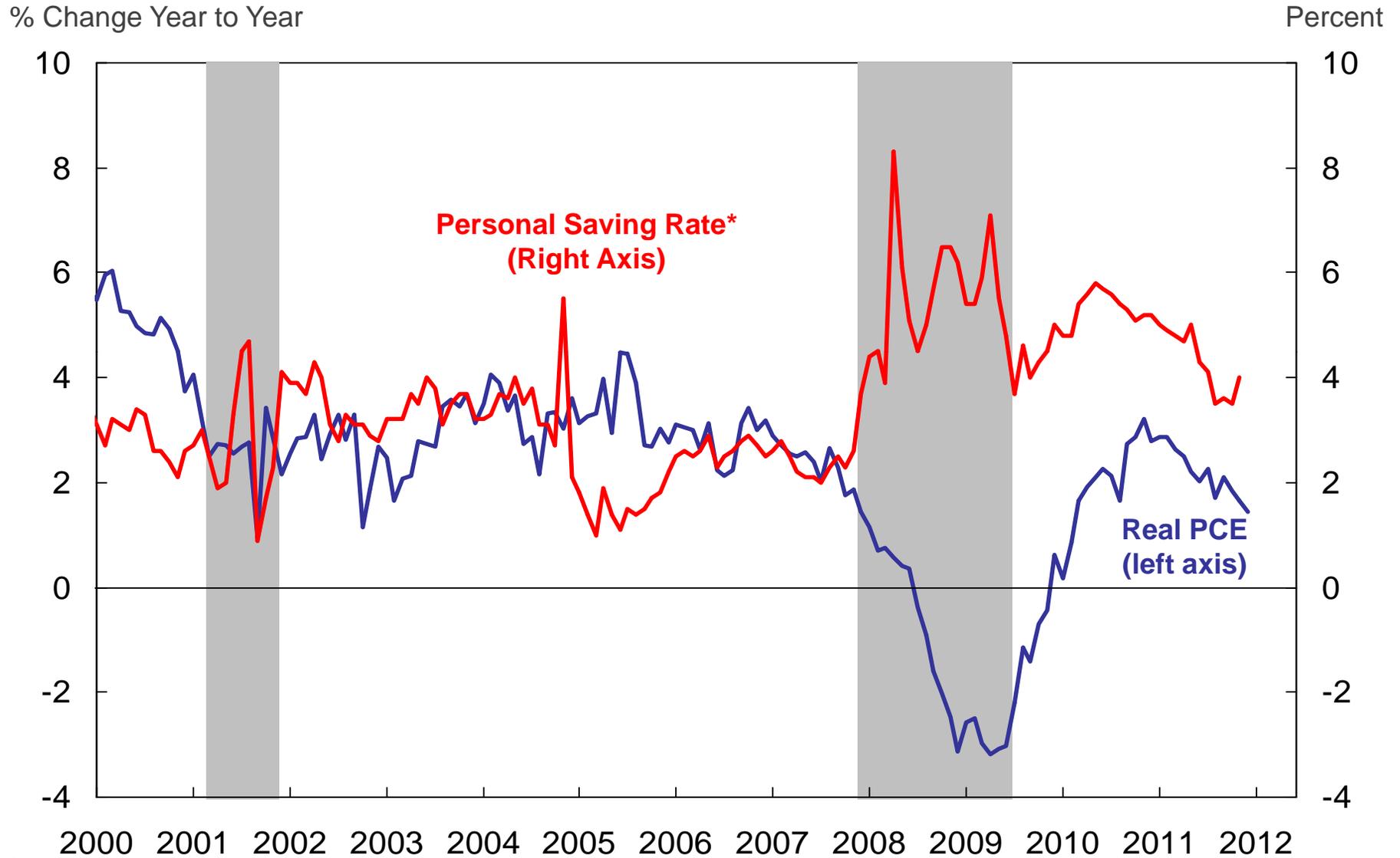
Source: Institute of Supply Management

Note: Shading represents NBER recessions

Assessing GDP: Expenditures Side

- Assess GDP through monthly indicators...
- ...of each expenditures components
 - For example: private consumption and investment

Consumption: Real PCE and Personal Saving Rate

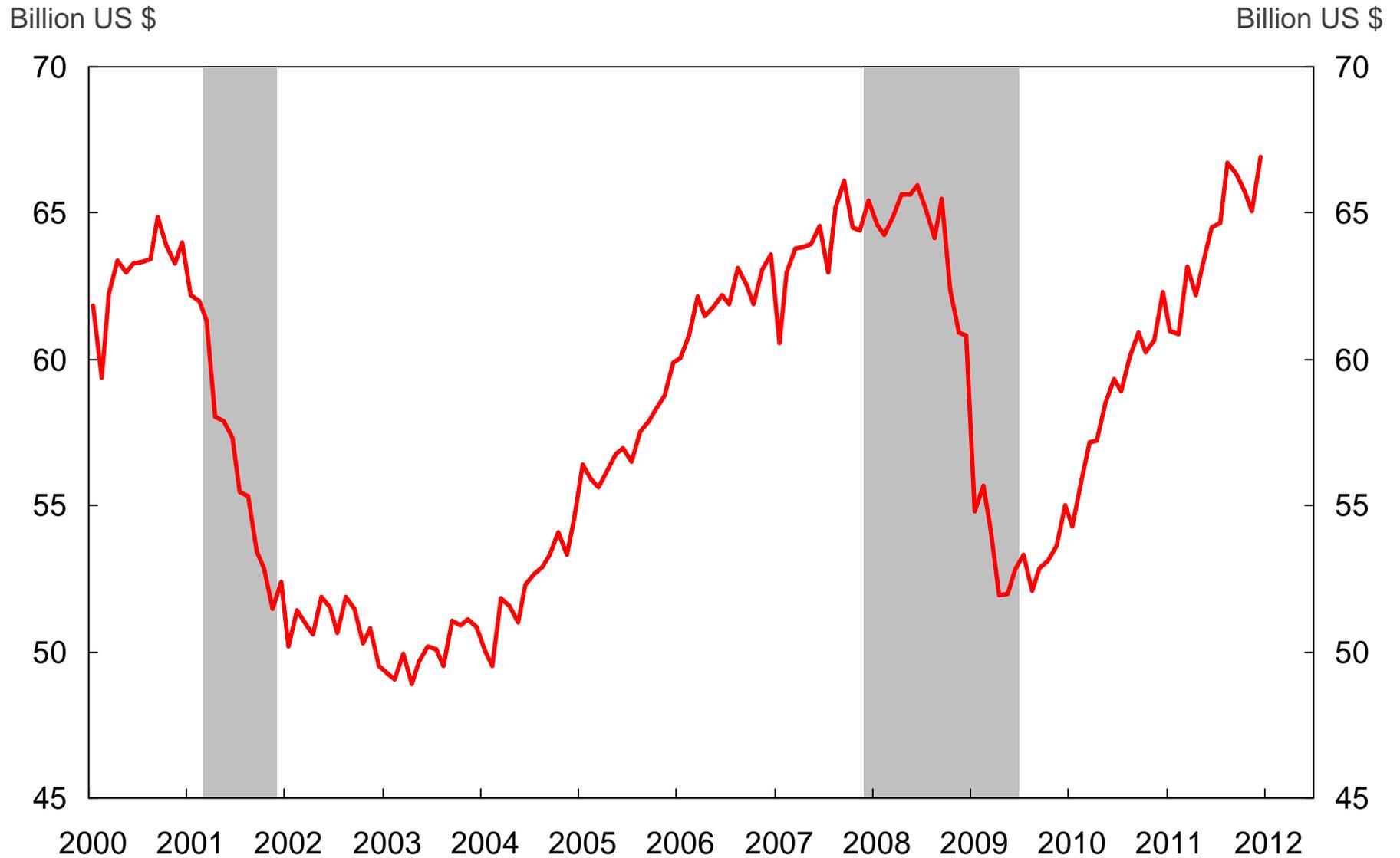


* Saving as a percent of disposable income

Source: Bureau of Economic Analysis

Note: Shading represents NBER recessions

Investment: Shipments of Capital Goods Ex Aircraft



Source: Census Bureau

Note: Shading represents NBER recessions

Assessing GDP: Expenditures Side

Other indicators include:

- Consumption:
 - Auto sales (Bureau of Economic Analysis from motor vehicle manufacturers' sales reports)
 - Retail sales (Census Bureau)

- Investment:
 - Housing Starts (Census Bureau)
 - Total business Inventories (Census Bureau)
 - Construction (Census Bureau)

- Exports and Imports:
 - Monthly trade balance (Bureau of Economic Analysis)

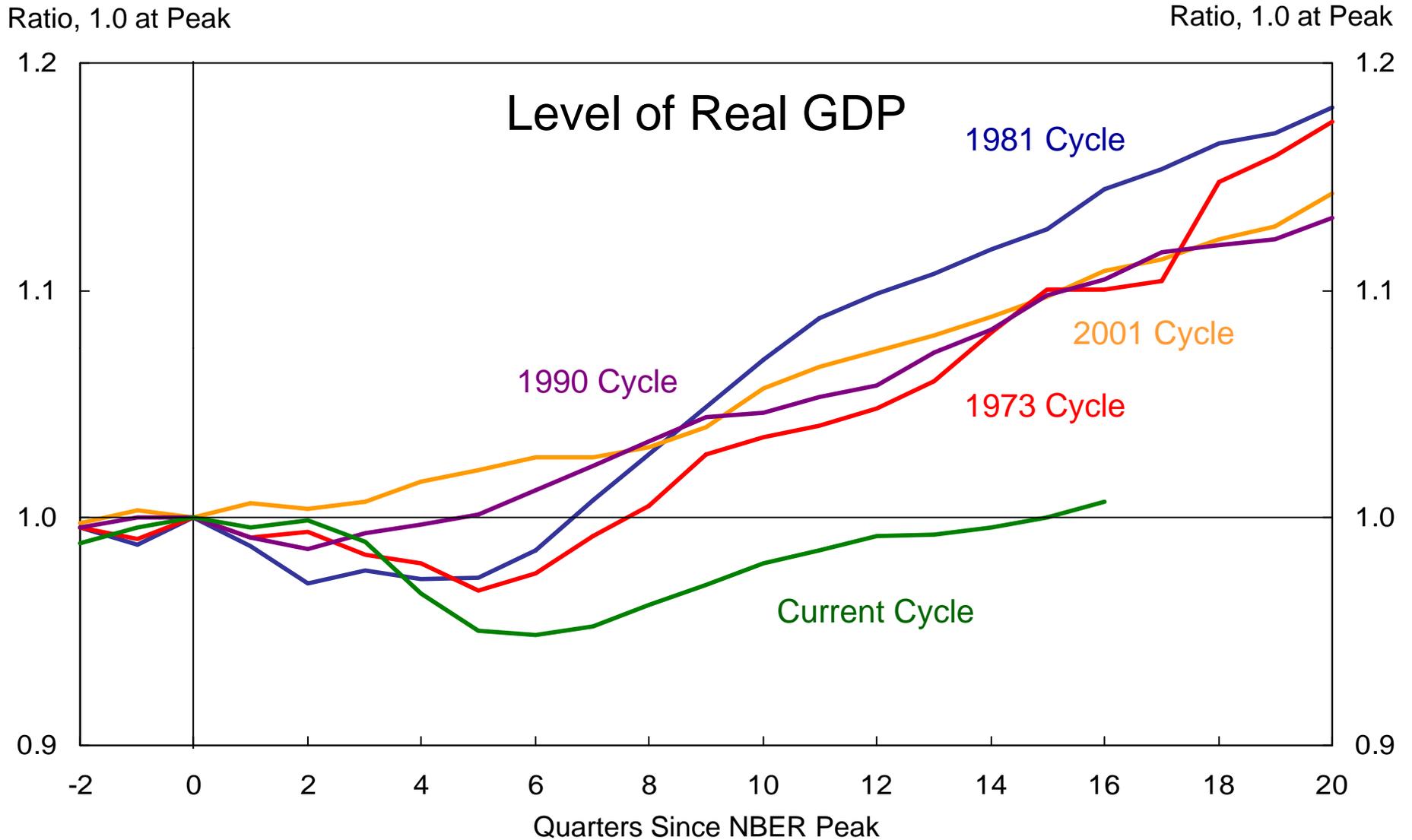
Developing a Forecast

- Forecasters use both economic models and judgment
- Judgmental: based partly on previous business cycle patterns
 - Expenditure components in typical expansions:
 - Inventories lead followed by consumption and homebuilding
 - Business fixed investment spending follows later
 - GDP and productivity growth usually rapid early in the expansion
 - Employment growth typically sluggish at the start
 - Unemployment rate has risen early in recent expansions
- Financial market signals also may be important

Developing a Forecast: Telling a Story

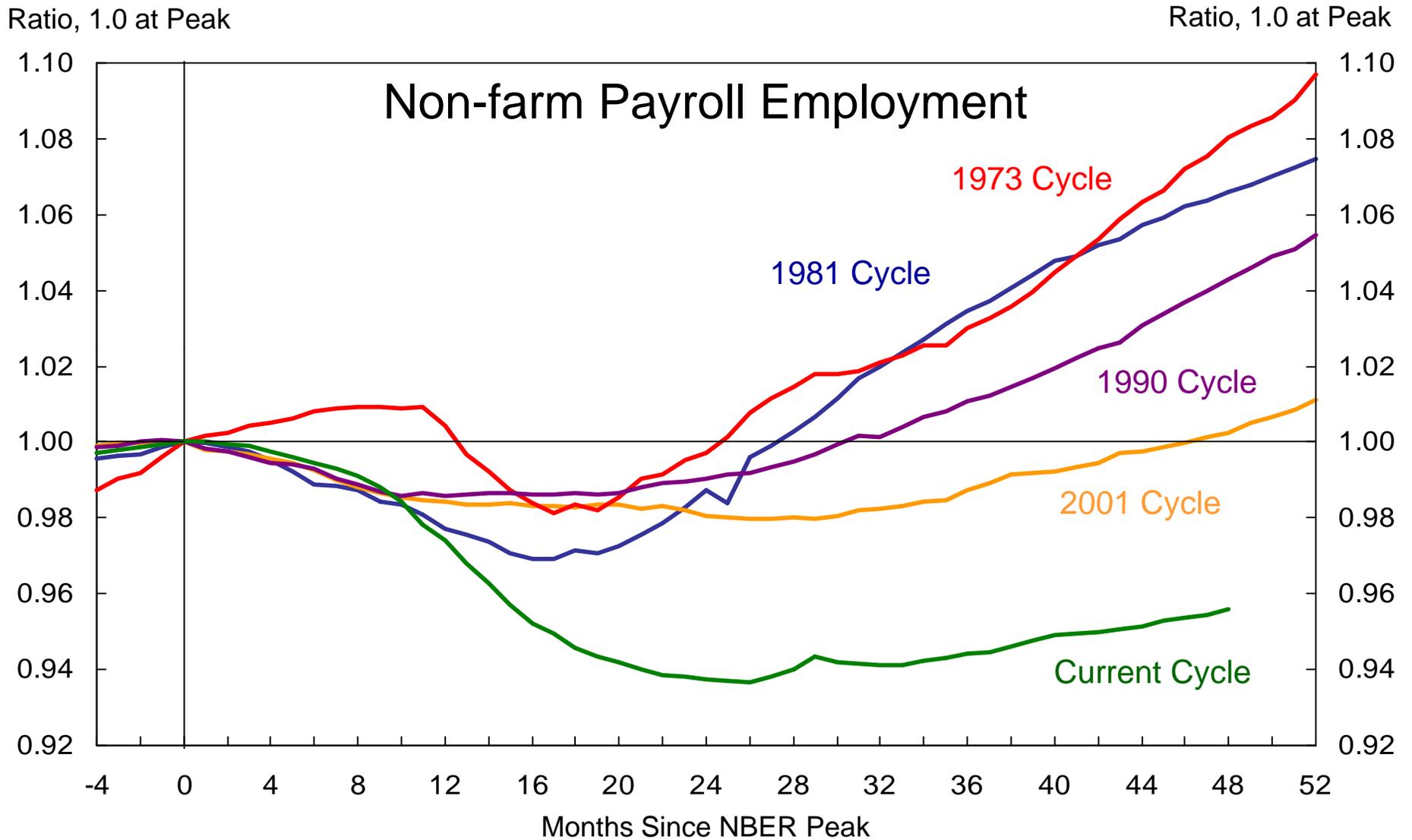
- Yet, every business cycle is different!
- Compare current forecast to previous business cycles
 - What is different this time?
 - Why is it different?
- Consider temporary and long-lasting factors
 - Temporary: Supply disruptions from Japanese earthquake
 - Long-lasting: Recovery slowed by too much debt

A Very Unusual Occurrence at This Stage of the BC



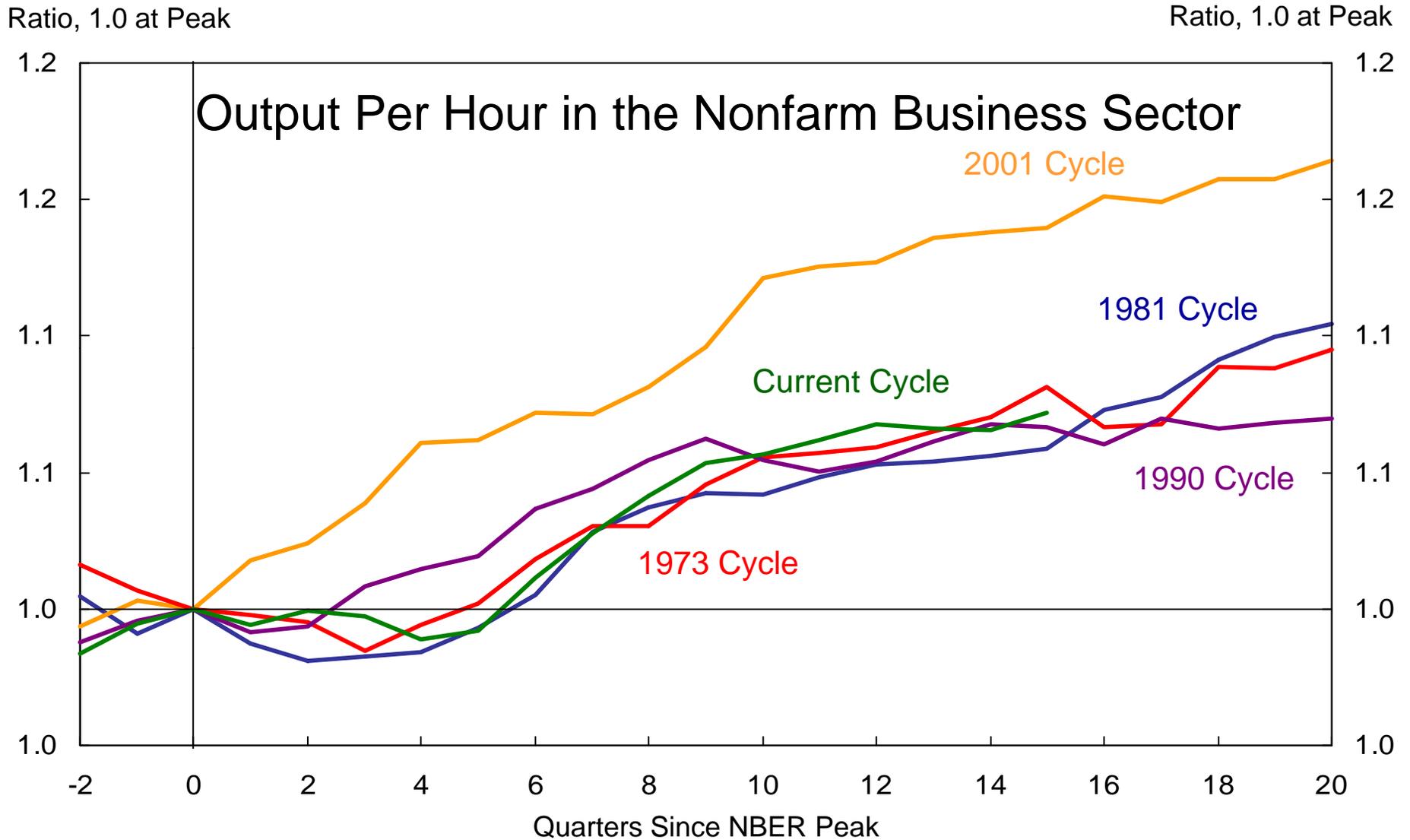
Source: Bureau of Economic Analysis

Also an Unusual Occurrence



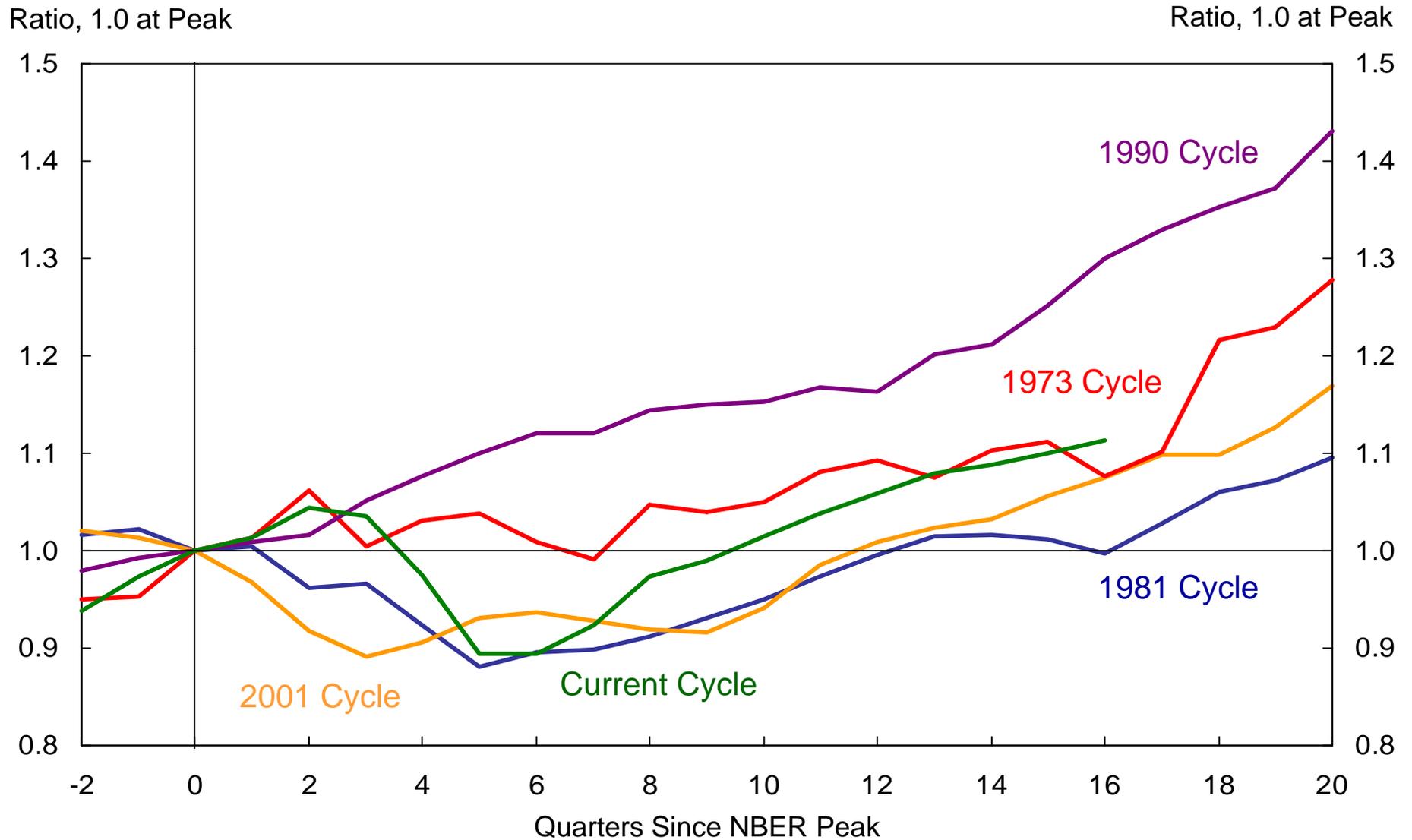
Source: Bureau of Labor Statistics

A New Normal? Not so Fast...



Source: Bureau of Labor Statistics

Exports

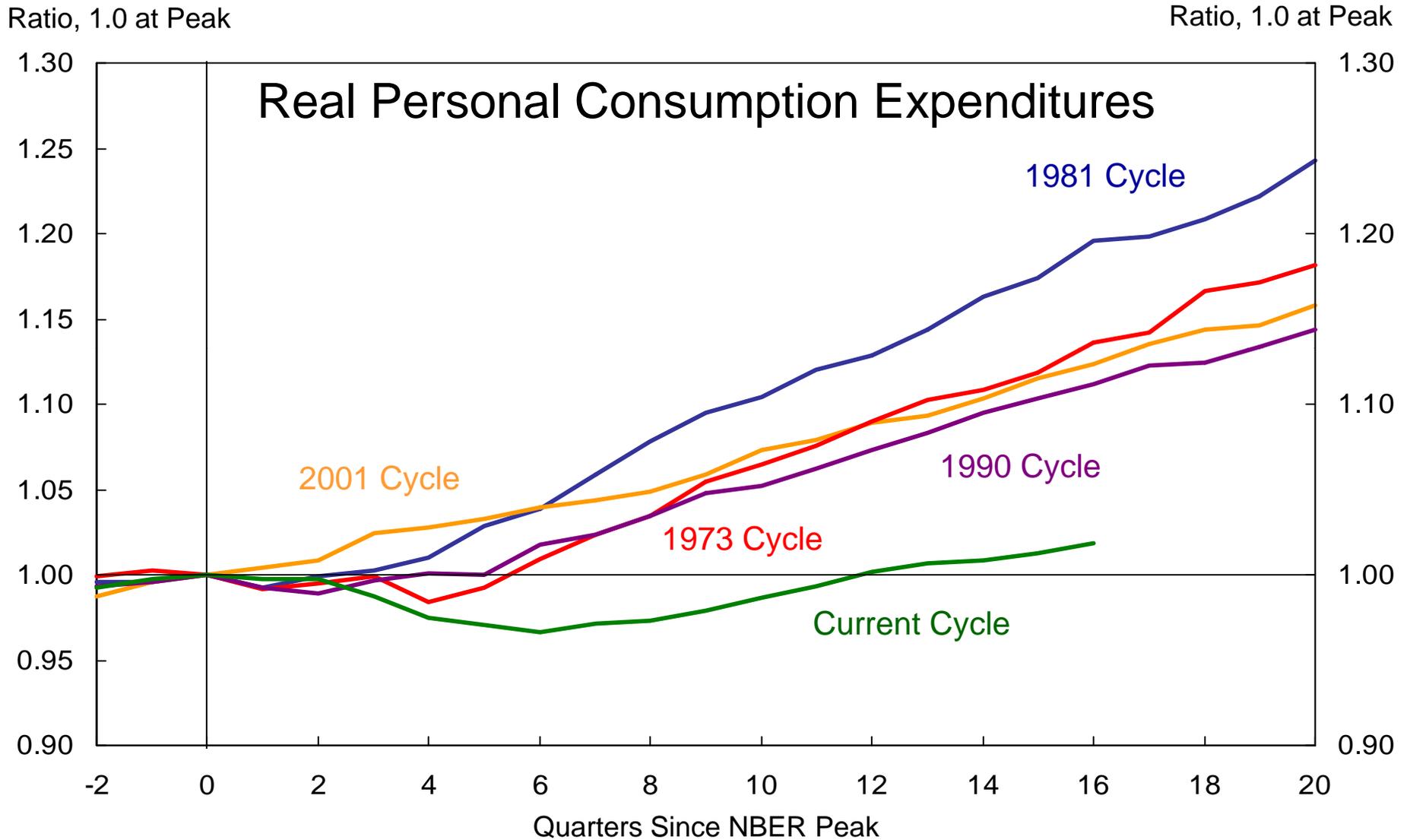


Source: Bureau of Economic Analysis

Developing a Forecast: Telling a Story

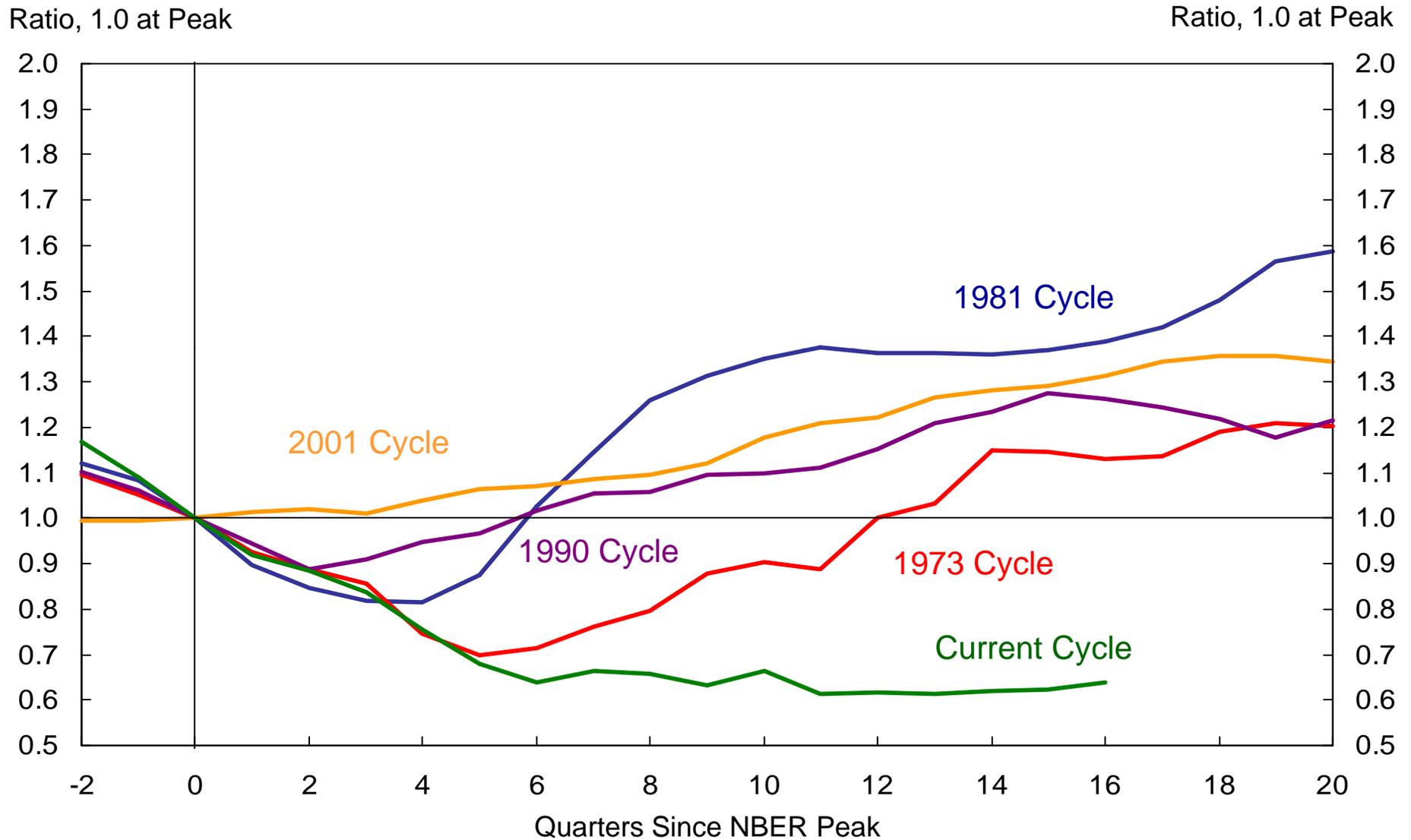
- Let's look at household spending ...
 - Consumer expenditures
 - Residential investment (housing)

A Slow Recovery in Consumer Spending



Source: Bureau of Economic Analysis

Residential Investment Still “Depressed”

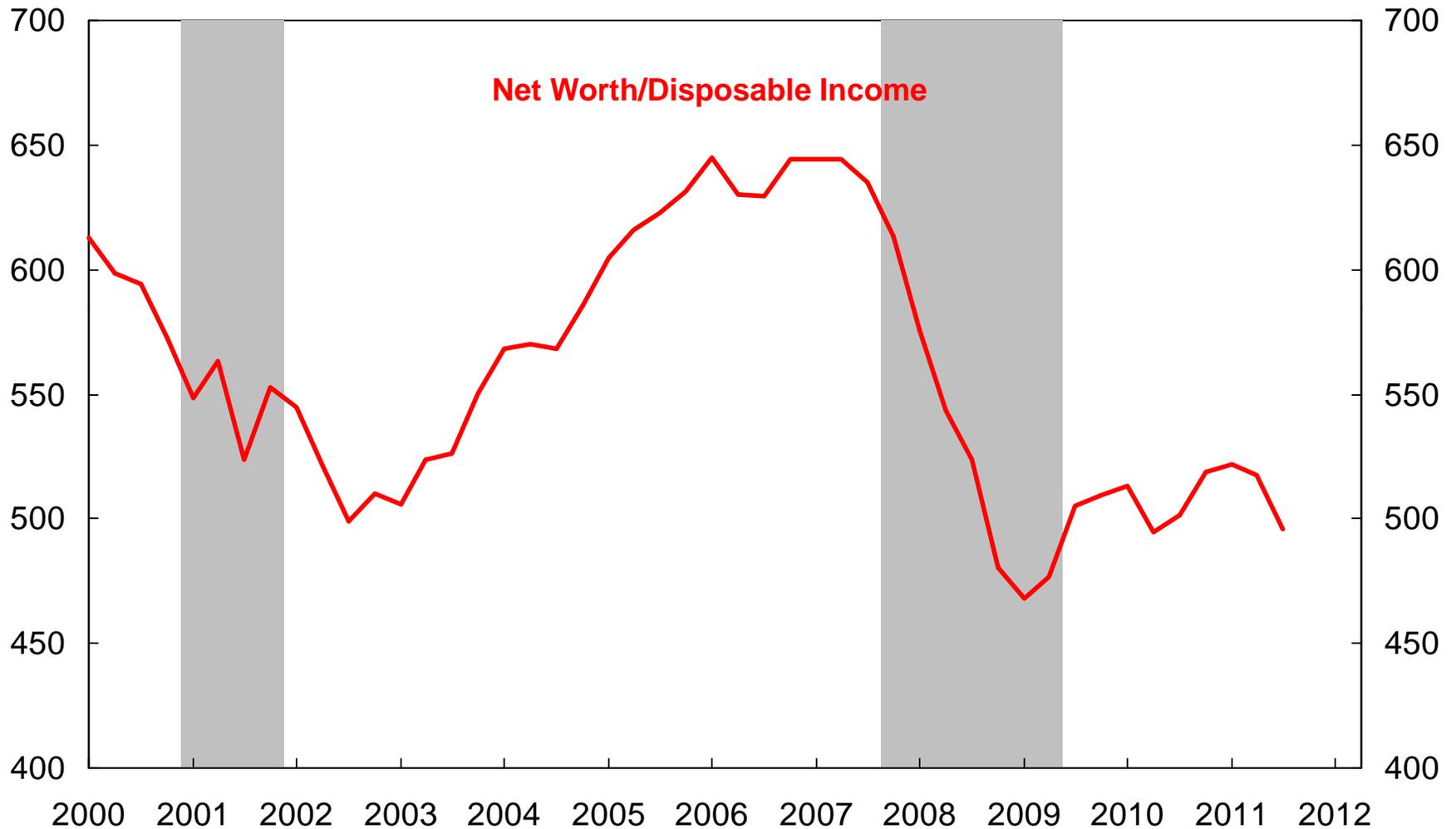


Source: Bureau of Economic Analysis

Why is Household Spending Weak? Less Wealth...

Percent of Disposable Income

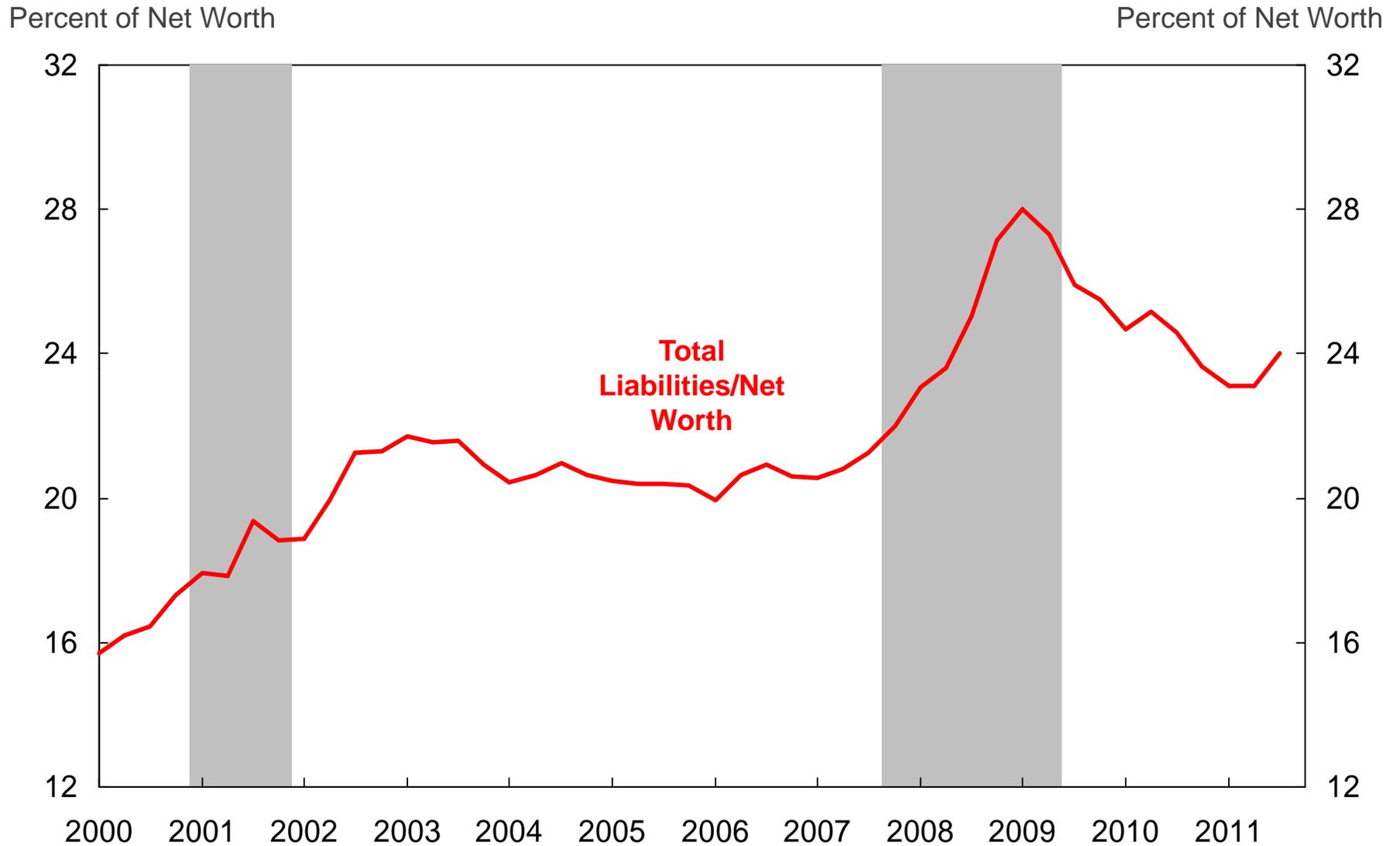
Percent of Disposable Income



Sources: Federal Reserve Board

Note: Shading represents NBER recessions

...and a High Debt Burden



Note: Shading represents NBER recessions

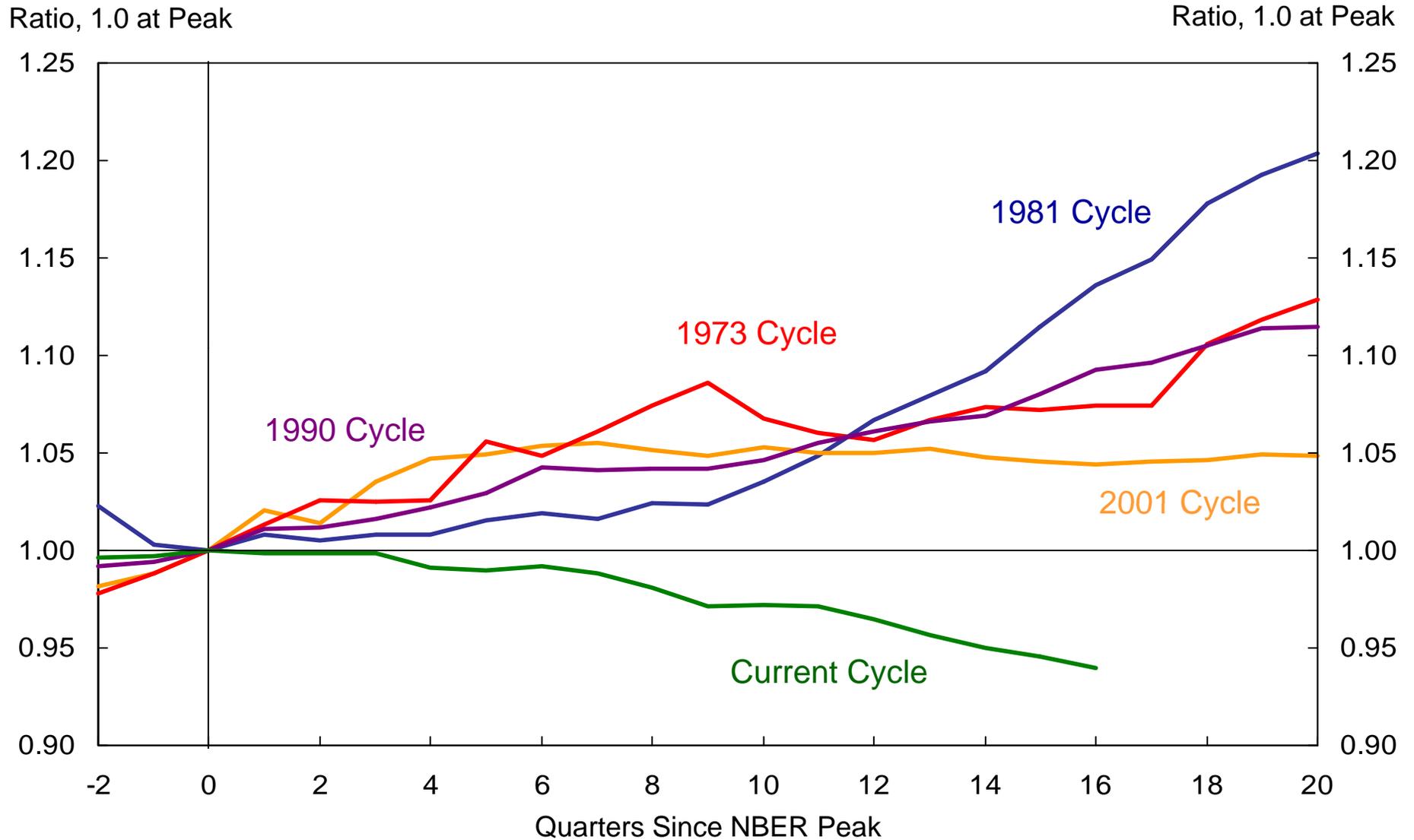
Data represent households and nonprofit organizations

Source: Federal Reserve Board

Developing a Forecast: Policy Effects

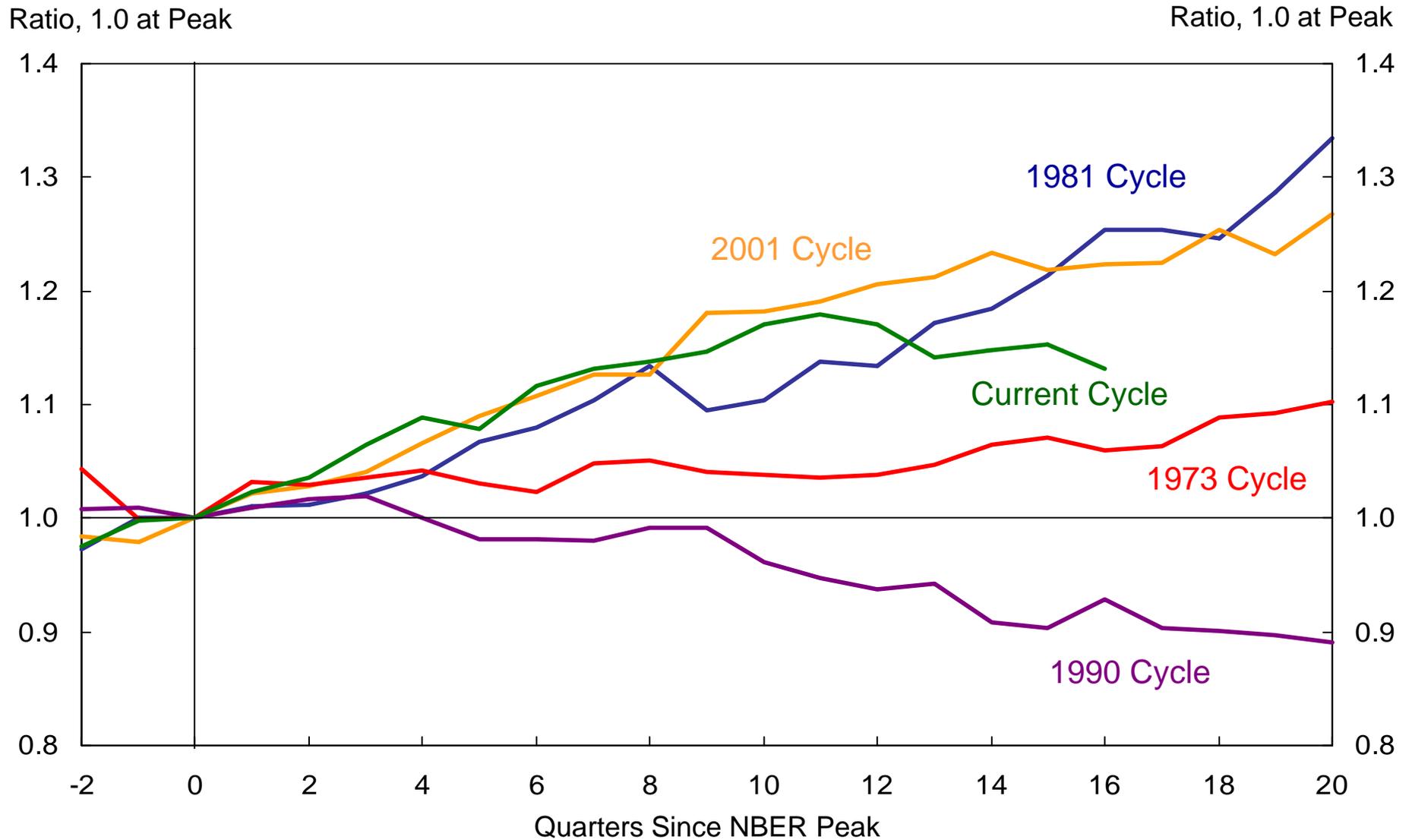
- Monetary and fiscal policy will affect the outlook, particularly at turning points
- Analysts estimate policy influence on the economy
 - Tax cuts should boost demand (more money for consumers, incentives to hire and expand capacity for firms)
 - More government spending may boost demand
 - Monetary policy: lower interest rates encourage consumption and business spending
 - Current issue: zero lower bound for the policy rate

State and Local Government Expenditures



Source: Bureau of Economic Analysis

Federal Government Expenditures

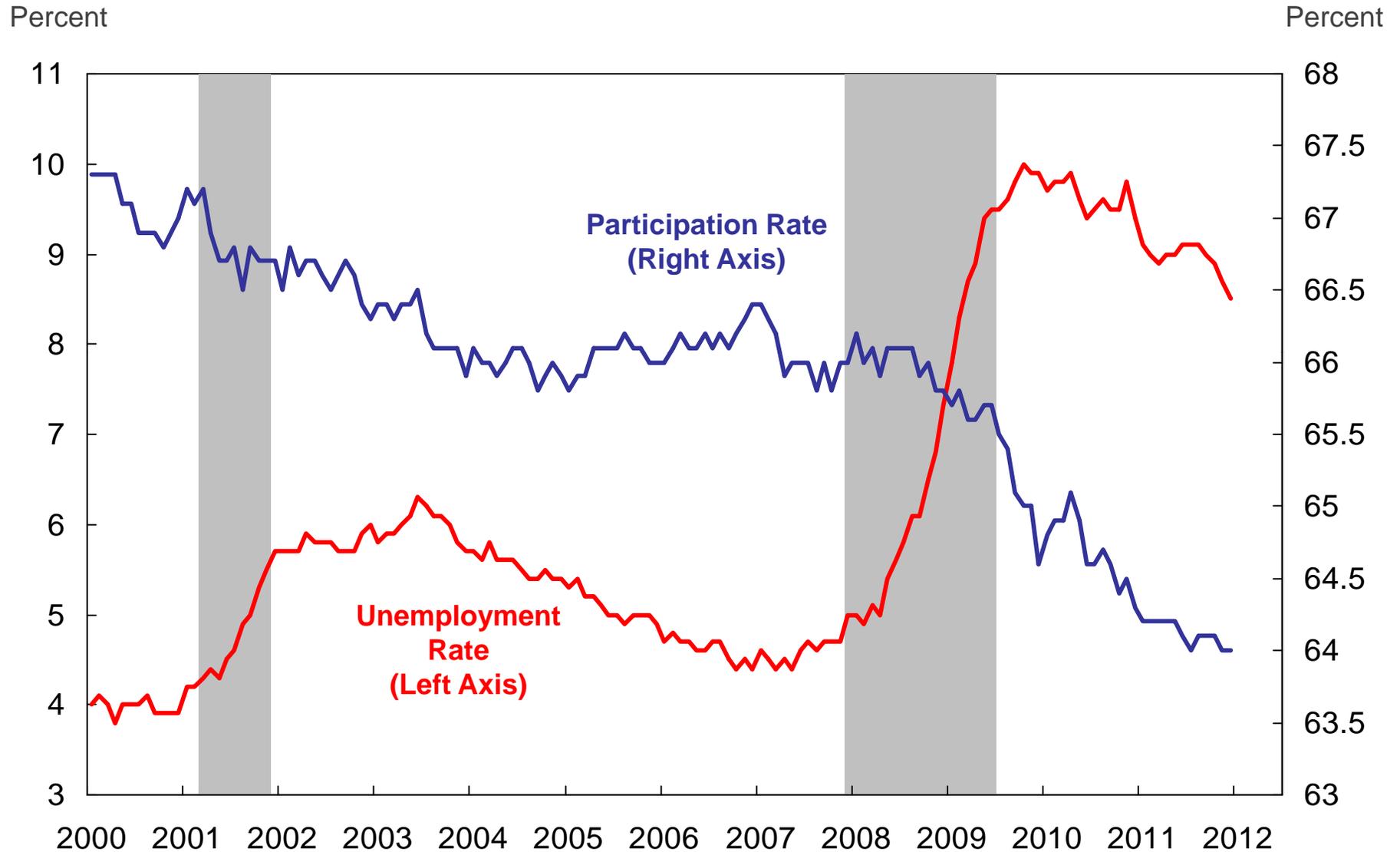


Source: Bureau of Economic Analysis

Developing a Forecast: Unemployment

- Challenge to forecast unemployment rate
- Will firms increase hours per worker or number of workers?
- What will productivity do?
 - Higher productivity implies lower employment for given GDP level
- How will the labor force participation rate behave?
 - Stronger labor market: more people looking for jobs, which could put upward pressure on the unemployment rate
 - ... and vice versa

Unemployment Remains High; Participation Falls



Source: Bureau of Labor Statistics

Note: Shading represents NBER recessions

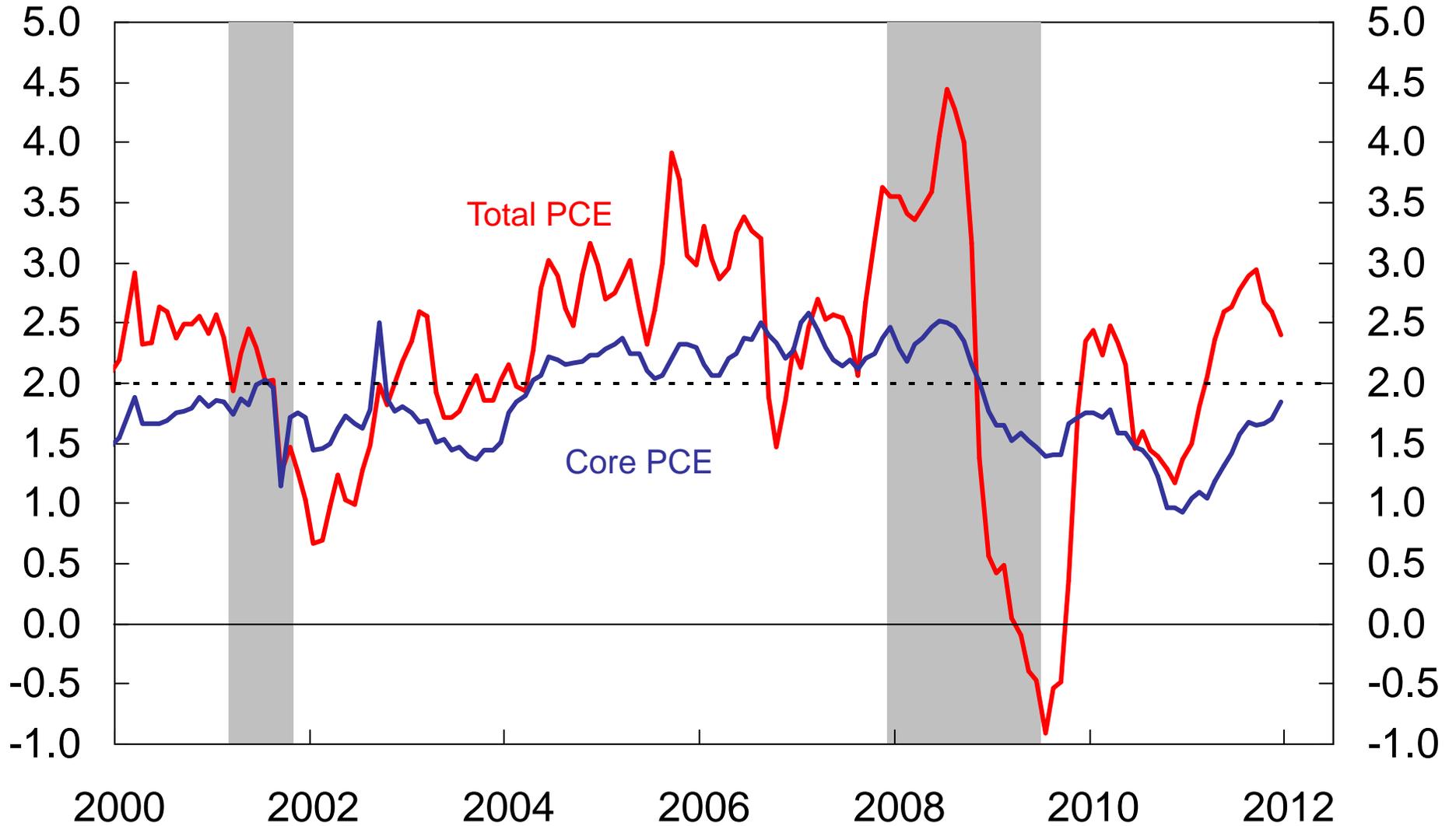
Developing a Forecast: Inflation

- Price stability goal: overall inflation
- Overall inflation can fluctuate considerably
 - Volatile energy and food prices
- Underlying inflation measures (ex. core inflation)
 - Impact of more persistent factors
 - Example: monetary policy stance
- Other factors influencing the inflation outlook
 - Supply side: wages and productivity
 - Demand side: output gap
 - Downward pressure on core inflation if $GDP < \text{potential GDP}$
 - But inflation expectations matter too!

Total and Core PCE Deflator

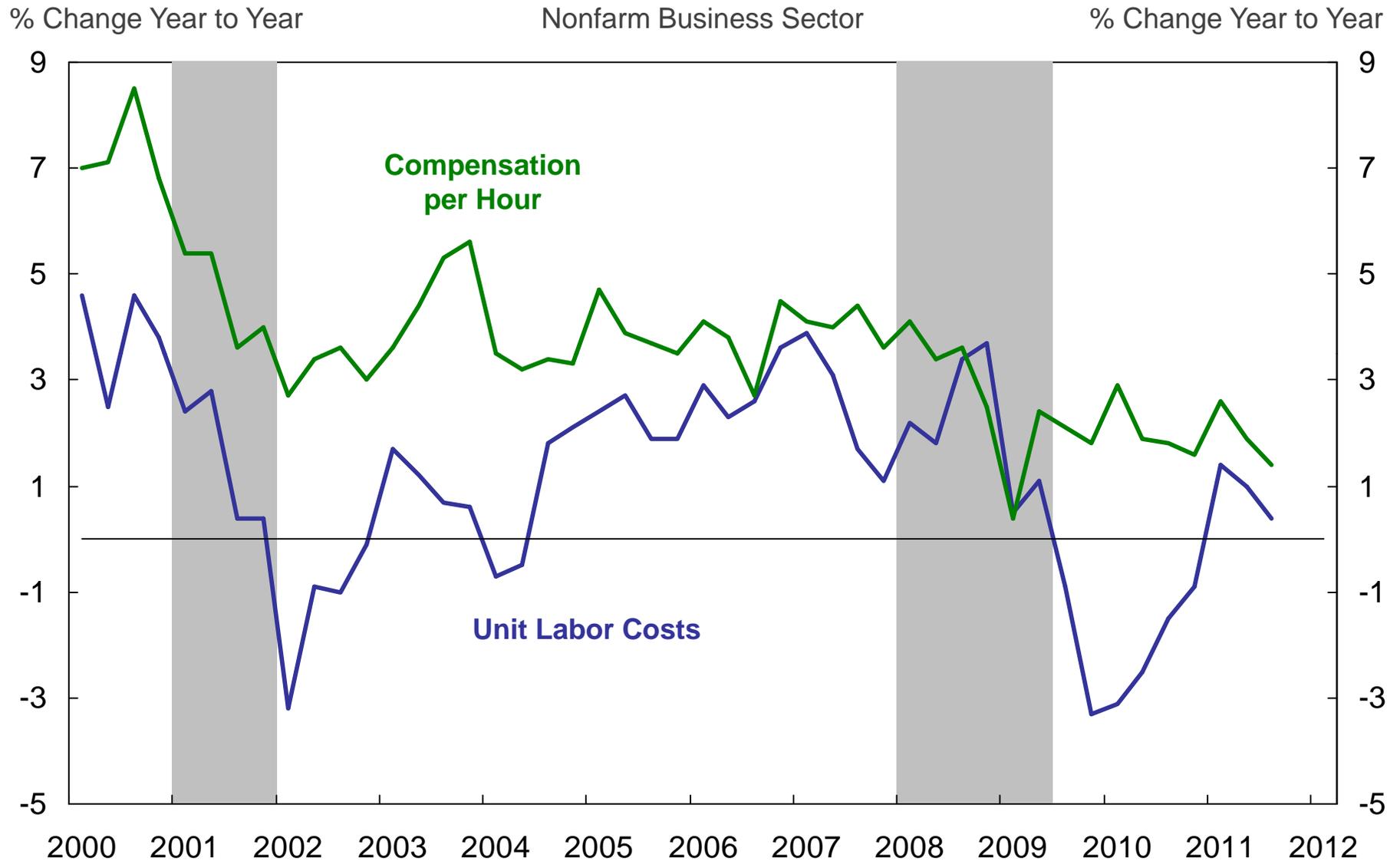
% Change - Year to Year

% Change - Year to Year



Source: Bureau of Economic Analysis

Inflation: Compensation and Unit Labor Costs



Source: Bureau of Labor Statistics

Note: Shading represents NBER recessions

Inflation Expectations



Source: Federal Reserve Board

Risks and Alternative Scenarios

- A central forecast is important but need to evaluate risks
- Think about why a forecast could be wrong
 - Examples: Longer than expected deleveraging process, Europe, global growth, fiscal consolidation
- Upside and downside risks to economic activity and inflation
 - Assess the balance of those risks
- Consequences for monetary policy:
 - Downside risk to economic growth or risk of deflation may require a more aggressive policy response

Conclusion

- Forecasts respond to incoming data
- Outlook also includes a sense of the risks
 - How likely for growth to be stronger than forecast?
- Comparison to previous business cycles helps to frame a forecast
- Important to assess and discuss factors influencing the outlook
 - Example: Household deleveraging as a “headwind”