




Chapter 17:

Government Debt and

Budget Deficits



In this chapter you will learn about

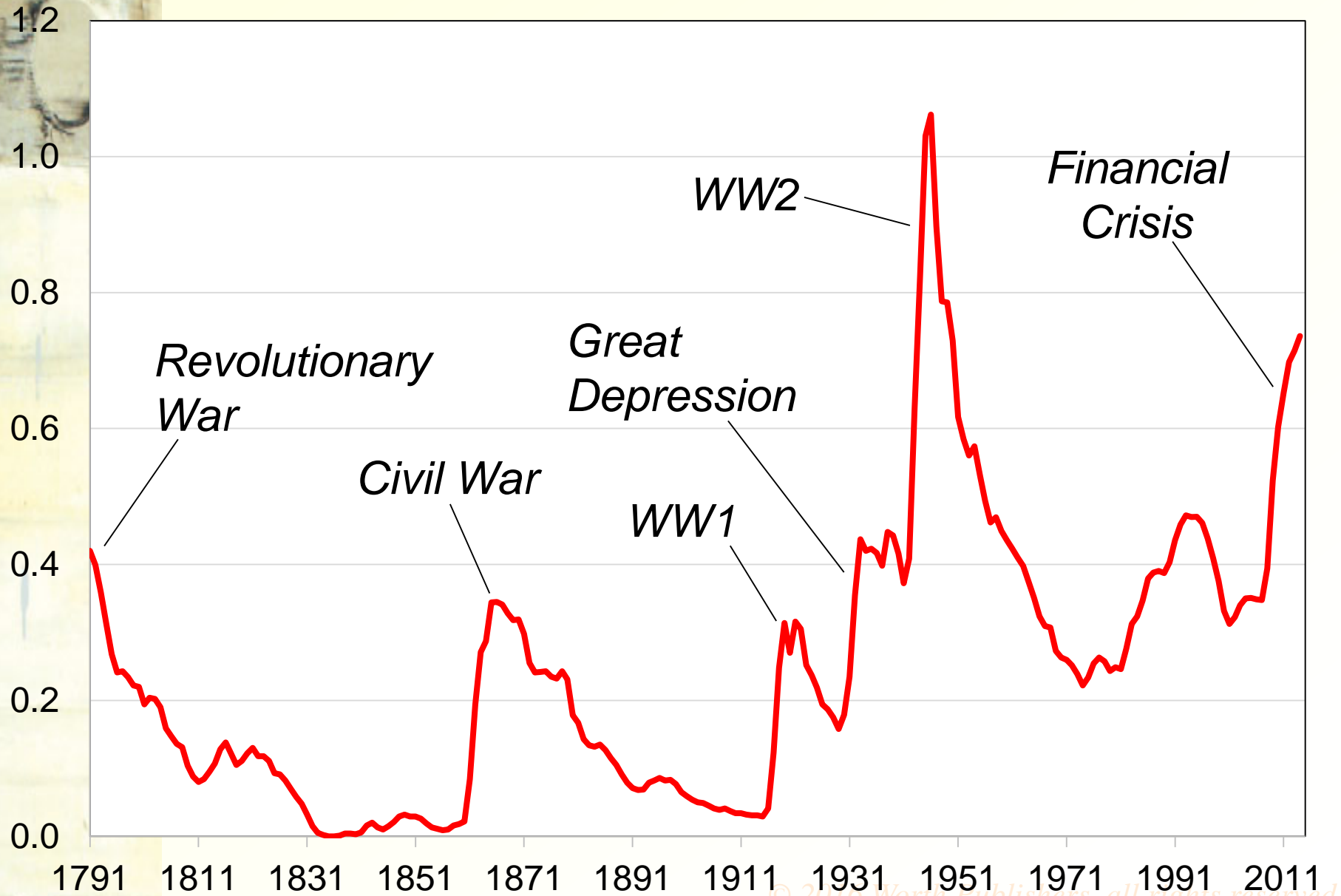
- the size of the government's debt, and how it compares to that of other countries
- problems measuring the budget deficit
- the traditional and Ricardian views of the government debt
- other perspectives on the debt




Indebtedness of the world's governments

<i>Country</i>	<i>Gov Debt</i> (% of GDP)	<i>Country</i>	<i>Gov Debt</i> (% of GDP)
Japan	142.9	France	70.9
Greece	125.3	U.K.	64.2
Italy	120.4	Germany	42.4
Portugal	99.8	Netherlands	42.3
Belgium	91.6	Canada	40.9
United States	85.5	Switzerland	6.5
Spain	73.3	Australia	3.5

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




The U.S. experience in recent years

Early 2000s

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

The 2008-2009 recession and its aftermath

- fall in tax revenues
- huge spending increases (bailouts of financial institutions and auto industry, stimulus package)
- a weak recovery did not stop the debt–GDP ratio from rising further



The troubling long-term fiscal outlook

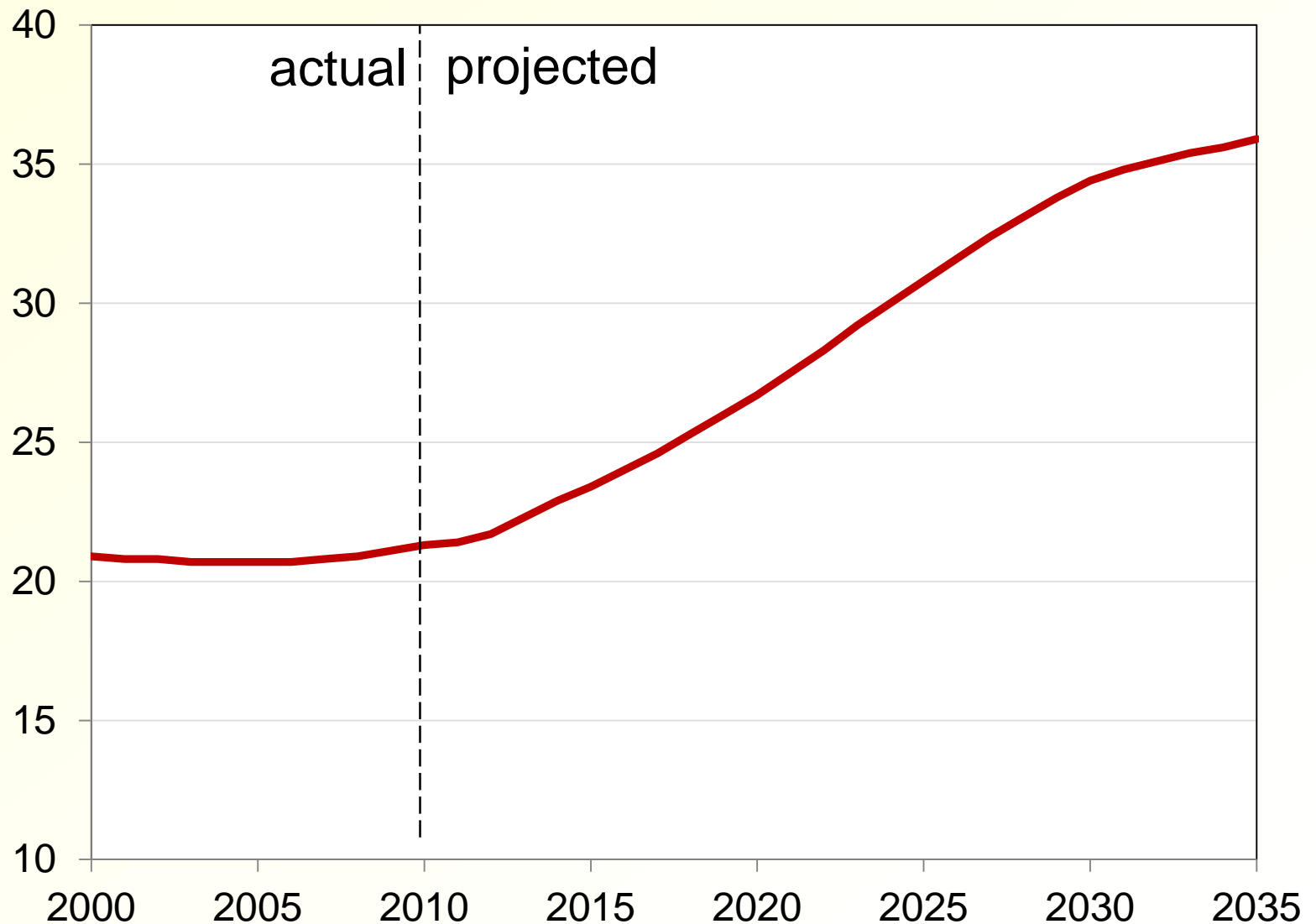
- The U.S. population is aging.
- Health care costs are rising.
- Spending on entitlements like Social Security and Medicare is growing.
- Deficits and the debt are projected to significantly increase...



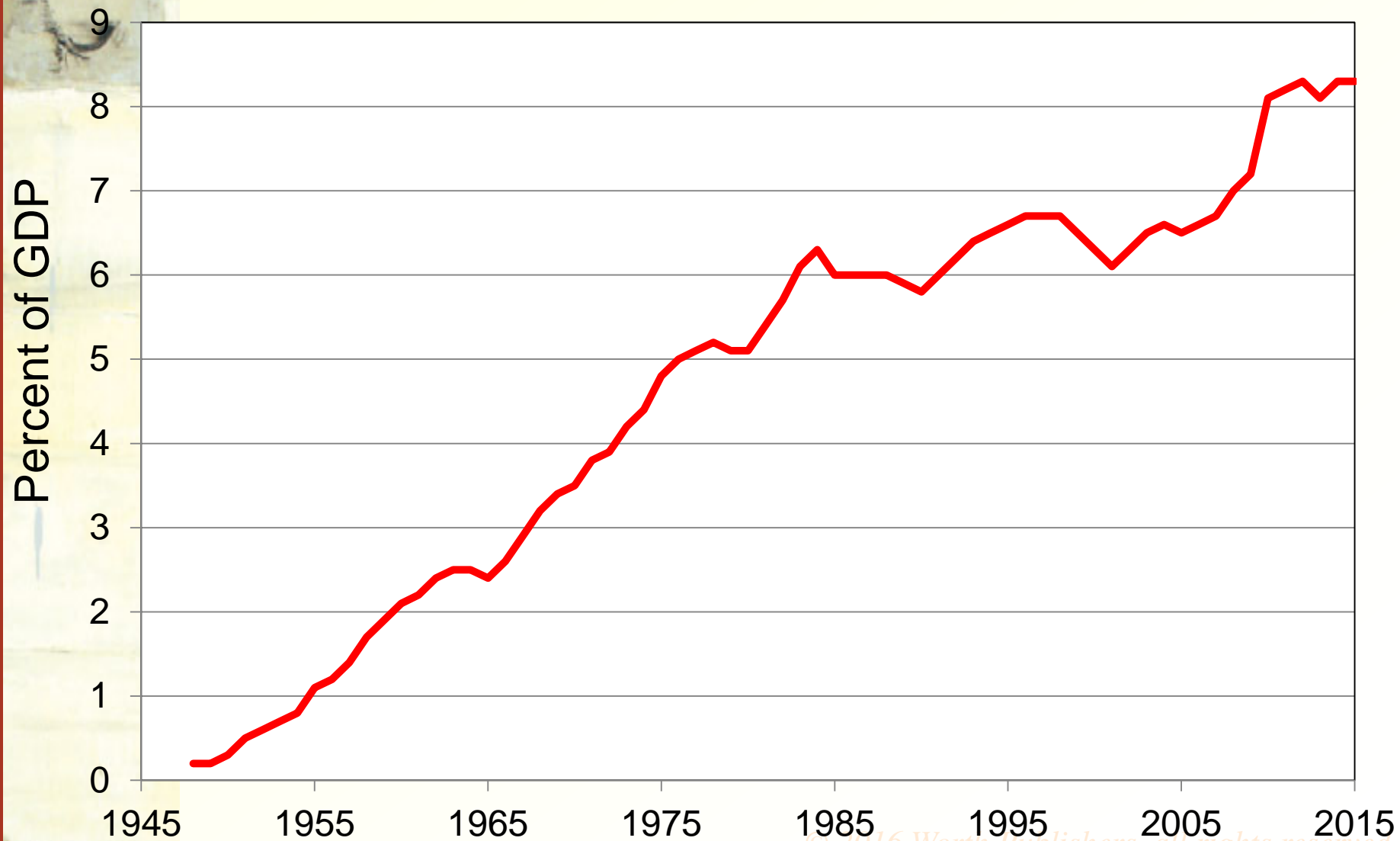
U.S. population age 65+, as percent of population age 20–64



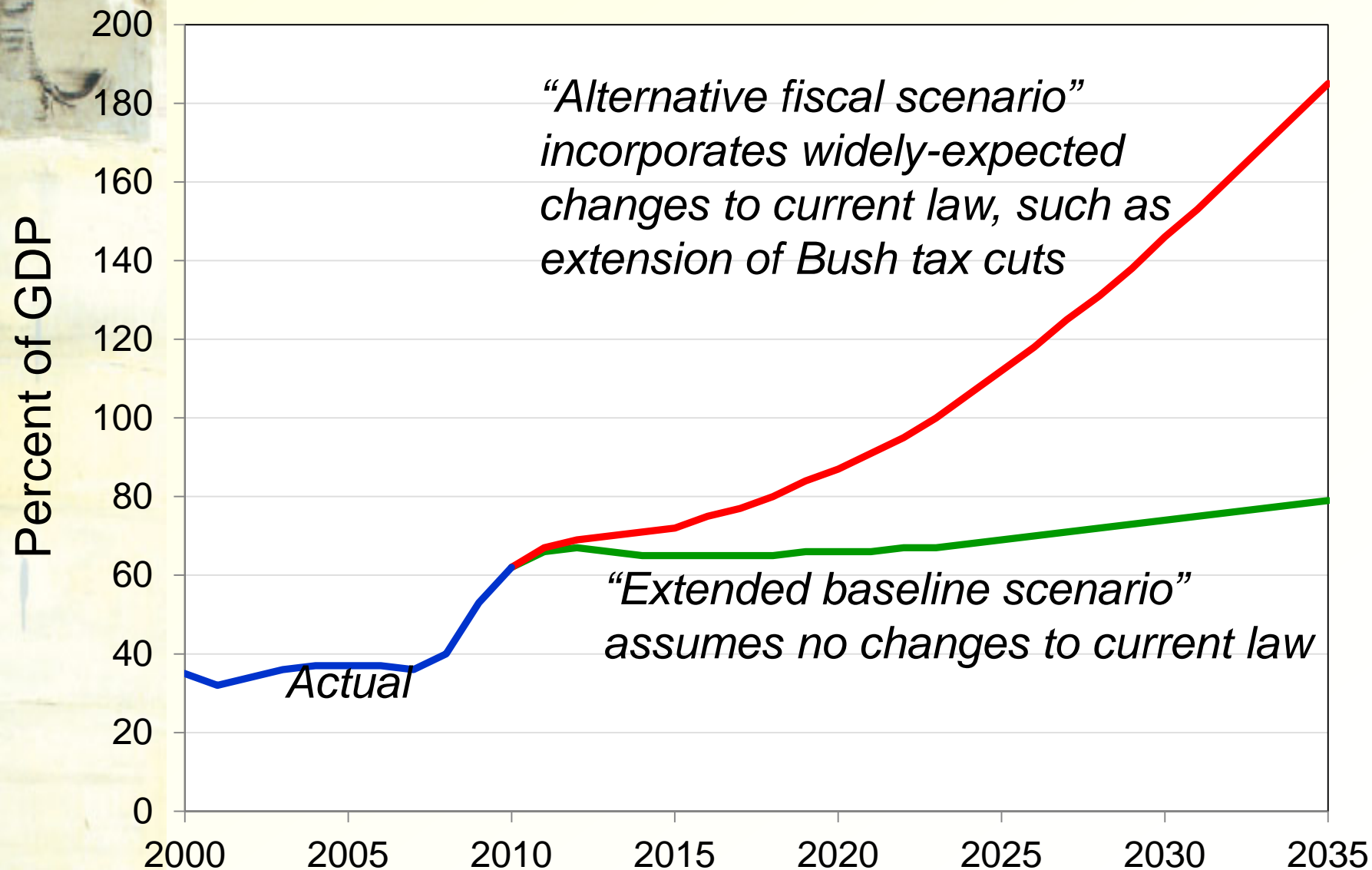
Percent
of pop.
age
20-64



U.S. government spending on Medicare and Social Security, 1948–2014



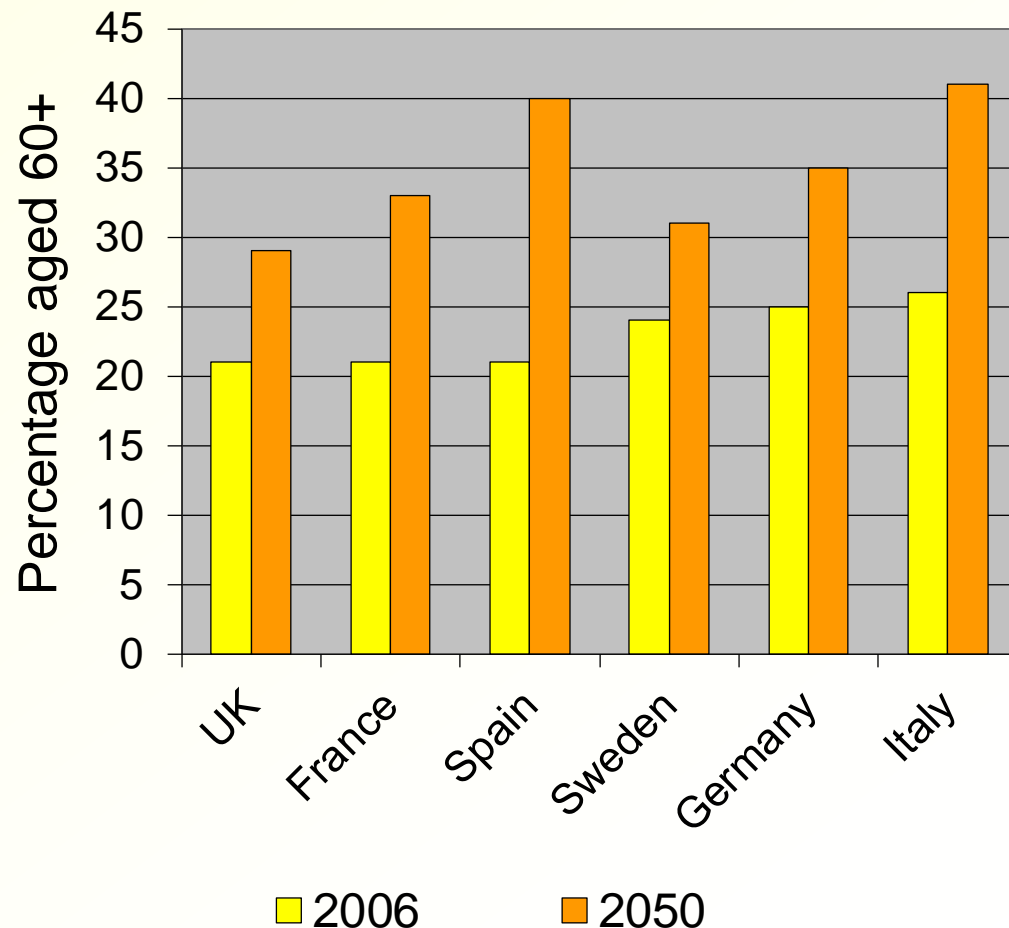
Projected U.S. federal government debt in two scenarios, 2000–2035



The Fiscal Future

The aging population:

- lower birth rates
- increased life expectancy
- retirement of baby boomers





Problems Measuring the Deficit

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



Measurement problem 1:

Inflation

- To see why inflation is a problem, 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:

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

- The reported deficit (nominal) is $\pi \mathbf{D}$ even though the real deficit is zero.
- Hence, we should subtract $\pi \mathbf{D}$ 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: U.S. in 1979,
 - nominal deficit = \$28 billion
 - inflation = 8.6%
 - debt = \$495 billion
 - $\pi D = 0.086 \times \$495\text{b} = \43b
 - real deficit = \$28b – \$43b = **\$15b surplus**



Measurement problem 2: Capital Assets

- Currently:
 $\text{deficit} = \text{change in debt}$
- Better: **Capital budgeting** (资本预算)
 $\text{deficit} = (\text{change in debt}) - (\text{change in assets})$
- EX: Suppose gov't 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 gov't expenditures count as capital expenditures.



Measurement problem 3: Unaccounted liabilities


Current measure of deficit omits important liabilities of the government:

- future pension payments
- future Social Security payments
- contingent liabilities, e.g., covering federally insured deposits when banks fail
(though hard to attach a monetary value when the outcome is uncertain)



CASE STUDY: Accounting for TARP

- Troubled Asset Relief Program (TARP):
 - The U.S. Treasury gave funds to help struggling banks.
 - In return, the Treasury became part owner of the banks, will receive dividends, and will eventually relinquish ownership when banks repay principal.



CASE STUDY: Accounting for TARP

- Should the TARP outlays (花费) count toward the deficit?
 - The U.S. Treasury considered TARP outlays to be expenditures that increased the deficit, and will consider bank repayments as revenues that will reduce the deficit.
 - Congressional Budget Office (CBO) counted the net present value of the program – outlays minus eventual repayments – adjusted for the risk of non-repayment. This works out to 25 cents for each dollar spent on TARP.

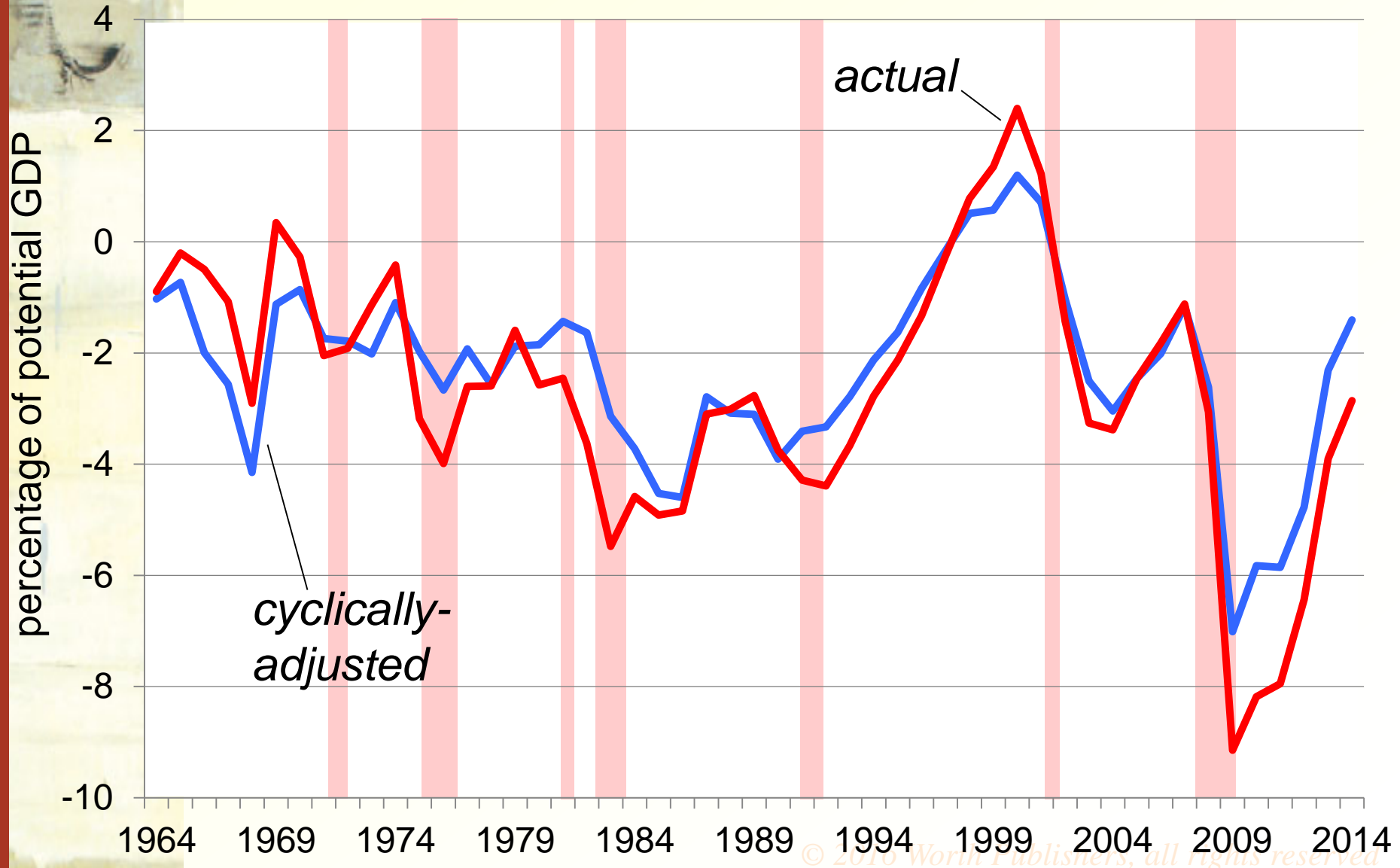


Measurement problem 4:

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.
EX: Is an observed increase in deficit due to a downturn or expansionary shift in fiscal policy?
- Solution: **cyclically adjusted budget deficit**
("full-employment deficit") - based on estimates of what gov't spending & revenues would be if economy were at the natural rates of output & unemployment.

The actual and cyclically-adjusted U.S. federal budget surpluses/deficits





The bottom line


*We must exercise care
when interpreting
the reported deficit figures.*



Is the gov't debt really a problem?

Two viewpoints:

1. Traditional view
2. Ricardian view



The traditional view of a tax cut & corresponding increase in gov't debt

- 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.
- Thus, the tax cut does not make consumers better off, so they do not raise consumption.
- 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 that far ahead, so they see the tax cut as a windfall.
- Borrowing constraints:
Some consumers are not able to borrow enough to achieve their optimal consumption, and would therefore 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?

- U.S. in the early 1980s:
Huge Reagan tax cuts reduced tax revenues even though income rose and caused deficit to rise. National saving fell, the real interest rate rose, the 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 gov't debt survive.



Other perspectives on government debt

1. *Limits on the budget deficit vs. optimal fiscal policy*

Eurozone countries (or candidates) are not allowed to run budget deficits of more than 3% of GDP in any given year. In the U.S., some politicians have proposed amending the Constitution to require balanced federal gov't budget every year.

Many economists object such measures, 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 on government debt

2. *Fiscal effects on monetary policy*

- Gov't deficits may be financed by printing money
- a high nominal gov't 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 in the OECD
- most governments know the folly of creating inflation
- most central banks have (at least some) political independence from fiscal policymakers



Other perspectives on government debt

3. *Debt and politics*

“Fiscal policy is not made by angels...”
N.G. Mankiw

Some do not trust policymakers with deficit spending. They argue that

- policymakers do not worry about the true costs of their spending, since the burden falls on future taxpayers & governments
- future taxpayers cannot participate in the decision process, and their interests may not be taken into account

This is another reason for the proposals to limit budget deficits, as discussed above.



Other perspectives on government debt

4. *International dimensions*

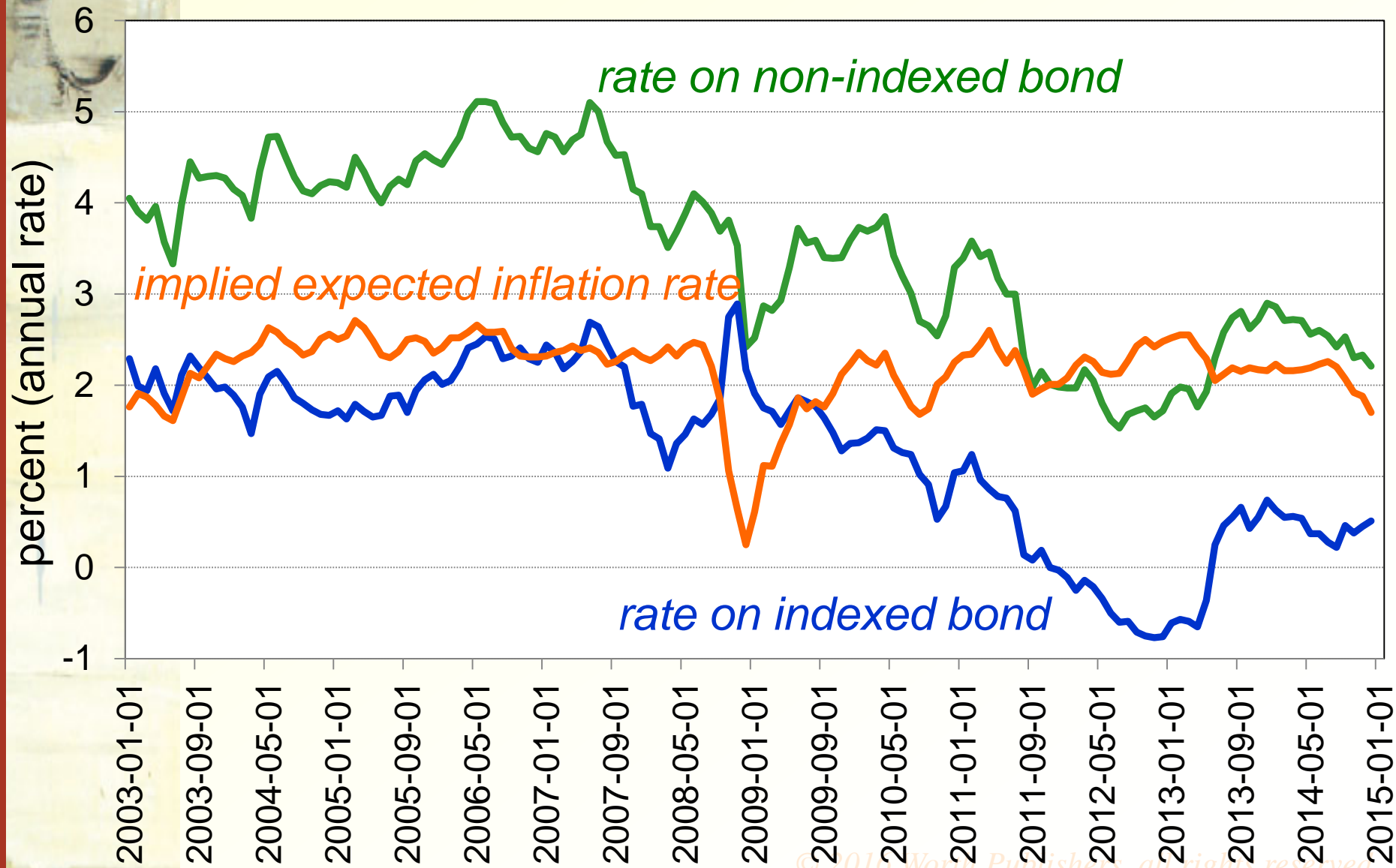
- Gov't budget deficits can lead to trade deficits, which must be financed by borrowing from abroad.
- Large gov't debt may increase the risk of capital flight, as foreign investors may perceive a greater risk of default.
- Large debt may reduce a country's political clout in international affairs.


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.
 - Reduction in government financing costs
 - Stabilization of government finances -- reduces incentive to inflate away the debt!
 - 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. Standard figures on the deficit are imperfect measures of fiscal policy because they
 - are not corrected for inflation
 - do not account for changes in gov't assets
 - omit some liabilities (e.g. future pension payments)
 - do not account for effects of business cycles



Chapter summary

2. 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).
3. 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

4. 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.
5. 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