CHAPTER 14

Stabilization Policy

MACROECONOMICS SIXTH EDITION

N. GREGORY MANKIW

PowerPoint® Slides by Ron Cronovich

In this chapter, you will learn…

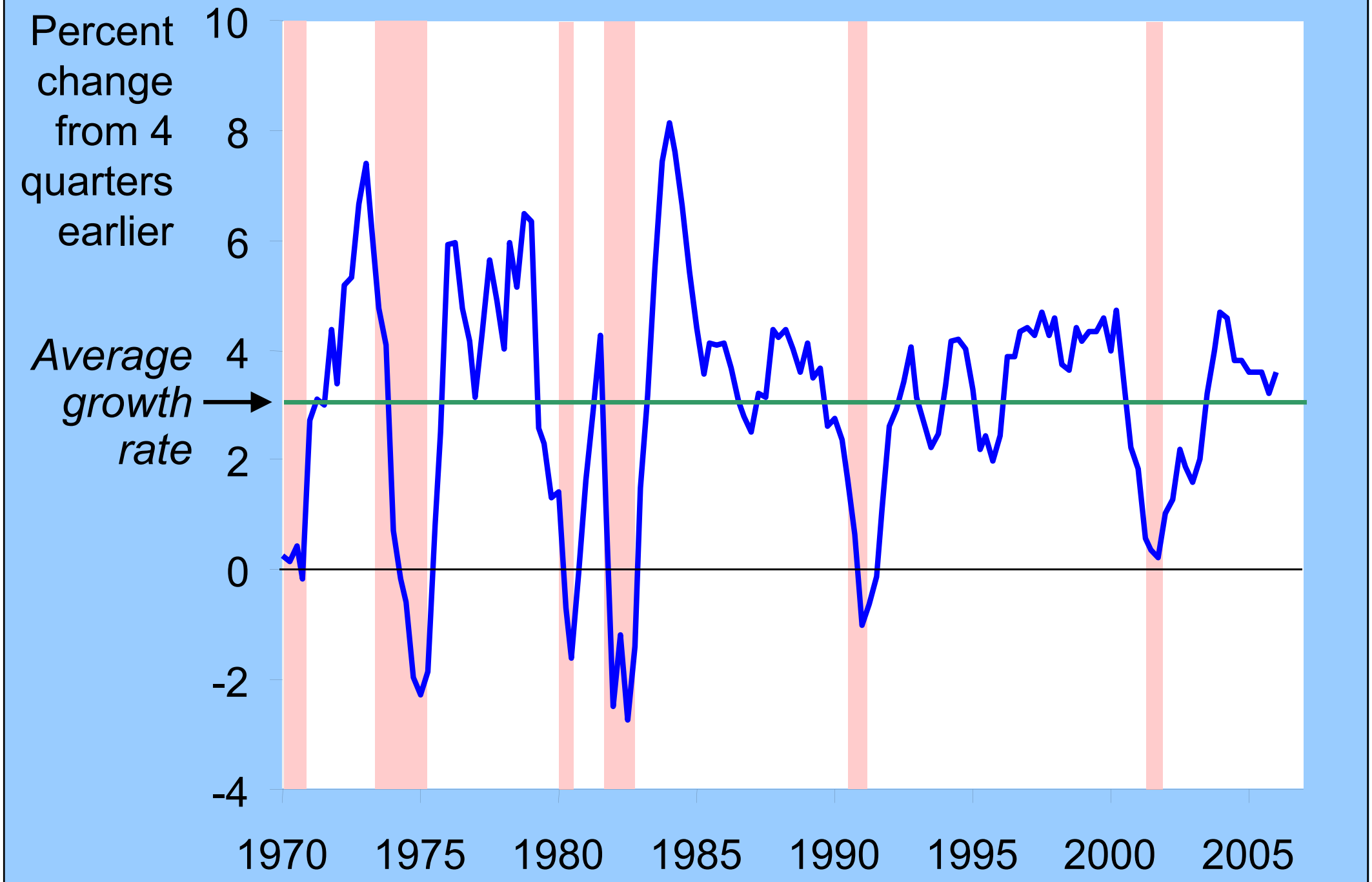
…about two policy debates:

1. Should policy be active or passive?
2. Should policy be by rule or discretion?

Question 1:

Should policy be active or passive?

Growth rate of U.S. real GDP



Increase in unemployment during recessions

peak	trough	increase in no. of unemployed persons (millions)
July 1953	May 1954	2.11
Aug 1957	April 1958	2.27
April 1960	February 1961	1.21
December 1969	November 1970	2.01
November 1973	March 1975	3.58
January 1980	July 1980	1.68
July 1981	November 1982	4.08
July 1990	March 1991	1.67
March 2001	November 2001	1.50

Arguments for active policy

- Recessions cause economic hardship for millions of people.
- The Employment Act of 1946:
  "It is the continuing policy and responsibility of the Federal Government to…promote full employment and production."
- The model of aggregate demand and supply (Chaps. 9-13) shows how fiscal and monetary policy can respond to shocks and stabilize the economy.

Arguments against active policy

Policies act with long & variable lags, including:

inside lag:
the time between the shock and the policy response.

- takes time to recognize shock
- takes time to implement policy, especially fiscal policy

outside lag:
the time it takes for policy to affect economy.

If conditions change before policy's impact is felt, the policy may destabilize the economy.

Automatic stabilizers

- definition:
  policies that stimulate or depress the economy when necessary without any deliberate policy change.
- Designed to reduce the lags associated with stabilization policy.
- Examples:
  - income tax
  - unemployment insurance
  - welfare

Forecasting the macroeconomy

Because policies act with lags, policymakers must predict future conditions.

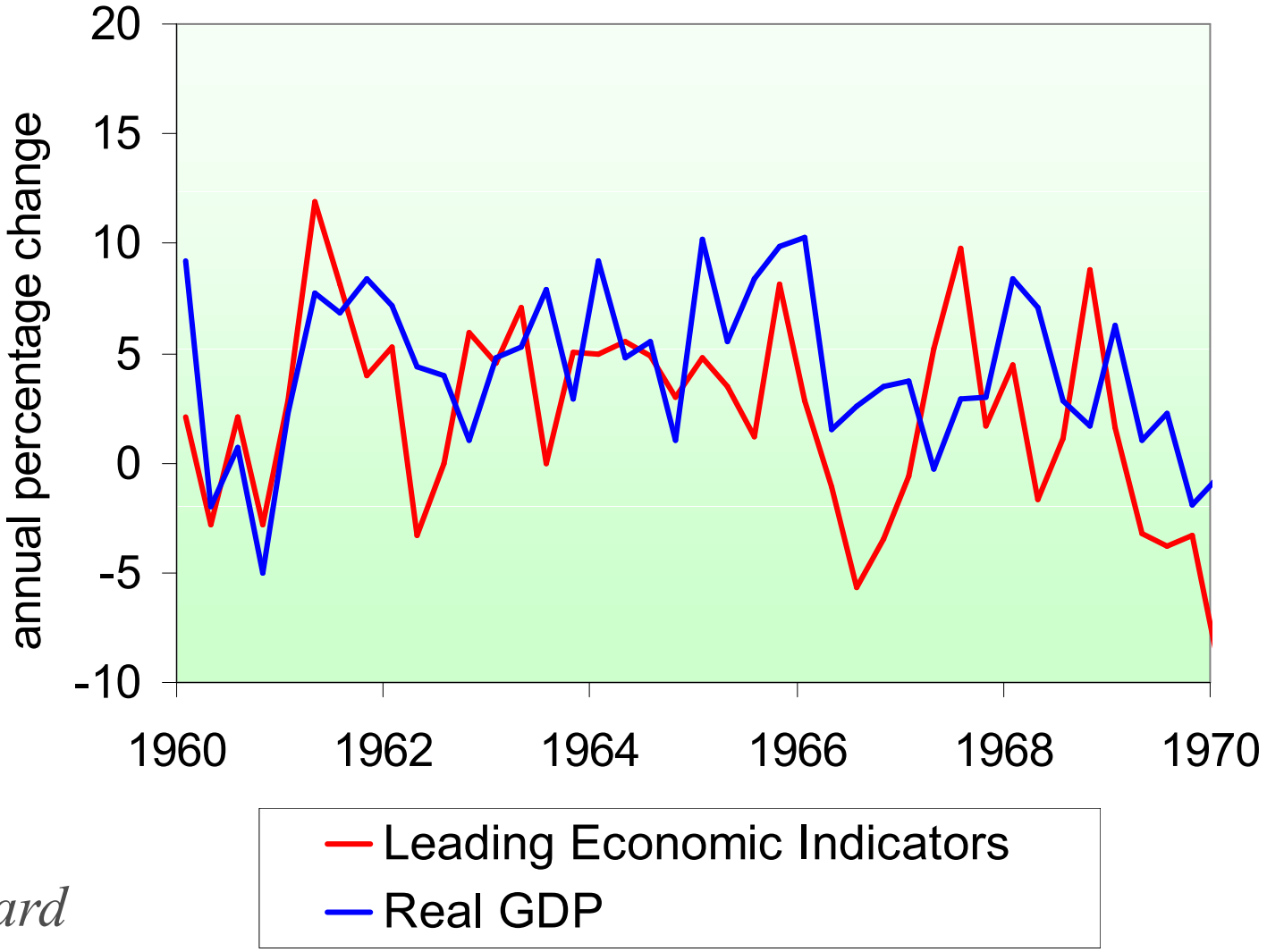
Two ways economists generate forecasts:

- *Leading economic indicators*
  data series that fluctuate in advance of the economy
- *Macroeconometric models*
  Large-scale models with estimated parameters that can be used to forecast the response of endogenous variables to shocks and policies

The LEI index and real GDP, 1960s

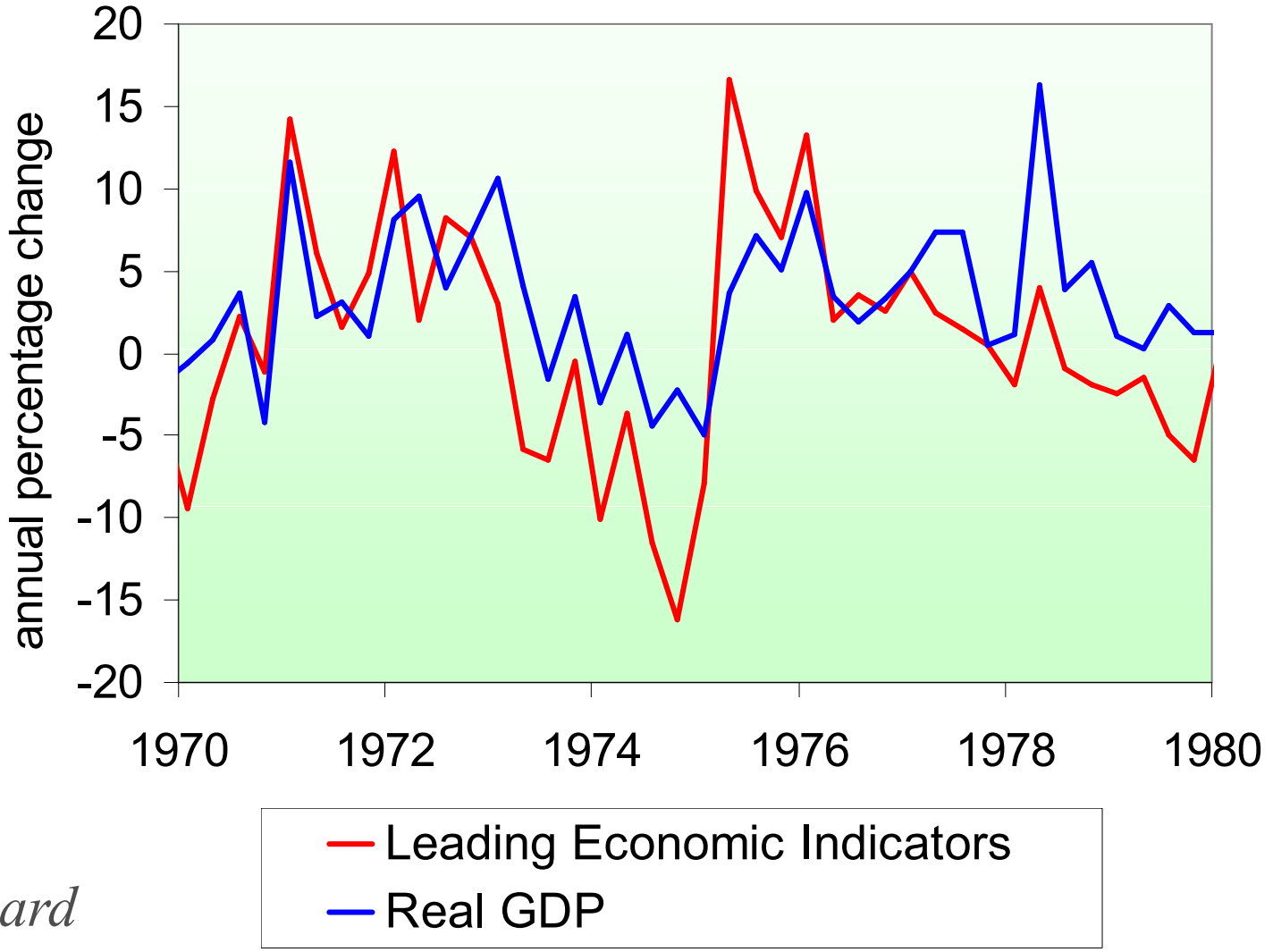
The *Index of Leading Economic Indicators* includes 10 data series

(*see p.258*).



source of LEI data:
The Conference Board

The LEI index and real GDP, 1970s



source of LEI data:
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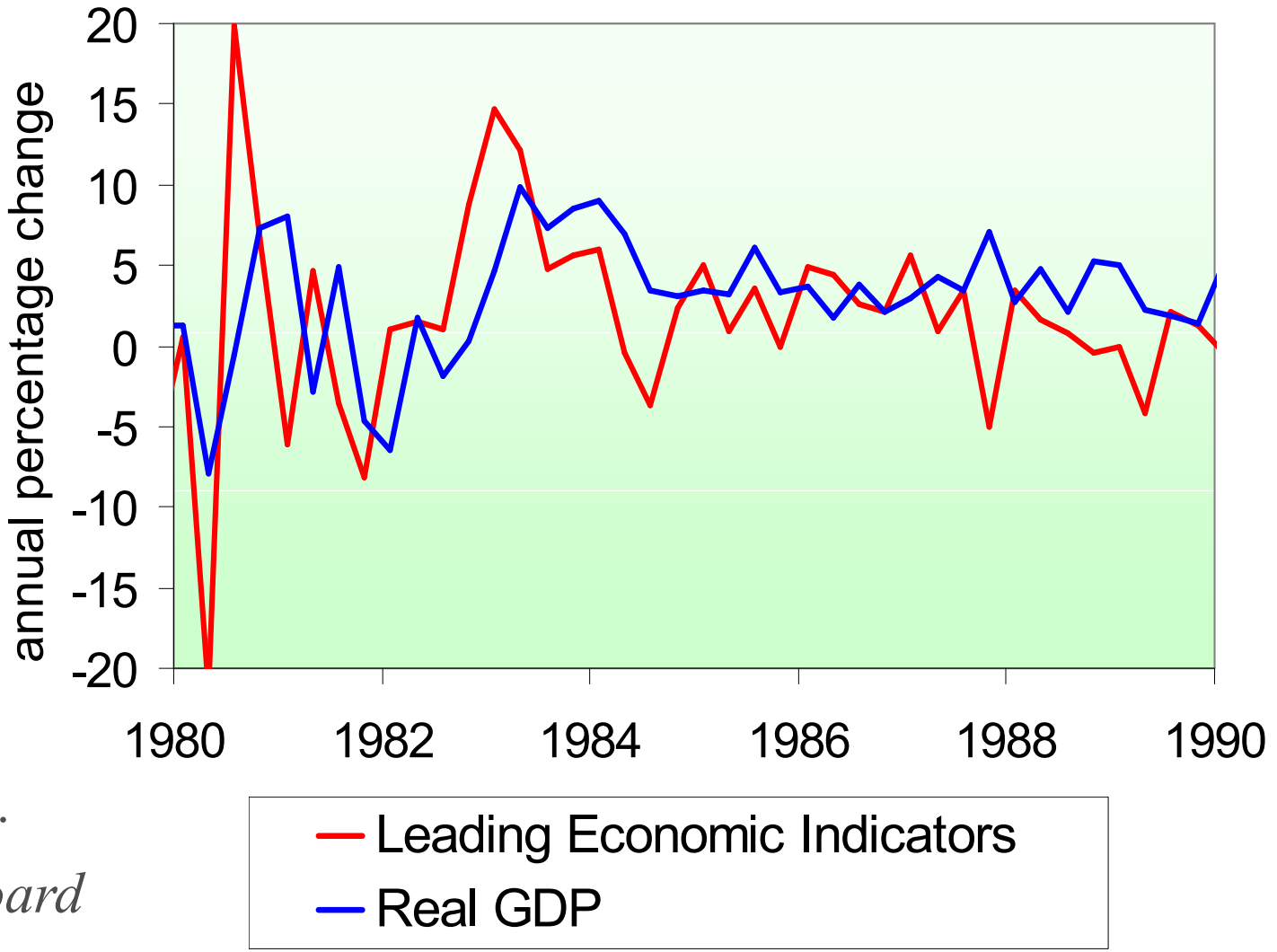
The LEI index and real GDP, 1980s



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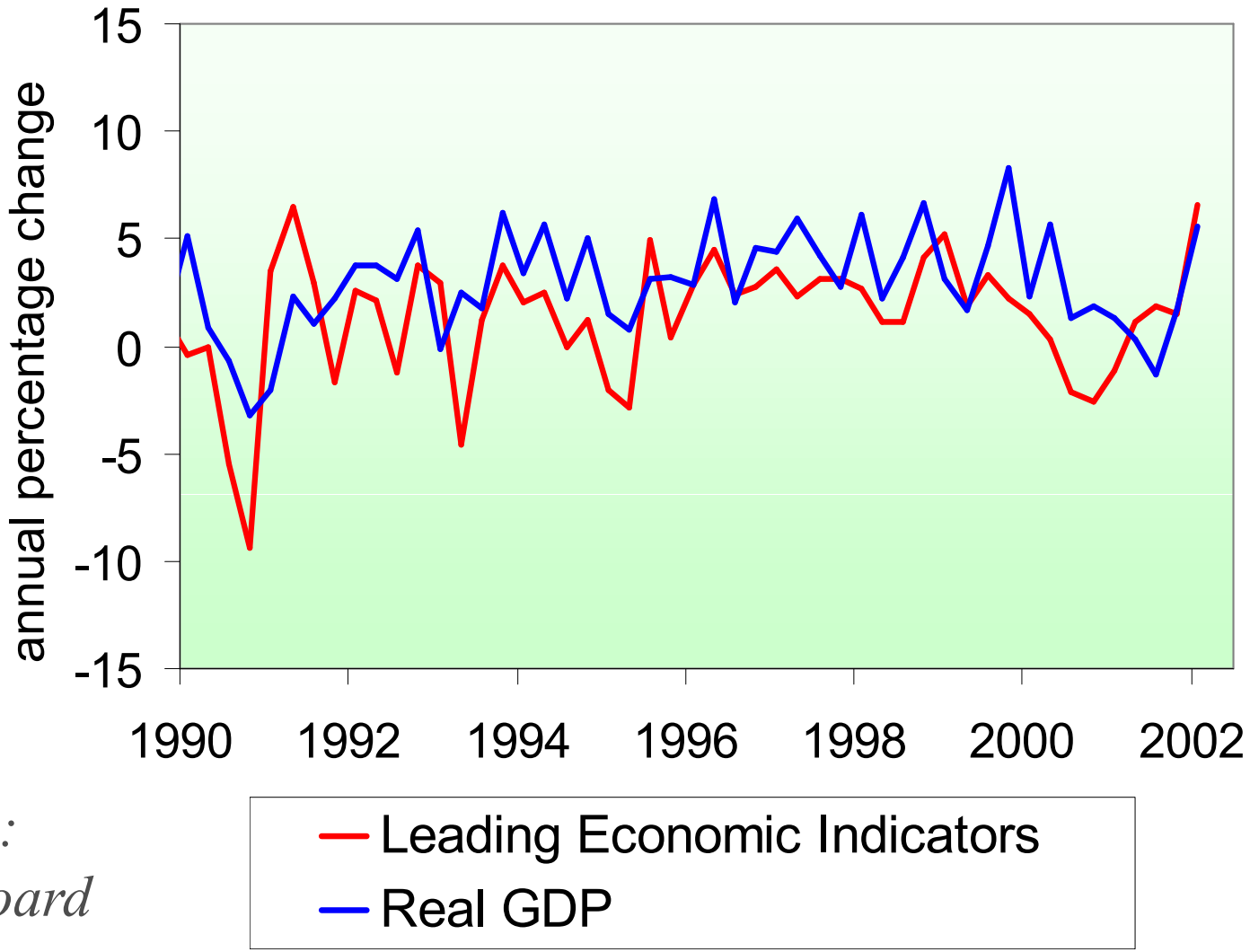
The LEI index and real GDP, 1990s



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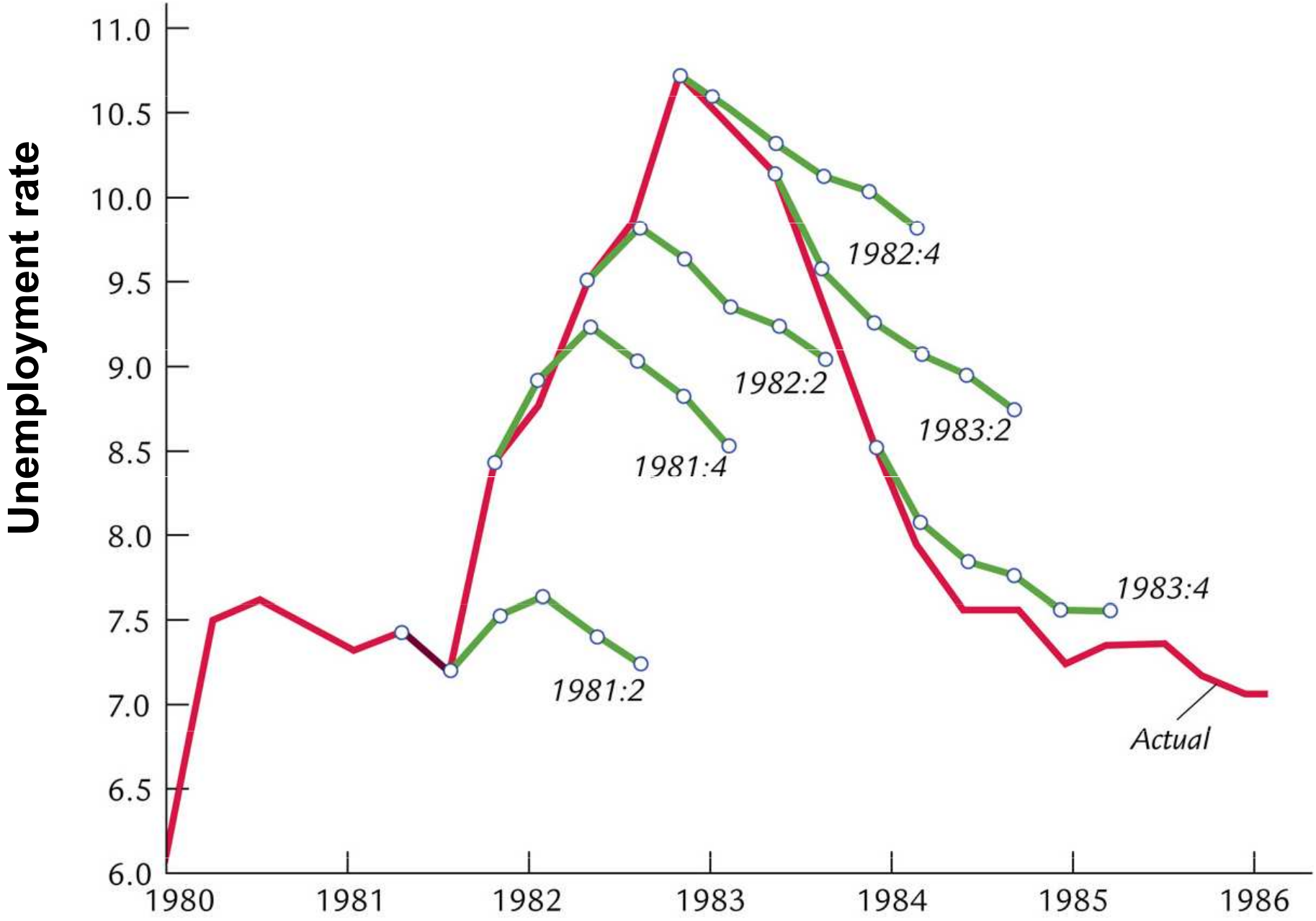
Mistakes forecasting the 1982 recession



Forecasting the macroeconomy

Because policies act with lags, policymakers must predict future conditions.

The preceding slides show that the forecasts are often wrong.

This is one reason why some economists oppose policy activism.

The Lucas critique

- Due to Robert Lucas
  who won Nobel Prize in 1995 for rational expectations.
- Forecasting the effects of policy changes has often been done using models estimated with historical data.
- Lucas pointed out that such predictions would not be valid if the policy change alters expectations in a way that changes the fundamental relationships between variables.

An example of the Lucas critique

- Prediction (based on past experience):
  An increase in the money growth rate will reduce unemployment.
- The Lucas critique points out that increasing the money growth rate may raise expected inflation, in which case unemployment would not necessarily fall.

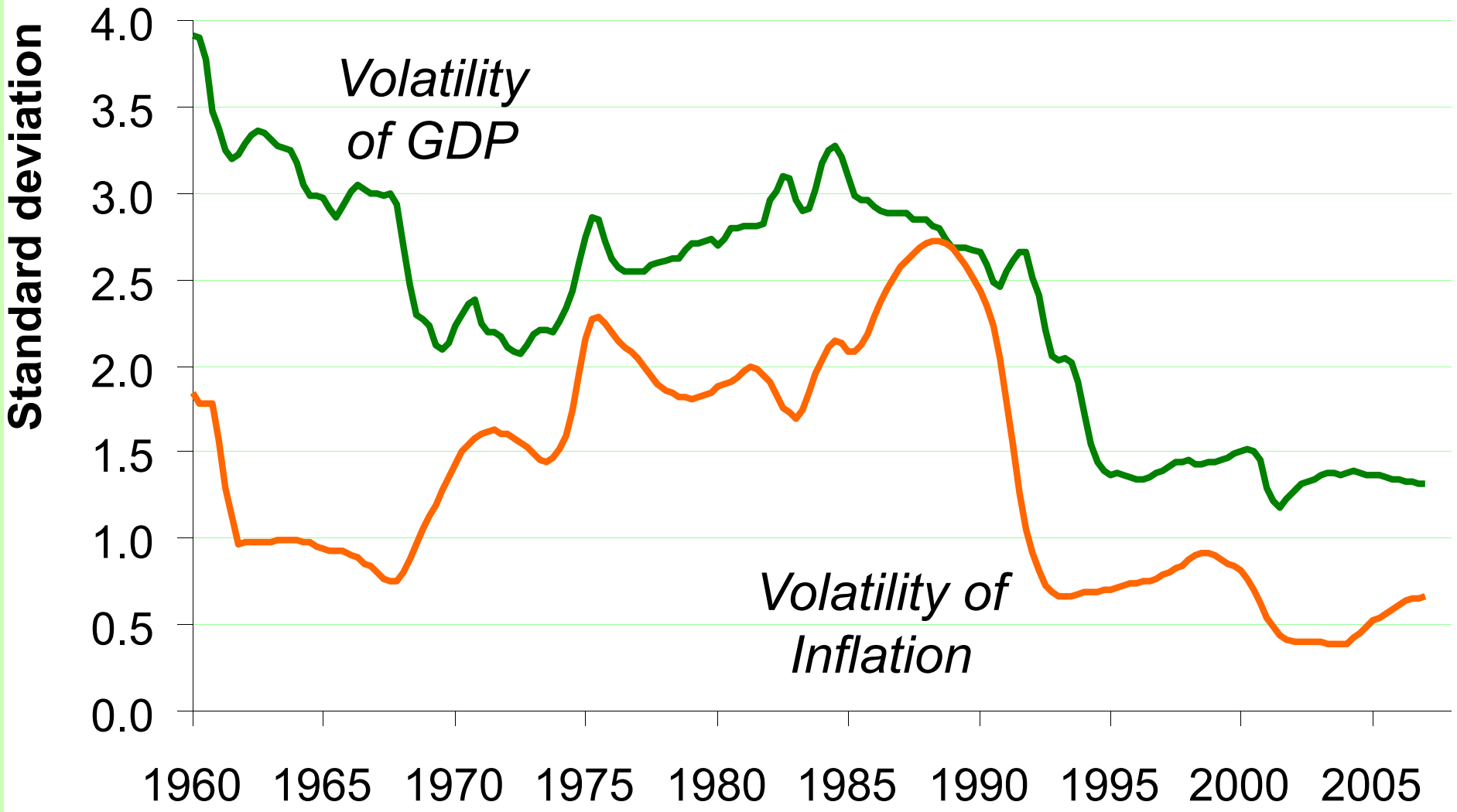
The Jury's out…

Looking at recent history does not clearly answer Question 1:

- It's hard to identify shocks in the data.
- It's hard to tell how things would have been different had actual policies not been used.

Most economists agree, though, that the U.S. economy has become much more stable since the late 1980s…

The stability of the modern economy



Question 2:

Should policy be conducted by rule or discretion?

Rules and discretion: Basic concepts

- *Policy conducted by rule:*
  Policymakers announce in advance how policy will respond in various situations, and commit themselves to following through.
- *Policy conducted by discretion:*
  As events occur and circumstances change, policymakers use their judgment and apply whatever policies seem appropriate at the time.

Arguments for rules

1. Distrust of policymakers and the political process
   - misinformed politicians
   - politicians' interests sometimes not the same as the interests of society

Arguments for rules

2. The time inconsistency of discretionary policy

- def: A scenario in which policymakers have an incentive to renege on a previously announced policy once others have acted on that announcement.
- Destroys policymakers' credibility, thereby reducing effectiveness of their policies.

Examples of time inconsistency

1. To encourage investment,
   govt announces it will not tax income from capital.

   But once the factories are built,
   govt reneges in order to raise more tax revenue.

Examples of time inconsistency

2. To reduce expected inflation,
   the central bank announces it will tighten monetary policy.

   But faced with high unemployment,
   the central bank may be tempted to cut interest rates.

Examples of time inconsistency

3. Aid is given to poor countries contingent on fiscal reforms.

   The reforms do not occur, but aid is given anyway, because the donor countries do not want the poor countries' citizens to starve.

Monetary policy rules

a. Constant money supply growth rate

- Advocated by monetarists.
- Stabilizes aggregate demand only if velocity is stable.

Monetary policy rules

a. Constant money supply growth rate

b. Target growth rate of nominal GDP

- Automatically increase money growth whenever nominal GDP grows slower than targeted; decrease money growth when nominal GDP growth exceeds target.

Monetary policy rules

a. Constant money supply growth rate

b. Target growth rate of nominal GDP

c. Target the inflation rate

- Automatically reduce money growth whenever inflation rises above the target rate.
- Many countries' central banks now practice inflation targeting, but allow themselves a little discretion.

Monetary policy rules

a. Constant money supply growth rate

b. Target growth rate of nominal GDP

c. Target the inflation rate

d. The **Taylor rule**:
Target the federal funds rate based on

- inflation rate
- gap between actual & full-employment GDP

The Taylor Rule

$$i_{ff} = \pi + 2 + 0.5(\pi - 2) - 0.5(\text{GDP gap})$$

where

i_{ff} = nominal federal funds rate target

$$\text{GDP gap} = 100 \times \frac{\bar{Y} - Y}{\bar{Y}}$$

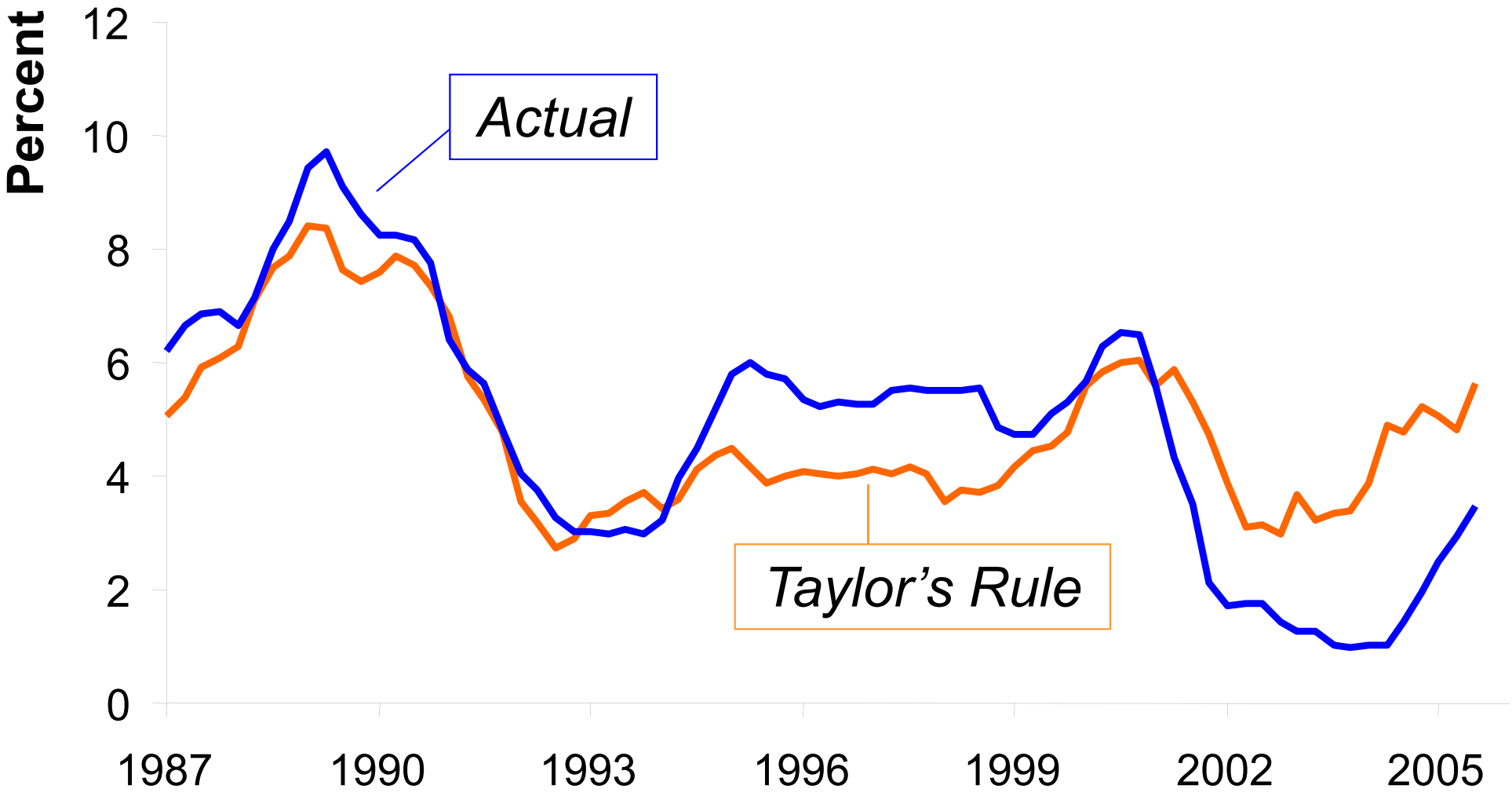
= percent by which real GDP is below its natural rate

The Taylor Rule

$$i_{ff} = \pi + 2 + 0.5(\pi - 2) - 0.5(\text{GDP gap})$$

- If $\pi = 2$ and output is at its natural rate, then fed funds rate targeted at 4 percent.
- For each one-point increase in π, mon. policy is automatically tightened to raise fed funds rate by 1.5.
- For each one percentage point that GDP falls below its natural rate, mon. policy automatically eases to reduce the fed funds rate by 0.5.

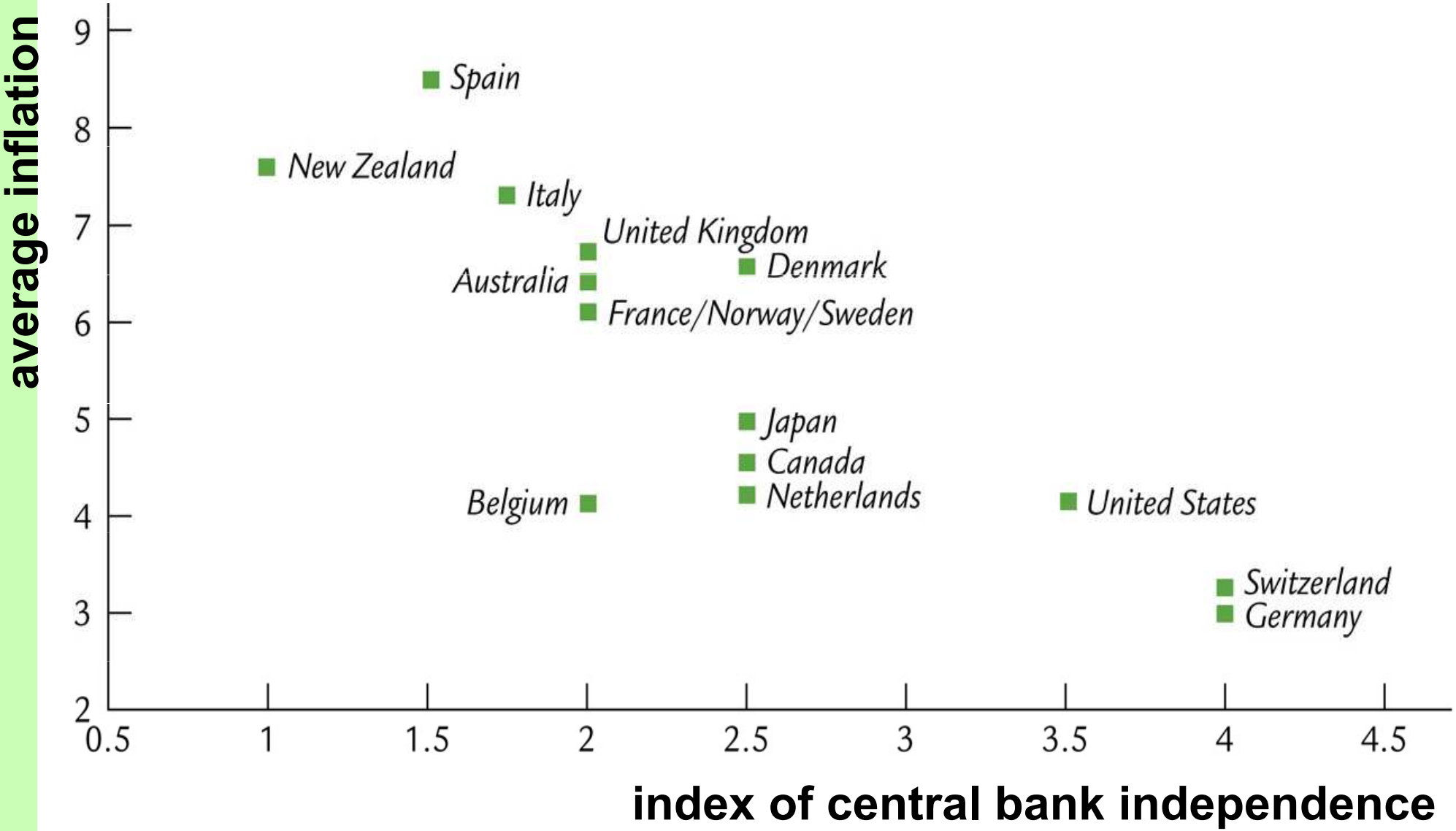
The federal funds rate: Actual and suggested

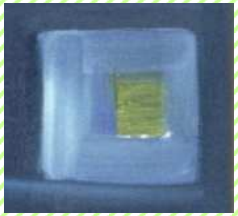


Central bank independence

- A policy rule announced by central bank will work only if the announcement is credible.
- Credibility depends in part on degree of independence of central bank.

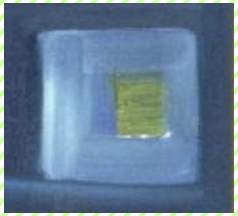
Inflation and central bank independence





Chapter Summary

1. Advocates of active policy believe:
   - frequent shocks lead to unnecessary fluctuations in output and employment
   - fiscal and monetary policy can stabilize the economy
2. Advocates of passive policy believe:
   - the long & variable lags associated with monetary and fiscal policy render them ineffective and possibly destabilizing
   - inept policy increases volatility in output, employment



Chapter Summary

3. Advocates of discretionary policy believe:
   - discretion gives more flexibility to policymakers in responding to the unexpected
4. Advocates of policy rules believe:
   - the political process cannot be trusted: Politicians make policy mistakes or use policy for their own interests
   - commitment to a fixed policy is necessary to avoid time inconsistency and maintain credibility

CHAPTER 15

Government Debt

MACROECONOMICS SIXTH EDITION

N. GREGORY MANKIW

PowerPoint® Slides by Ron Cronovich

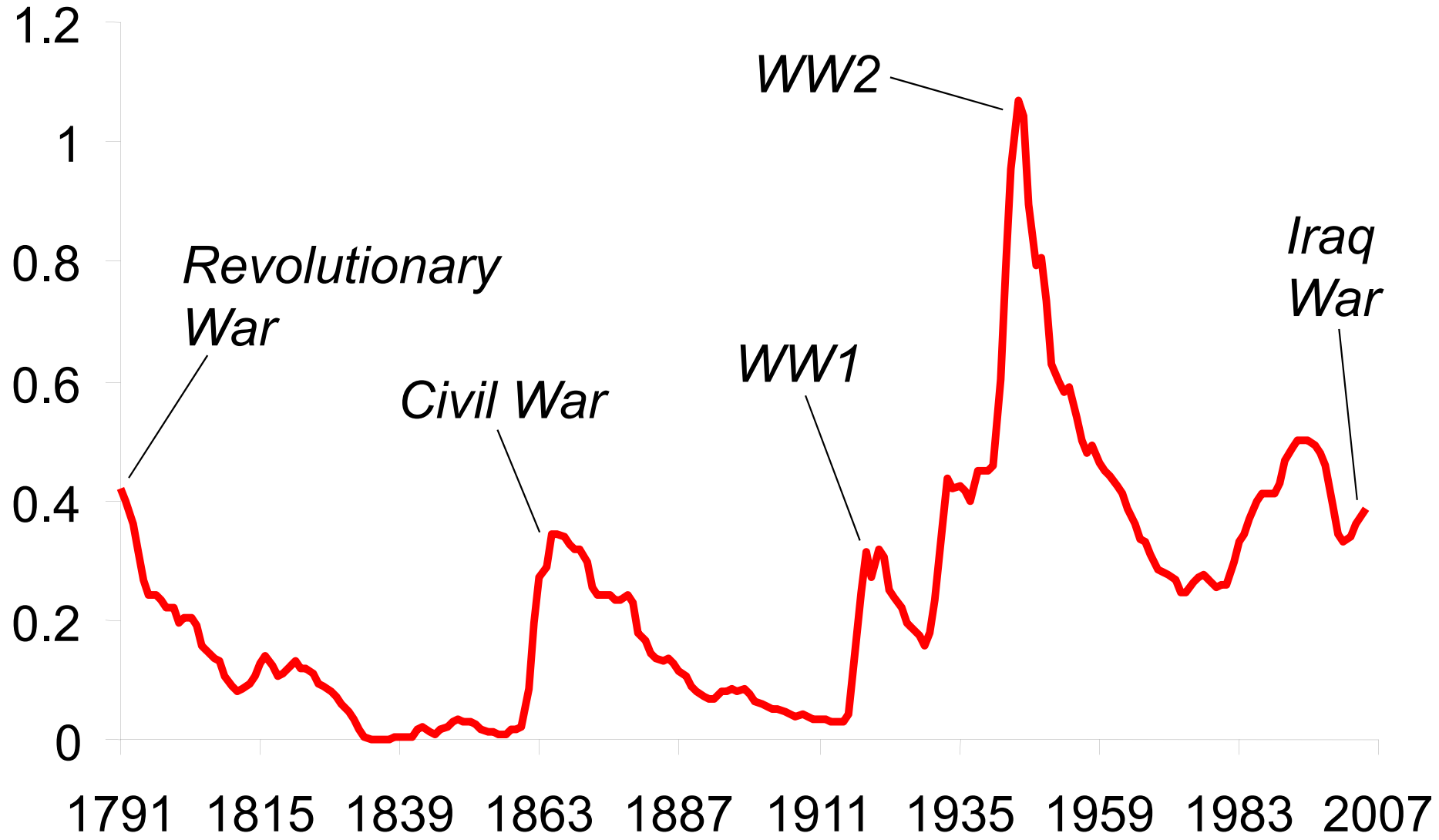
In this chapter, you will learn…

- about the size of the U.S. government's debt, and how it compares to that of other countries
- problems measuring the budget deficit
- the traditional and Ricardian views of the government debt
- other perspectives on the debt

Indebtedness of the world's governments

Country	*Gov Debt* (% of GDP)	*Country*	*Gov Debt* (% of GDP)
Japan	159	U.S.A.	64
Italy	125	Sweden	62
Greece	108	Finland	53
Belgium	99	Norway	52
France	77	Denmark	50
Portugal	77	Spain	49
Germany	70	U.K.	47
Austria	69	Ireland	30
Canada	69	Korea	20
Netherlands	64	Australia	15

Ratio of U.S. govt debt to GDP



The U.S. experience in recent years

Early 1980s through early 1990s

- debt-GDP ratio: 25.5% in 1980, 48.9% in 1993
- due to Reagan tax cuts, increases in defense spending & entitlements

Early 1990s through 2000

- $290b deficit in 1992, $236b surplus in 2000
- debt-GDP ratio fell to 32.5% in 2000
- due to rapid growth, stock market boom, tax hikes

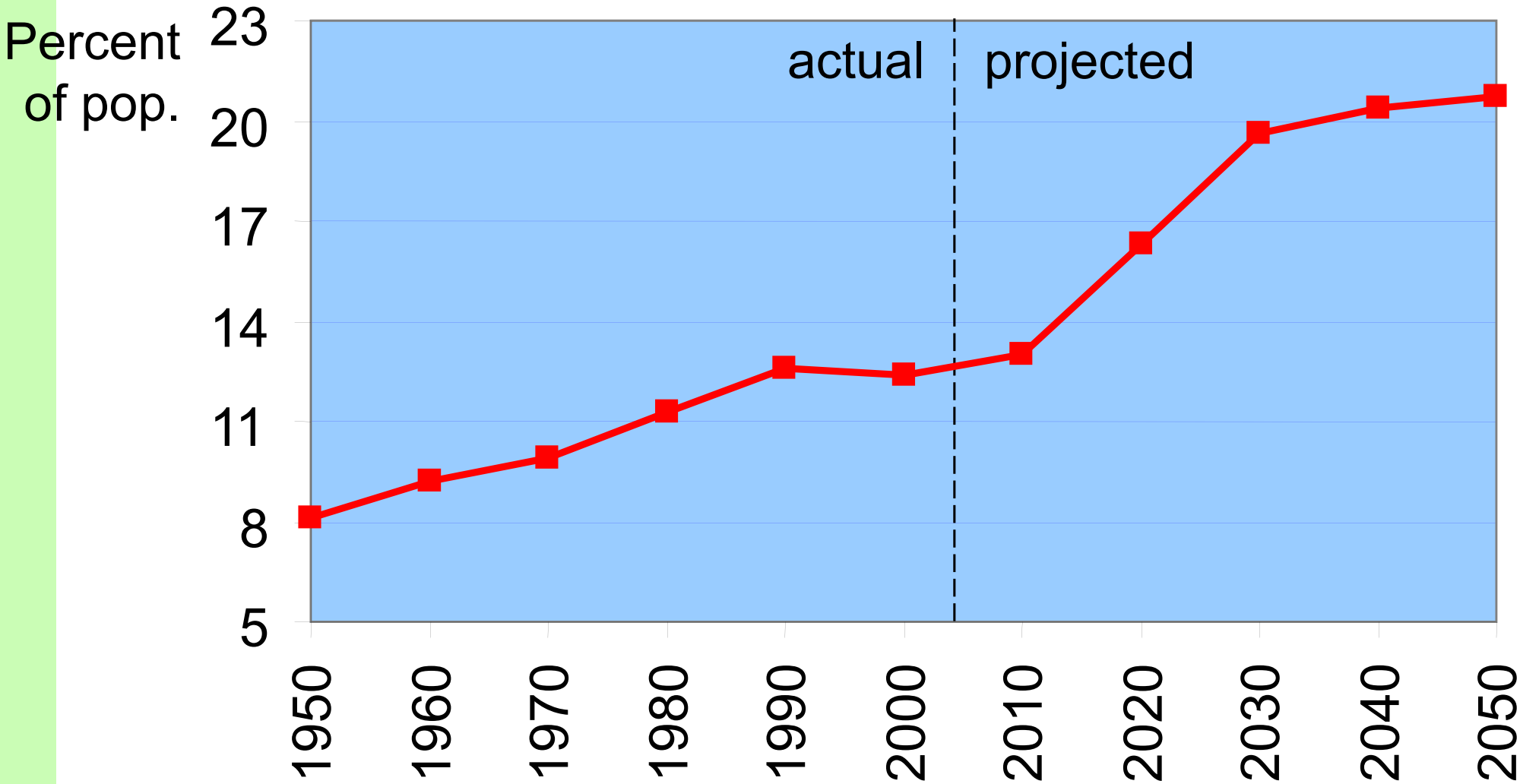
Since 2001

- the return of huge deficits, due to Bush tax cuts, 2001 recession, Iraq war

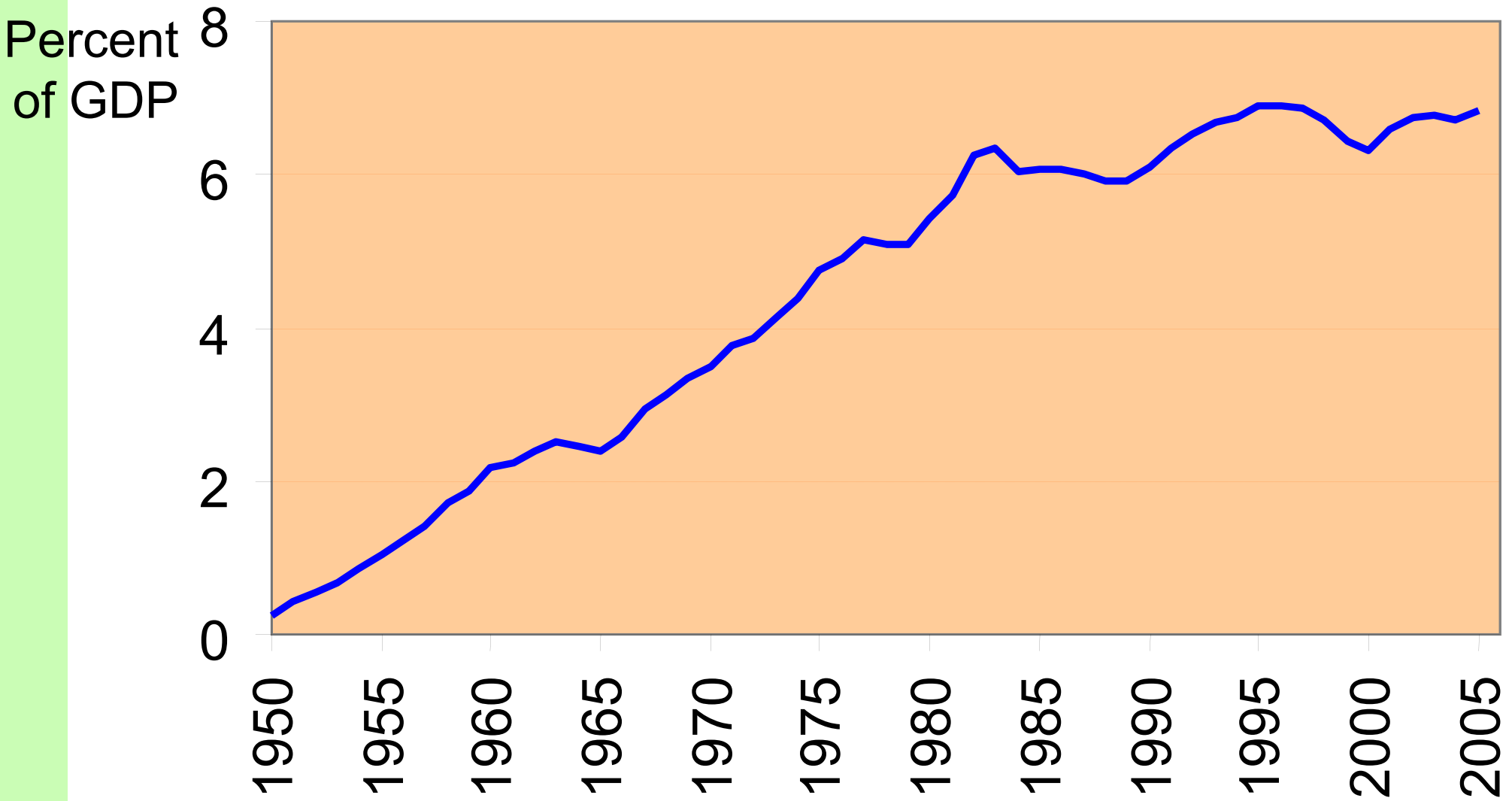
The troubling fiscal outlook

- The U.S. population is aging.
- Health care costs are rising.
- Spending on entitlements like Social Security and Medicare is growing.
- Deficits and the debt are projected to significantly increase…

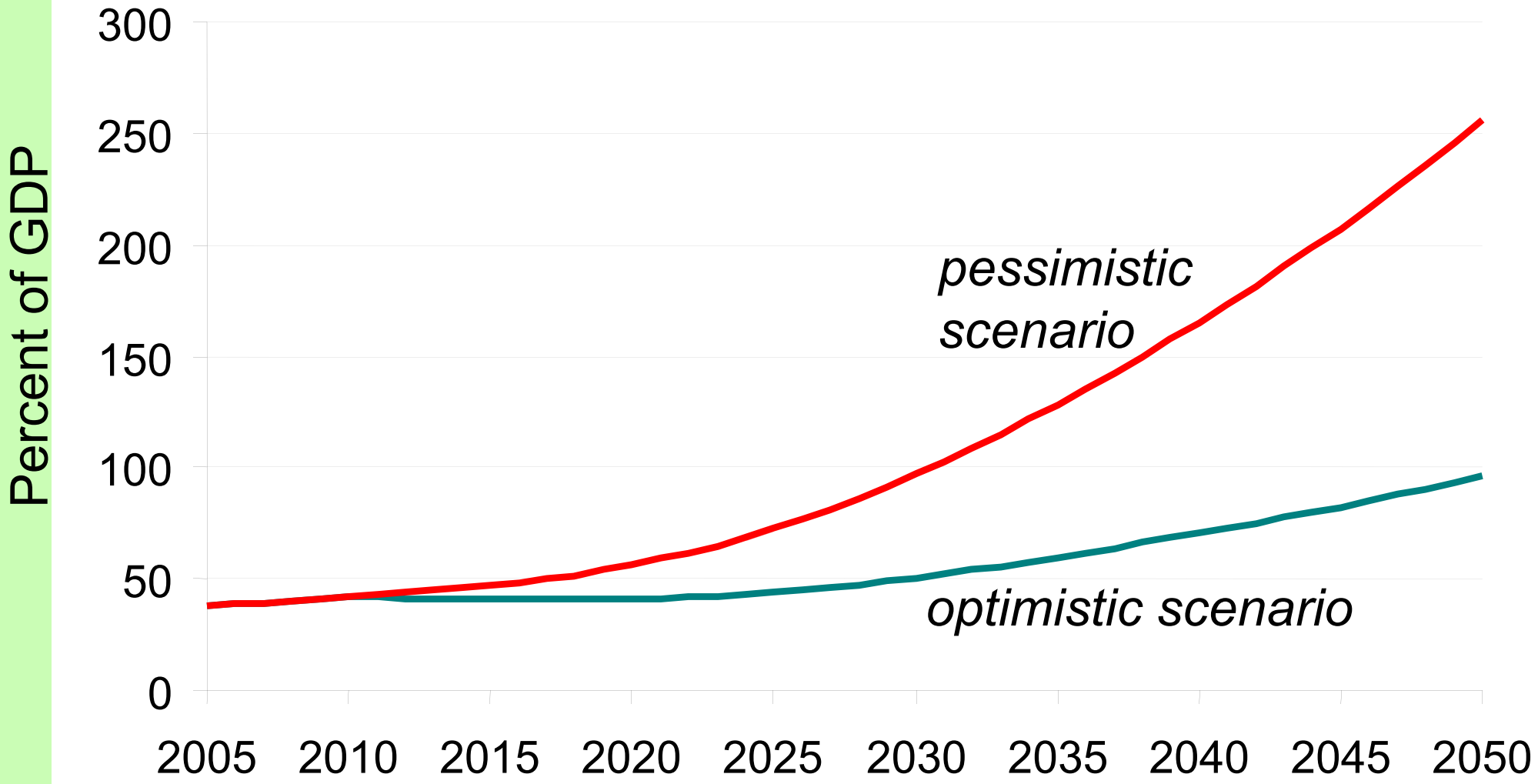
Percent of U.S. population age 65+



U.S. government spending on Medicare and Social Security



CBO projected U.S. federal govt debt in two scenarios



Problems measuring the deficit

1. Inflation
2. Capital assets
3. Uncounted liabilities
4. The business cycle

MEASUREMENT PROBLEM 1: Inflation

- Suppose the real debt is constant, which implies a zero real deficit.
- In this case, the nominal debt D grows at the rate of inflation:

$$\Delta D/D = \pi \quad \text{or} \quad \Delta D = \pi D$$

- The reported deficit (nominal) is πD even though the real deficit is zero.
- Hence, should subtract πD from the reported deficit to correct for inflation.

MEASUREMENT PROBLEM 1: Inflation

- Correcting the deficit for inflation can make a huge difference, especially when inflation is high.
- Example: In 1979,

  nominal deficit = \$28 billion

  inflation = 8.6%

  debt = \$495 billion

  $\pi D = 0.086 \times \$495b = \$43b$

  real deficit = \$28b – \$43b = \$15b surplus

MEASUREMENT PROBLEM 2: Capital Assets

- Currently, deficit = change in debt
- Better, **capital budgeting:**
  deficit = (change in debt) – (change in assets)
- EX: Suppose govt sells an office building and uses the proceeds to pay down the debt.
  - under current system, deficit would fall
  - under capital budgeting, deficit unchanged, because fall in debt is offset by a fall in assets.
- Problem w/ cap budgeting: Determining which govt expenditures count as capital expenditures.

MEASUREMENT PROBLEM 3: Uncounted liabilities

- Current measure of deficit omits important liabilities of the government:
  - future pension payments owed to current govt workers.
  - future Social Security payments
  - contingent liabilities, *e.g.*, covering federally insured deposits when banks fail

    (Hard to attach a dollar value to contingent liabilities, due to inherent uncertainty.)

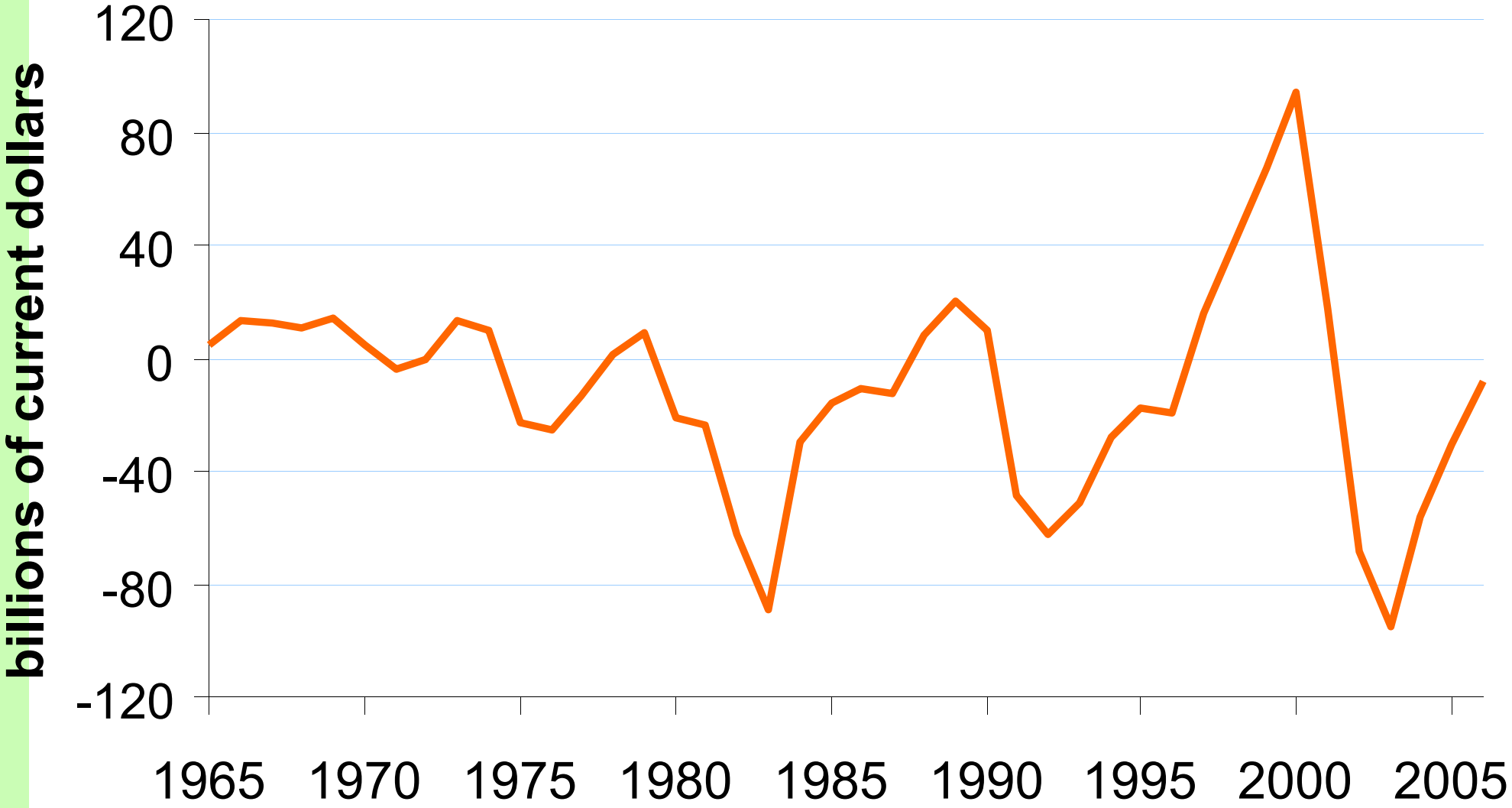
MEASUREMENT PROBLEM 4: The business cycle

- The deficit varies over the business cycle due to automatic stabilizers (unemployment insurance, the income tax system).
- These are not measurement errors, but do make it harder to judge fiscal policy stance.
  - *E.g.*, is an observed increase in deficit due to a downturn or an expansionary shift in fiscal policy?

MEASUREMENT PROBLEM 4: The business cycle

- Solution: **cyclically adjusted budget deficit** (aka “full-employment deficit”) – based on estimates of what govt spending & revenues would be if economy were at the natural rates of output & unemployment.

The cyclical contribution to the U.S. Federal budget



The bottom line

We must exercise care when interpreting the reported deficit figures.

Is the govt debt really a problem?

Consider a tax cut with corresponding increase in the government debt.

Two viewpoints:

1. Traditional view
2. Ricardian view

The traditional view

- Short run: $\uparrow Y$, $\downarrow u$
- Long run:
  - Y and u back at their natural rates
  - closed economy: $\uparrow r$, $\downarrow I$
  - open economy: $\uparrow \varepsilon$, $\downarrow NX$
    (or higher trade deficit)
- Very long run:
  - slower growth until economy reaches new steady state with lower income per capita

The Ricardian view

- due to David Ricardo (1820),
  more recently advanced by Robert Barro
- According to **Ricardian equivalence**,
  a debt-financed tax cut has no effect on consumption, national saving, the real interest rate, investment, net exports, or real GDP, even in the short run.

The logic of Ricardian Equivalence

- Consumers are forward-looking,
  know that a debt-financed tax cut today
  implies an increase in future taxes
  that is equal – in present value – to the tax cut.
- The tax cut does not make consumers better off,
  so they do not increase consumption spending.

  Instead, they save the full tax cut in order to repay the future tax liability.
- Result: Private saving rises by the amount public saving falls, leaving national saving unchanged.

Problems with Ricardian Equivalence

- **Myopia**: Not all consumers think so far ahead, some see the tax cut as a windfall.
- **Borrowing constraints**: Some consumers cannot borrow enough to achieve their optimal consumption, so they spend a tax cut.
- **Future generations**: If consumers expect that the burden of repaying a tax cut will fall on future generations, then a tax cut now makes them feel better off, so they increase spending.

Evidence against Ricardian Equivalence?

Early 1980s:

Reagan tax cuts increased deficit.

National saving fell, real interest rate rose, exchange rate appreciated, and ***NX*** fell.

1992:

Income tax withholding reduced to stimulate economy.

- This delayed taxes but didn't make consumers better off.
- Almost half of consumers increased consumption.

Evidence against Ricardian Equivalence?

- Proponents of R.E. argue that the Reagan tax cuts did not provide a fair test of R.E.
  - Consumers may have expected the debt to be repaid with future spending cuts instead of future tax hikes.
  - Private saving may have fallen for reasons other than the tax cut, such as optimism about the economy.
- Because the data is subject to different interpretations, both views of govt debt survive.

OTHER PERSPECTIVES: Balanced budgets vs. optimal fiscal policy

- Some politicians have proposed amending the U.S. Constitution to require balanced federal govt budget every year.
- Many economists reject this proposal, arguing that deficit should be used to
  - stabilize output & employment
  - smooth taxes in the face of fluctuating income
  - redistribute income across generations when appropriate

OTHER PERSPECTIVES: Fiscal effects on monetary policy

- Govt deficits may be financed by printing money
- A high govt debt may be an incentive for policymakers to create inflation (to reduce real value of debt at expense of bond holders)

Fortunately:

- little evidence that the link between fiscal and monetary policy is important
- most governments know the folly of creating inflation
- most central banks have (at least some) political independence from fiscal policymakers

OTHER PERSPECTIVES: Debt and politics

"Fiscal policy is not made by angels…"

– N. Gregory Mankiw, p.449

- Some do not trust policymakers with deficit spending. They argue that
  - policymakers do not worry about true costs of their spending, since burden falls on future taxpayers
  - since future taxpayers cannot participate in the decision process, their interests may not be taken into account
- This is another reason for the proposals for a balanced budget amendment (discussed above).

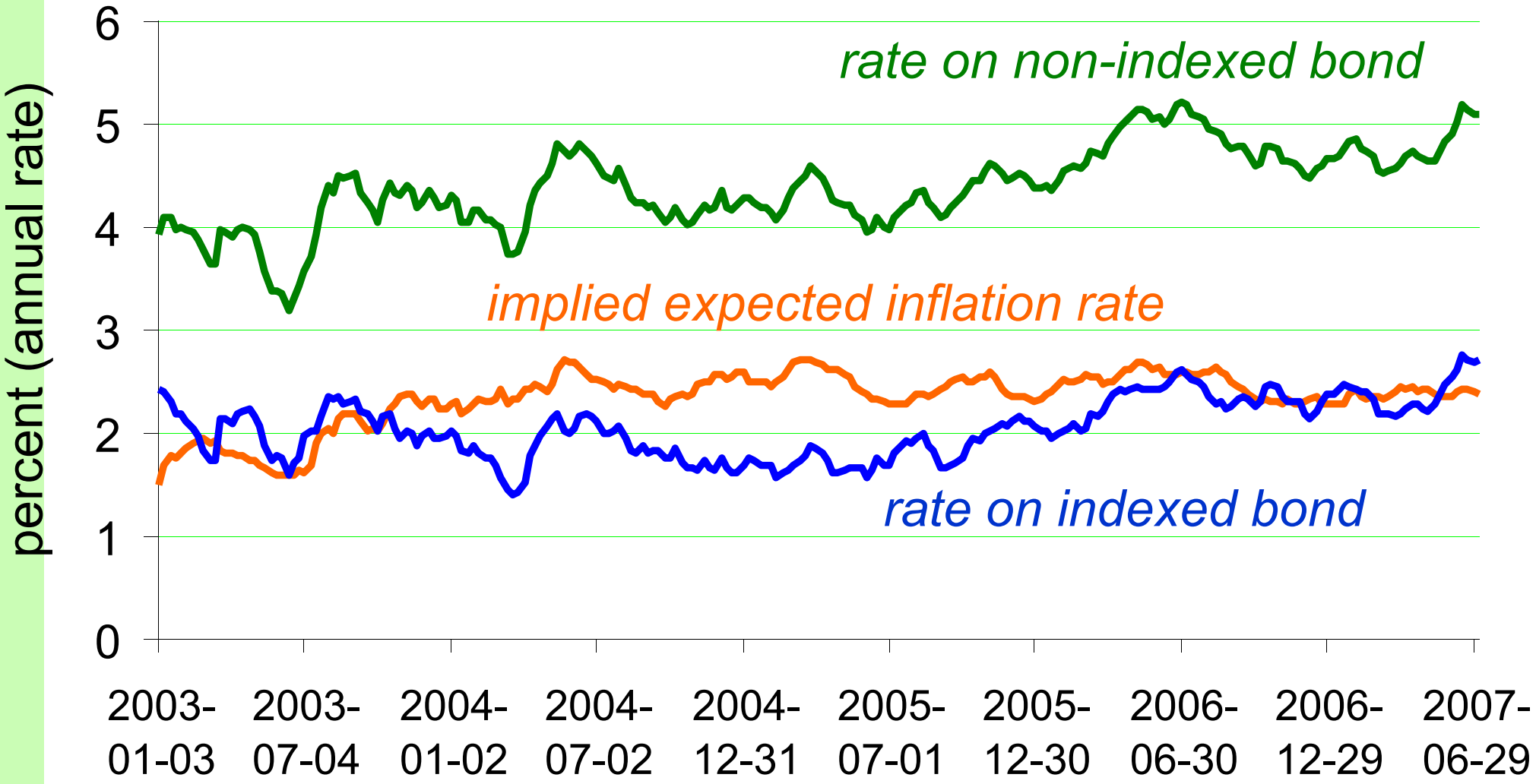
OTHER PERSPECTIVES: International dimensions

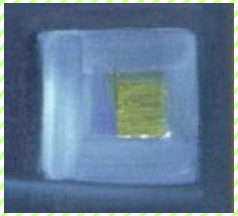
- Govt budget deficits can lead to trade deficits, which must be financed by borrowing from abroad.
- Large govt debt may increase the risk of capital flight, as foreign investors may perceive a greater risk of default.
- Large debt may reduce a country's political clout in international affairs.

CASE STUDY: Inflation-indexed Treasury bonds

- Starting in 1997, the U.S. Treasury issued bonds with returns indexed to the CPI.
- Benefits:
  - Removes **inflation risk**, the risk that inflation – and hence real interest rate – will turn out different than expected.
  - May encourage private sector to issue inflation-adjusted bonds.
  - Provides a way to infer the expected rate of inflation…

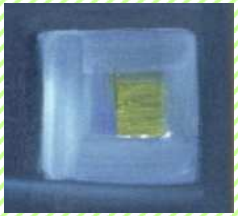
CASE STUDY:
Inflation-indexed Treasury bonds





Chapter Summary

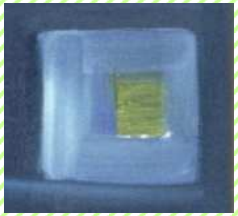
1. Relative to GDP, the U.S. government's debt is moderate compared to other countries
2. Standard figures on the deficit are imperfect measures of fiscal policy because they
   - are not corrected for inflation
   - do not account for changes in govt assets
   - omit some liabilities (e.g., future pension payments to current workers)
   - do not account for effects of business cycles



Chapter Summary

3. In the traditional view, a debt-financed tax cut increases consumption and reduces national saving. In a closed economy, this leads to higher interest rates, lower investment, and a lower long-run standard of living. In an open economy, it causes an exchange rate appreciation, a fall in net exports (or increase in the trade deficit).

4. The Ricardian view holds that debt-financed tax cuts do not affect consumption or national saving, and therefore do not affect interest rates, investment, or net exports.



Chapter Summary

5. Most economists oppose a strict balanced budget rule, as it would hinder the use of fiscal policy to stabilize output, smooth taxes, or redistribute the tax burden across generations.

6. Government debt can have other effects:
   - may lead to inflation
   - politicians can shift burden of taxes from current to future generations
   - may reduce country's political clout in international affairs or scare foreign investors into pulling their capital out of the country