Lecture 17
Fiscal Finance: Stabilizing Y versus Size of G

How big a government sector?

When should tax or spending levels be altered to help smooth Business Cycles?

October 30th, 2019

As Powell and company decide, the latest rear view mirror look:

	2019:Q2 vs. 2019:Q1 (annualized)	2019:Q2 vs. 2019:Q1 (annualized)
real GDP	2.00%	1.90%
Consumption	4.60%	2.90%
Business investment		
structures	-11.10%	-15.30%
equipment	0.80%	-3.80%
software	3.60%	6.60%
housing investment	-3.00%	5.10%
inventory investment	$69	$69
net export	($980)	($986)
exports	-5.70%	0.70%
imports	0%	1.20%
government	4.80%	2.00%

How has the economy fared, since the Trump tax cuts?

	2017:Q4	2019:Q2
	vs. 2016:Q1	vs. 2017:Q4
	(annualized)	(annualized)
real GDP	2.60%	2.50%

Why should a government provide a good or service?

PURE PUBLIC GOODS:

My consumption of the good does not reduce its availability to you.

(Remember Paul Romer's focus on non-rival goods and services)

Could **Bananas** be pure public goods?

The government provides me with a banana.

I eat the banana

No one else gets to eat the banana

Paul Samuelson on Pure Public Goods: No.

Each individual’s consumption of such a good leads to no subtractions from any other individual’s consumption of that good.

It is impossible to exclude any individuals from consuming the good.

NATIONAL DEFENSE, A CLASSIC PURE PUBLIC GOOD

- The U.S. spent $720 billion in FY 2019.
- That is around $2,180 per person per year.
- I benefit from that defense, but it does not diminish your benefit.
- If you refused to pay for a ‘privatized’ military, we could not prevent you from benefiting from its efforts.

The Top 10 Military spenders as share of GDP*

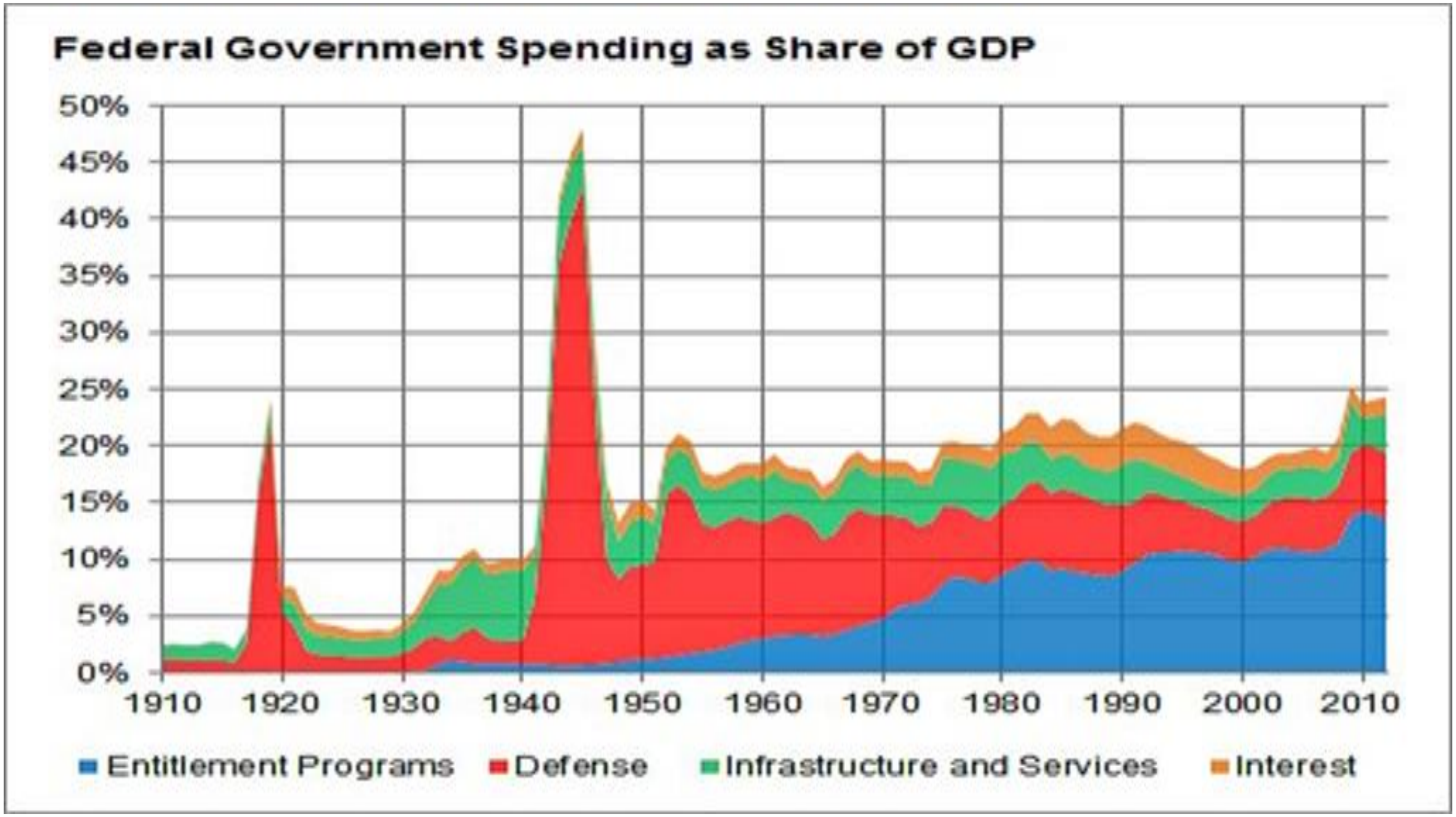
*source: Index Mundi

Rank	Country	Military expenditures - percent of GDP
1	Oman	11.4
2	Qatar	10.1
3	Saudi Arabia	10.1
4	Iraq	8.6
5	Jordan	8.6
6	Israel	7.3
7	Yemen	6.6
8	Eritrea	6.3
9	Macedonia	6.0
10	Syria	5.9

Trump: “Why should the USA be the world’s policeman?”
A very fair question. A fair second question:
“Why should we increase defense spending, if we no longer want to police the world?”
(USA defense spending is larger than the combined spending of the next 10 nations)

		MILITARY SPENDING		
	DOLLARS (BILLIONS)	PERCENT OF GDP	POPULATION (MILLIONS)	DOLLARS PER CAPITA
USA	720	3.6	330	2,180
CHINA	126	4.3	1,390	93
RUSSIA	77	3.9	142	513
SAUDI ARABIA	57	10.1	28	2,036
U.K.	53	2.7	65	815
JAPAN	49	0.8	128	383
INDIA	46	2.5	1,311	38
GERMANY	45	1.5	83	549
FRANCE	43	2.6	67	642
ITALY	34	1.8	63	540

Washington outlays, as a share of GDP?



Source: Nate Silver blog

Summary of Federal Outlays: F.Y. 2018(a) & F.Y. 2028(f)

(note: food stamps = $73 billion, or 0.36% of GDP)

(source: Congressional Budget Office)

	2018	2018	2028	2028
	Billions of $	% of GDP	Billions of $	% of GDP
Social Security & Government Retirees & Veterans	1244	6.2%	2177	7.3%
Medicare & Medicaid & Child Health Ins.	1,164	5.8%	2,282	7.7%
Welfare Programs	294	1.5%	370	1.2%
Defense	622	3.1%	769	2.6%
other discretionary items	658	3.3%	839	2.8%
Interest	316	1.6%	915	3.1%
Total Outlays	4,186	20.8%	6957	23.3%
Nominal GDP	$20,103		$29,803*	

*Projected annualized growth rate for nominal gdp: 4%

	2018	2028
	% of GDP	% of GDP
Social Security, etc.	6.2%	7.3%
Medical	5.8%	7.7%
Defense	3.1%	2.6%
Interest	1.6%	3.1%
BIG FOUR TOTAL	16.7%	20.7%
OVERALL TOTAL	20.8%	23.3%
BIG 4 AS % OF TOTAL	80.3%	88.8%

We Tax Today's Workers, to fund Senior Citizens' Living Costs and Medical Care

Social Security and Medicare: very limited link between monies paid in and monies collected.

Private retirement and old age medical care plans are an alternative.

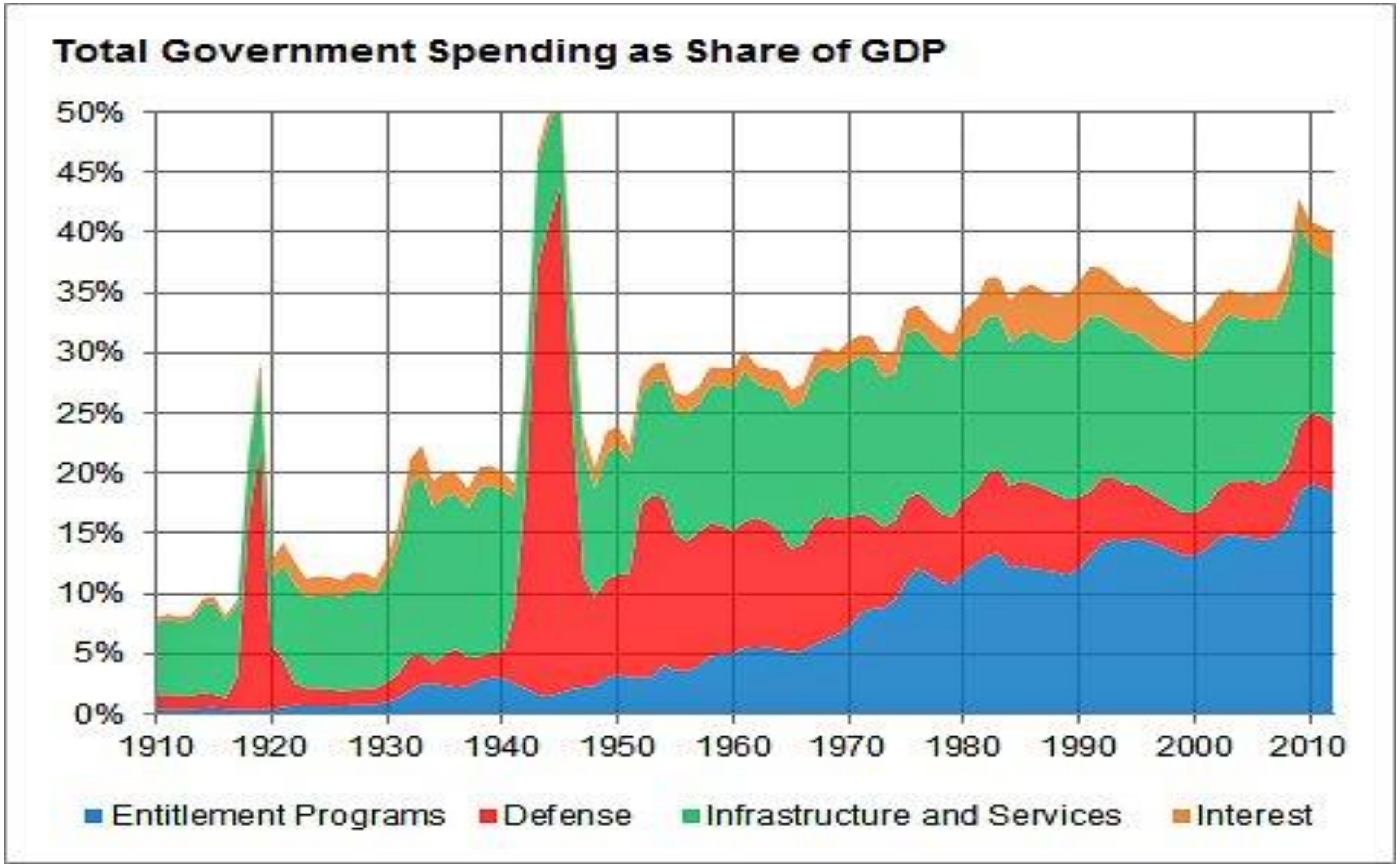
Charities: help for oldsters only from those who want to help. (Recall the free rider problem)

Winner take all some? How to tax those who win life's monetary lottery.

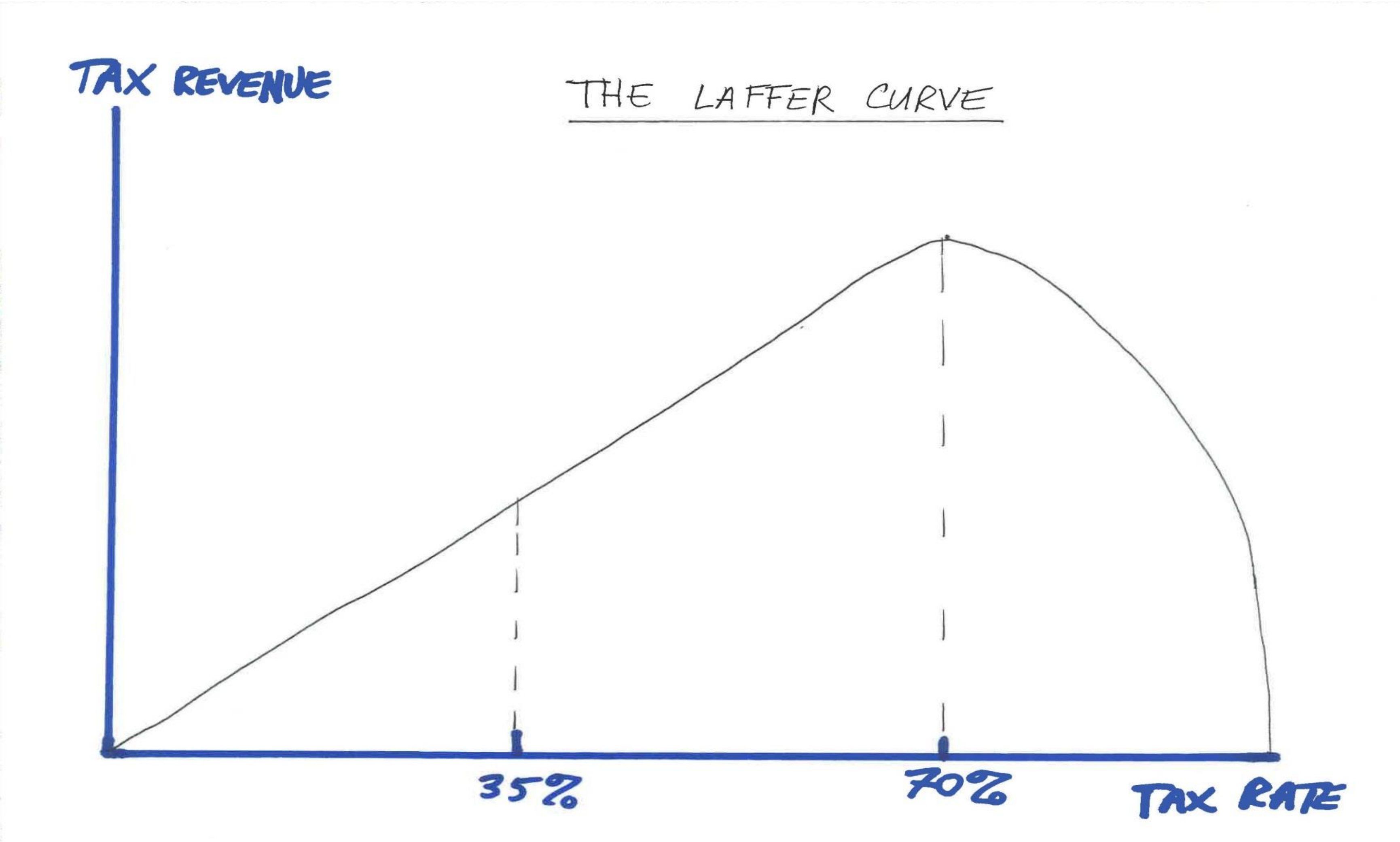
The concept of a social safety net

- We play checkers, you generally win, I generally lose.
- Perfectly free market says, you keep all your winnings, I beg for food.
- Marxist ideal: “from each according to his ability, to each according to his need”
- The reality of mixed economies: You keep a portion of your winnings, I get some help, so that I don’t starve.

Total government outlays: (We include state and local)



To pay for government outlays we tax. Taxation, however, can adversely affect effort. One cannot ignore effects on incentives.



The Heritage Foundation:
The Rich Pay Most of the Taxes
So A Tax Cut must largely fall to the Rich

(3/3/15, Stephen Moore)

45% of Americans pay no Federal Income Tax

Top 20% of Earners Pay 84% of Income Tax

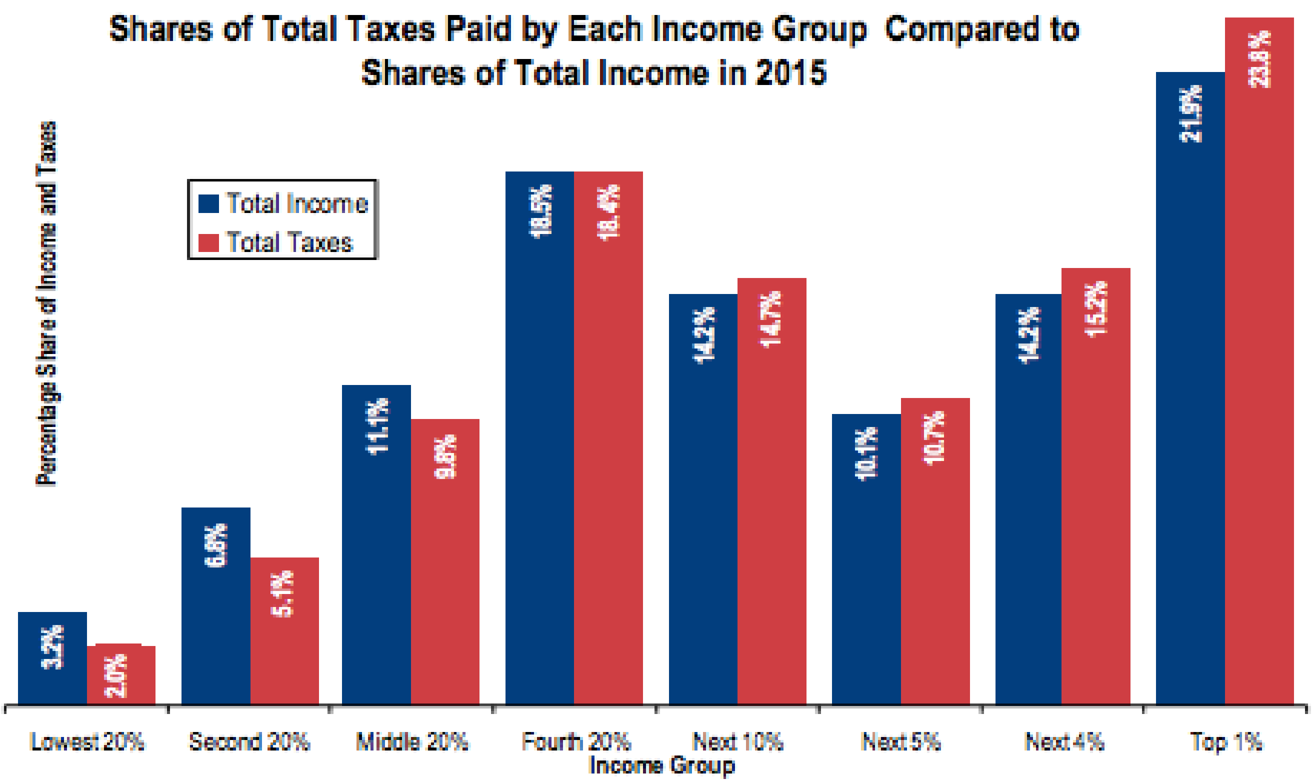
Top 1%:

Earned 19% of income / Paid 35% income taxes

Mark Twain: There are three kinds of lies…

Top 1%: Collect 22% of income / Pay 24% of total taxes

Middle 20%: Collect 11% of income / Pay 10% of total taxes



WE NEED TO LOOK AT **ALL TYPES OF TAXES** THAT EACH GROUP PAYS

PRE-TAX INCOME	FEDERAL INCOME TAX	EFFECTIVE TAX RATE
$ 118,500	$ 21,102	18%
$ 25,000,000	$ 9,845,231	39%

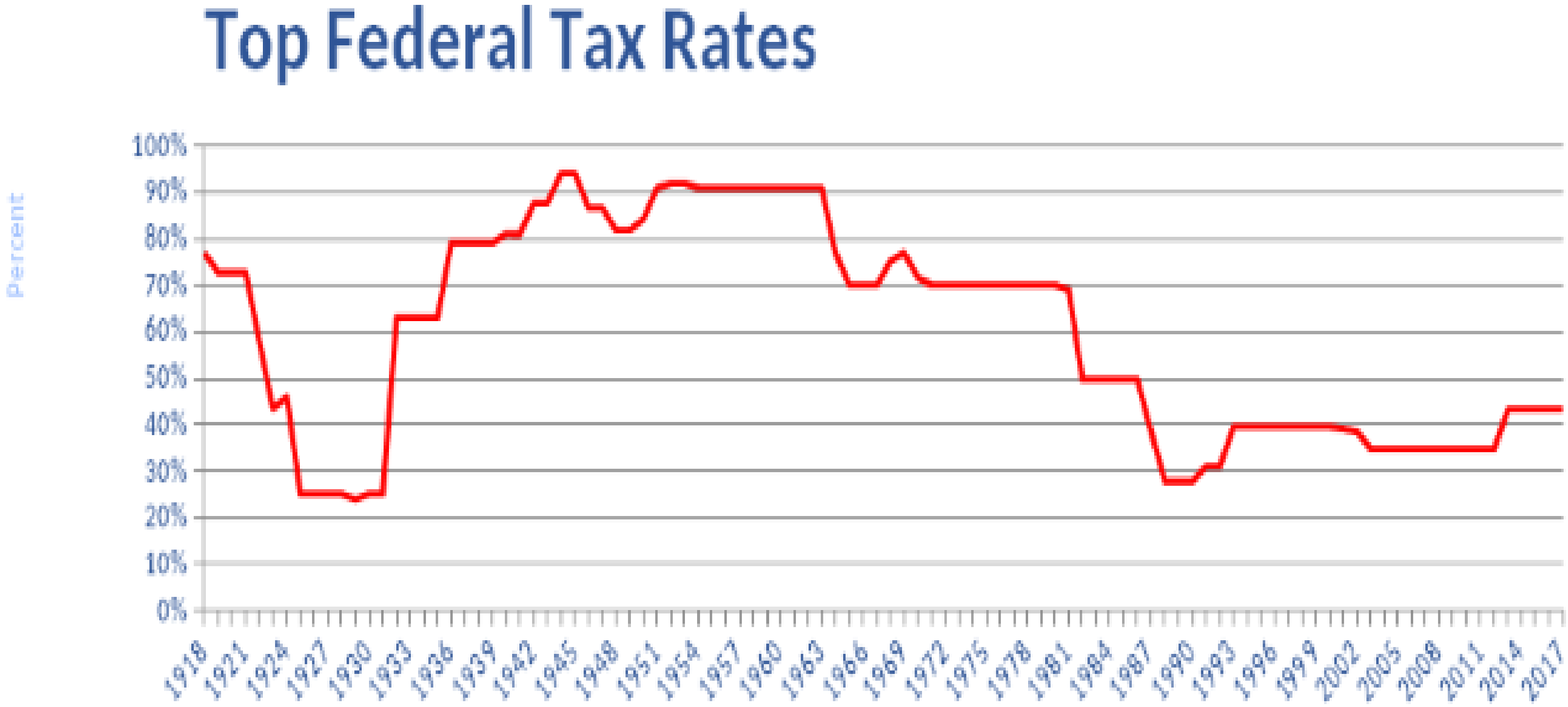
PRE-TAX INCOME	FEDERAL INCOME TAX	F.I.C.A.	MEDICARE	EXCISE TAXES	TOTAL TAX	EFFECTIVE TAX RATE
$ 118,500	$ 21,102	$ 7,347	$ 1,718	$ 7,050	$ 37,217	31%
$ 25,000,000	$ 9,845,231	$ 7,347	$ 362,500	$ 50,050	$ 10,265,128	41%

PRE-TAX INCOME	F.I.C.A. + EXCISE	AS SHARE OF INCOME
$ 118,500	$ 14,397	12%
$ 25,000,000	$ 57,397	0.2%

How about the top tax rate?
Where are we today, on the Laffer Curve?

1950s through 1970s	70%
1981 Reagan Tax cut	50%
1986 Reagan Tax reform	28%
1992 Clinton Budget	39.6%
2001 Bush tax cut	35%
2012 Obama Tax Cut Extension	39.6%
2012 Affordable Care Act	43.4%
The Trump Tax Cut	37%

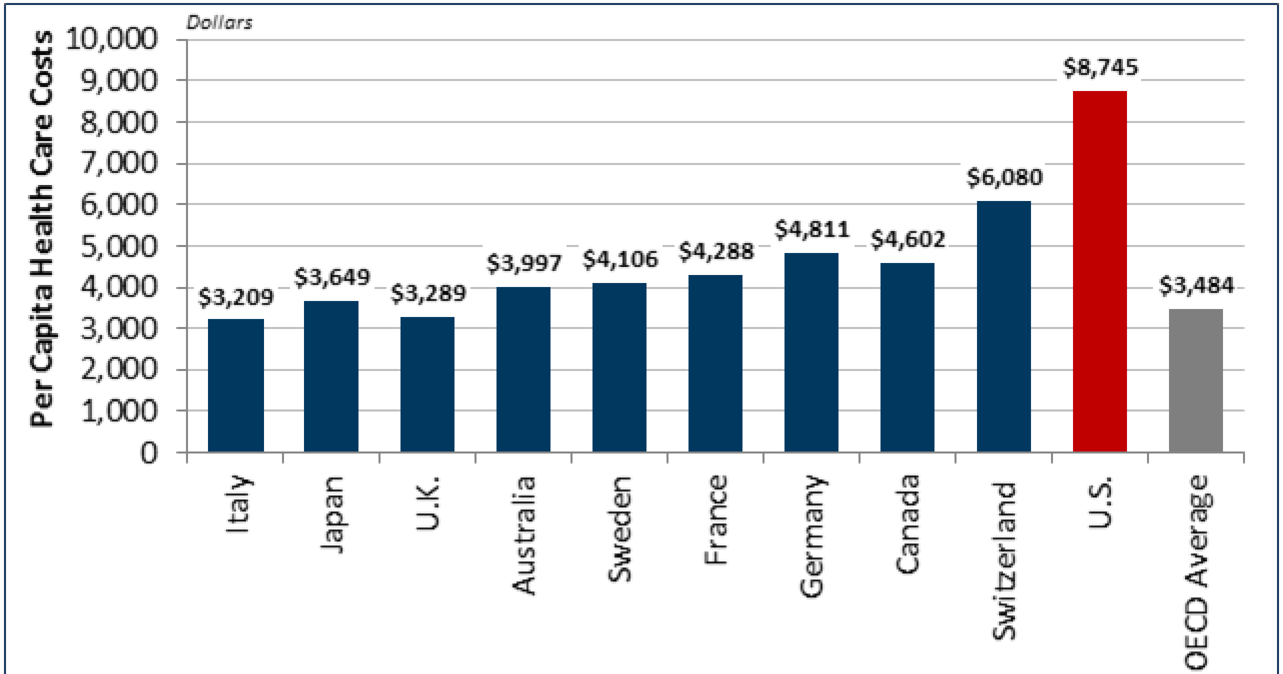
From 1932 through 1981 the top rate was much higher than today's



Mixed Economy international comparisons:

	Total	total
	outlays	ex-defense
France	56%	53%
U.K.	48%	45%
Germany	45%	44%
Japan	42%	41%
U.S.A.	42%	38%
Brazil	39%	37%
India	27%	24%
China	24%	20%

U.S. Health Care Costs: A Major Contributor to the Size of U.S. Government outlays



SOURCE: OECD, *OECD Health Statistics 2014*, June 2014. Compiled by PGPF.
NOTE: Per capita health expenditures are for the year 2012, except Australia, for which 2011 data are the latest available. Chart uses purchasing power parities to convert data into dollars.

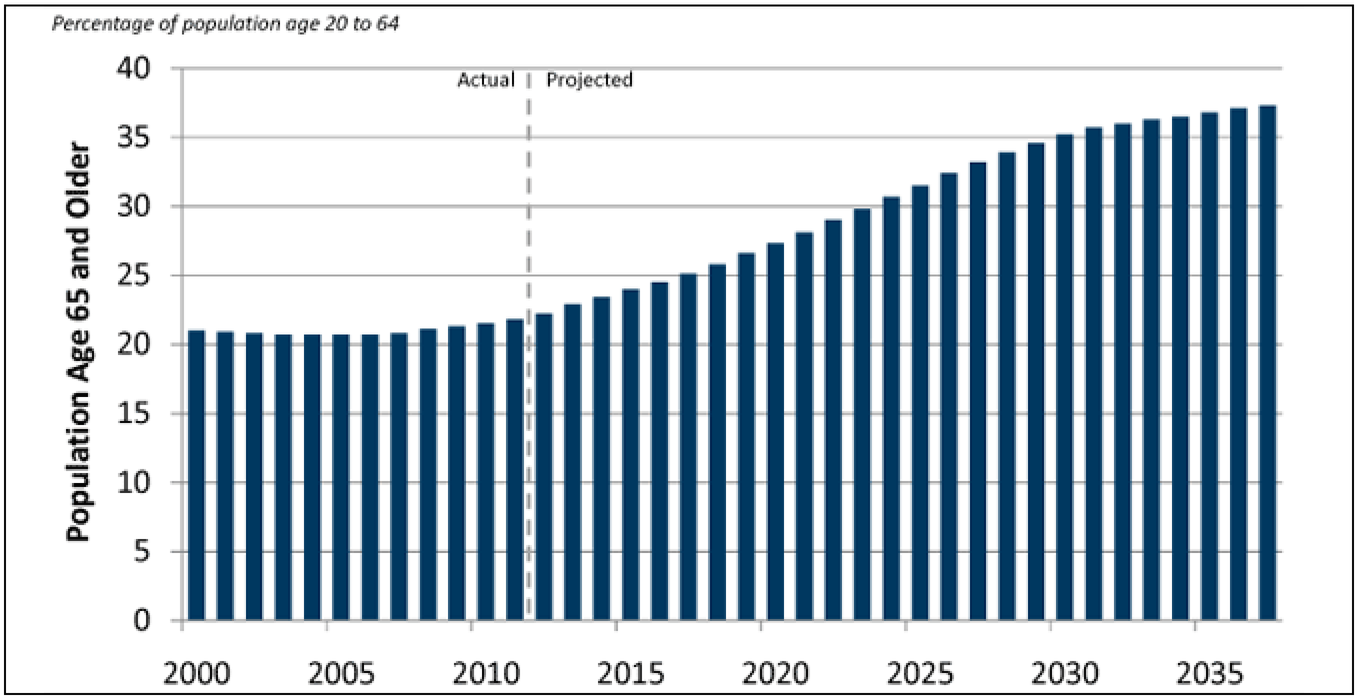
The USA spends twice as much on medical care. It doesn't seem to get anything extra:

(source: Hubbard text, chapter 5)

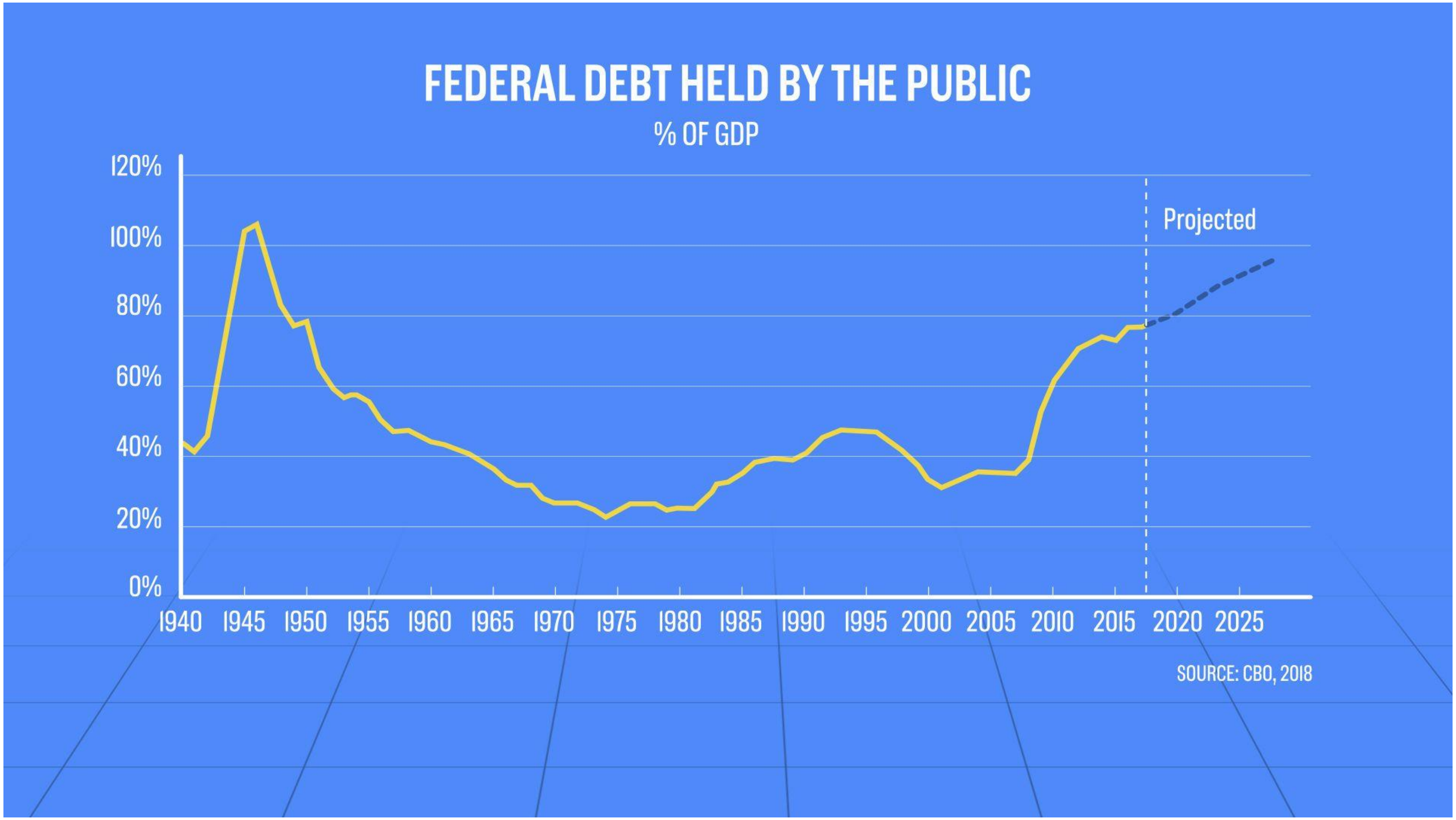
HEALTH OUTCOMES IN HIGH INCOME COUNTRIES:		2012 DATA:			
	USA	CANADA	JAPAN	U.K.	OECD AVG.
Life Expectancy, newborn	79	81	83	81	78
Life expectancy, 65 yr.old Male	18	18	19	18	17
Life expectancy, 65 yr.old Female	20	22	24	21	21
Infant mortality (deaths per 1,000)	6	5	2	4	3.5
Obesity (% of pop ≥ 30% above BMI*)	36%	26%	3%	26%	13%
MRI's per 1,000	26%	8%	43%	6%	10%

DOES THE U.S. FACE A LOOMING FISCAL CRISIS?

(Fiscal Crisis Definition: A sovereign government loses its ability to borrow, when lenders' collective judgment is that that they may not be able to honor the debts they are incurring.)



When do national government debt levels reach unsustainable heights?



How does current U.S. fiscal status compare with other nations?

2017 DEBT AND DEFICITS & TODAY'S 10-YEAR RATES:	DEBT-TO-GDP RATIO:	DEFICIT-TO-GDP RATIO	10-YEAR TREASURY YIELD:
JAPAN	237.5%	-4.6%	-0.11%
GREECE	174.1%	-1.3%	1.21%
ITALY	133.5%	-2.3%	0.98%
PORTUGAL	119.6%	-1.8%	0.22%
BELGIUM	100.2%	-1.5%	0.77%
SPAIN	95.8%	-3.3%	0.28%
FRANCE	99.2%	-2.7%	-0.05%
CANADA	88.1%	-2.0%	1.59%
UNITED KINGDOM	85.7%	-3.6%	0.71%
BRAZIL	90.4%	-1.3%	3.85%
UNITED STATES	82.3%	-4.6%	1.84%
GERMANY	60.9%	0.7%	-0.35%

Sovereign governments, when they have a central bank,
can print the money needed to pay back debts.
That means lenders face a risk of inflation, but not of default.
Italian debt has rode this roller coaster ride, for the past 10 years:

Will the U.S. face a crisis, out there in the future?
Our guesses on how USA debt will grow, relative to GDP,
are very much tied to the real rate the government must pay, relative to the economy's real growth rate.

	CBO forecast	50 year historical avg.(1955-2005)
Real borrowing cost (r)	1.6%	2.7%
Real GDP growth (g)	2.0%	3.4%
r-g	-0.4%	-0.7%

Size of Government summary

- Some items need to be provided by government.
- High tax rates do stifle growth and can, paradoxically, reduce tax receipts.
- Nations have different levels of government.
- Some argue, today, that the U.S. faces a fiscal crisis.
- Maybe so, but a lot depends on assumptions about productivity and real interest rates.
- And there is ample precedent for forecasters to mistakenly believe that the past few years are a good gauge for the next 25 years.

Fiscal policy

Fiscal policy refers to changes in *federal* taxes and purchases that are intended to achieve macroeconomic policy objectives.

(State taxes and spending are not generally aimed at affecting *national-level* objectives.)

Some forms of government spending and taxes automatically increase or decrease along with the business cycle; these are *automatic stabilizers*.

Example: Unemployment insurance payments are larger during a recession.

Discretionary fiscal policy, on the other hand, refers to intentional actions the government takes to change spending or taxes.

Does government spending create jobs?

Government spending is a component of real GDP:

$$Y = C + I + G + NX$$

This makes it appear as though increases in government spending increase output—and hence other relevant economic variables like employment.

However some economists argue that government spending simply shifts employment from one group to another—it does not increase *total employment*.

This debate was particularly important after the 2007-2009 recession: can the government use *discretionary fiscal policy* to increase employment?

Fears of Crowding Out, in Disastrous Recessions, Quite Unlikely

- We expanded our loanable funds model and saw that collapsing risk appetites radically reduced government's borrowing costs during the Great Recession.

- So the 2008-2009 Debate appears STUPID!
- But it was waged by very smart people???
- Perhaps another motive exists for pretending to believe that government spending could crowd out in 2009-2010?

(Size of government)

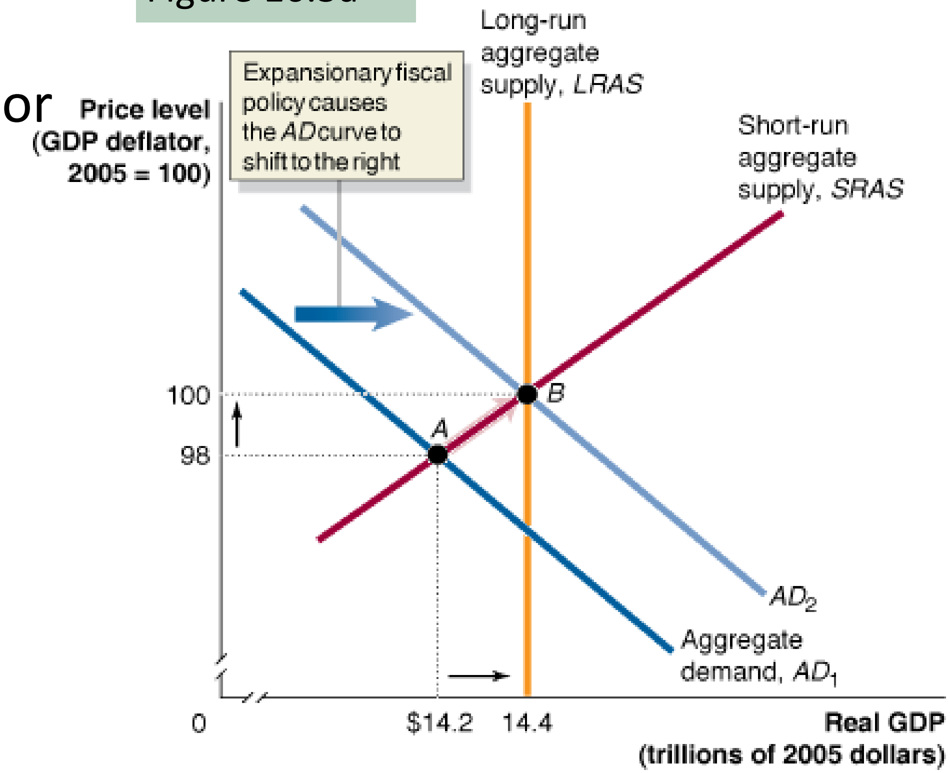
Expansionary fiscal policy in the static AD-AS model

Expansionary fiscal policy involves increasing government purchases or decreasing taxes.

Increasing government purchases directly increases aggregate demand.

Decreasing taxes indirectly affects aggregate demand by increasing disposable income, and hence consumption spending.

Figure 16.5a



(a) Expansionary fiscal policy

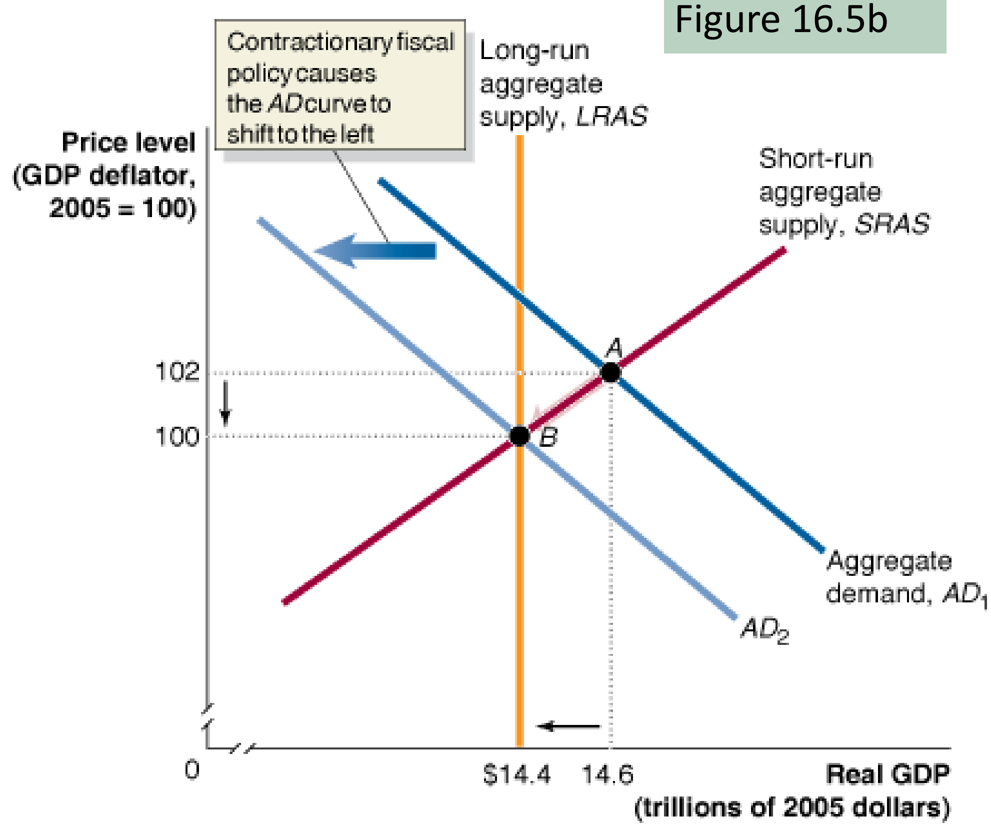
If the government believes real GDP will be below potential GDP, it can enact expansionary fiscal policy in an attempt to restore long-run equilibrium—decreasing unemployment.

Contractionary fiscal policy in the static AD-AS model

Contractionary fiscal policy involves *decreasing* government purchases or *increasing* taxes.

This works just like expansionary fiscal policy, only in reverse.

Figure 16.5b



(b) Contractionary fiscal policy

If the government believes real GDP will be above potential GDP, it can enact contractionary fiscal policy in an attempt to restore long-run equilibrium—decreasing inflation.

FISCAL POLICY
VS MONETARY POLICY

- Monetary policy, each and every day, works toward delivering desired macroeconomic objectives:
  - We want low inflation
  - We want low unemployment
  - We want strong real GDP growth
  - We want a secure financial system
- Monetary Policy is on the Job, 24/7

Discretionary Fiscal Policy? Only in the worst of Times

Monetary Policy is more nimble, and so better suited to steer the bus.

Fiscal Policy is a product of Congress and the White House: therefore it is always highly politicized. And it takes TOO MUCH TIME!

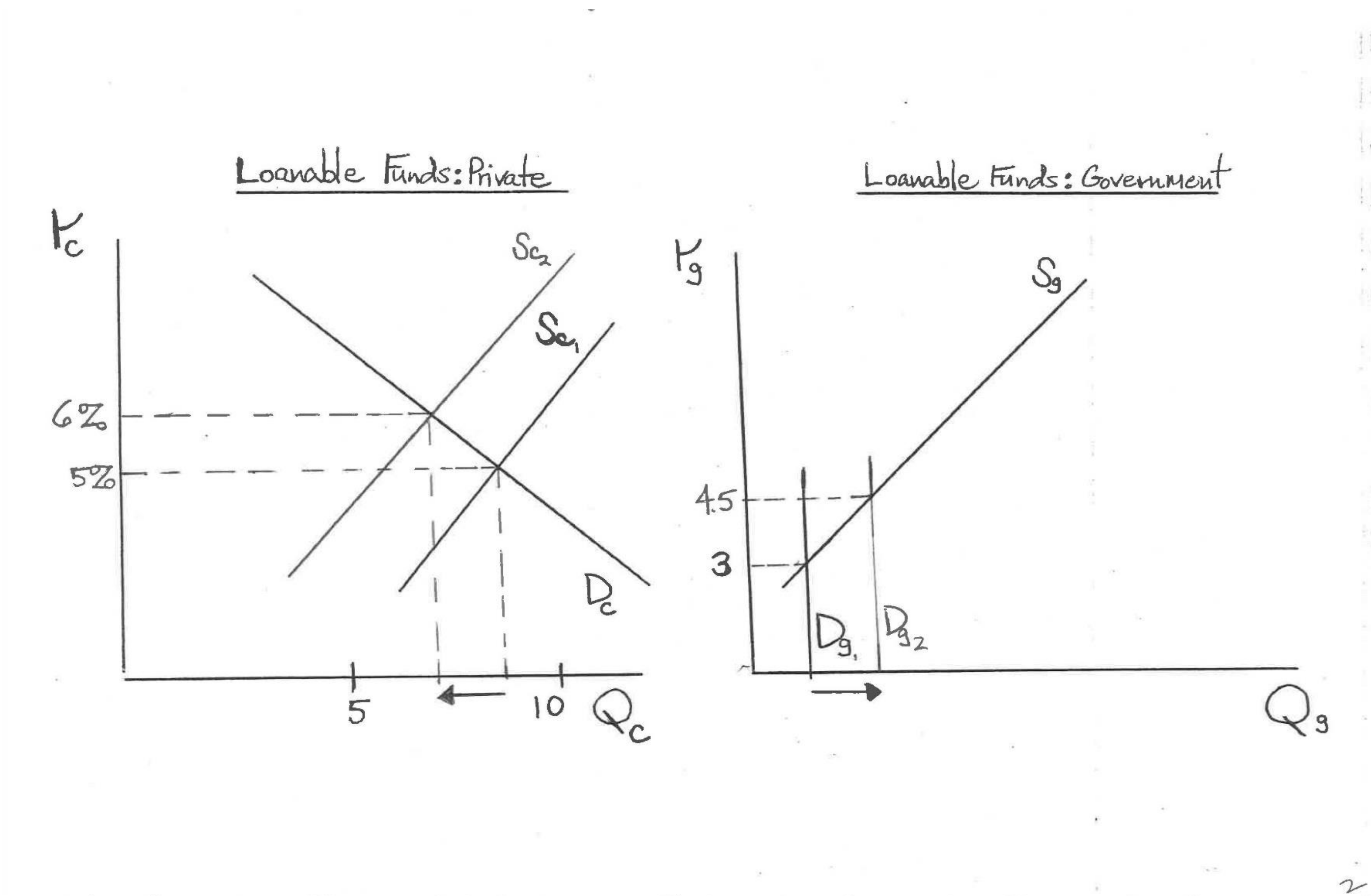
Fiscal Stimulus: Policies that give money away, are very easy to enact, but very hard to take back.

Fiscal policy? Especially when monetary policy is hampered

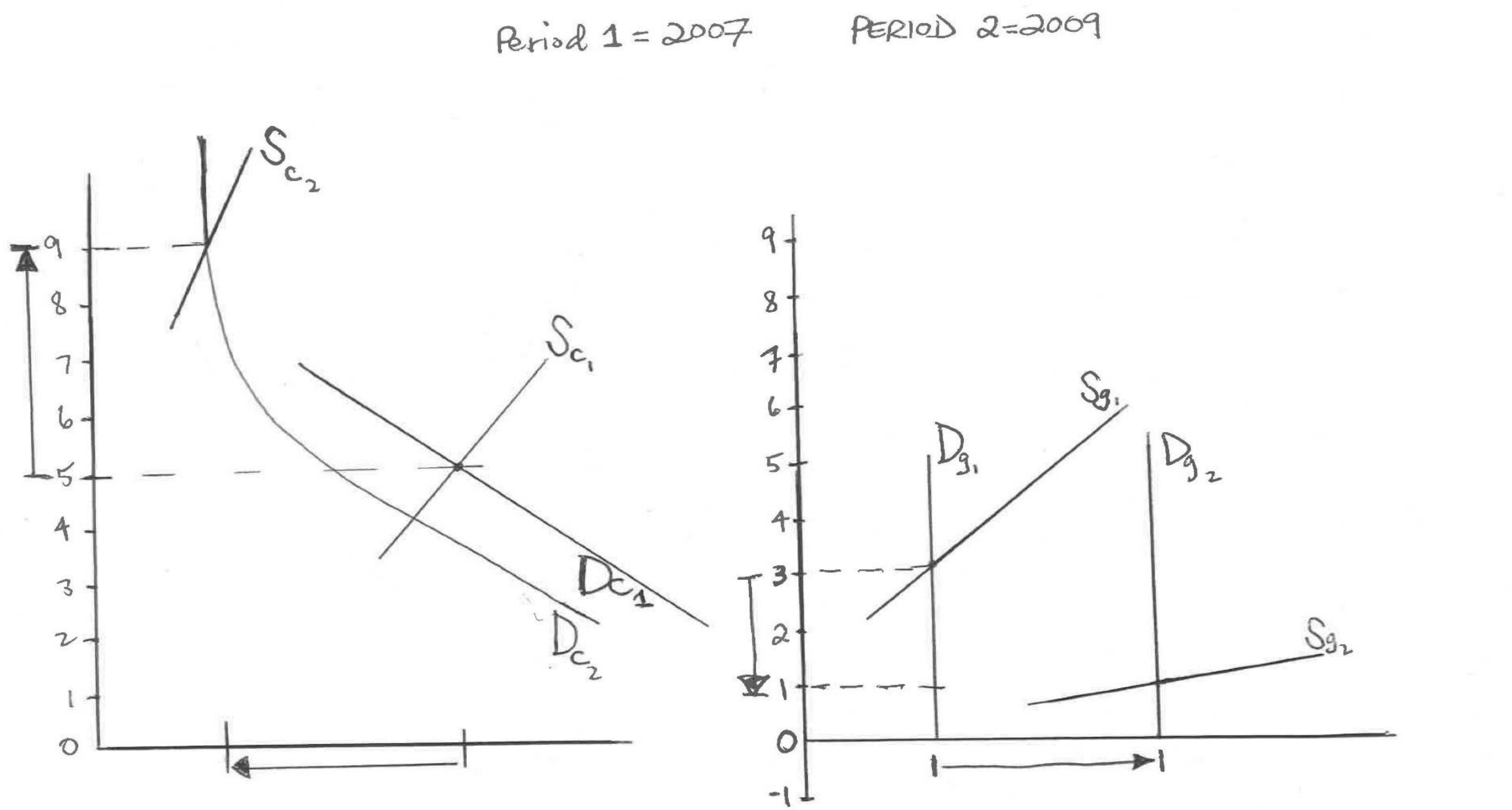
- When federal funds are at ZERO, the Fed has fired all of its traditional ammunition.

- At such times fiscal policy seems like a reasonable alternative to ‘hoping things get better’.

The Loanable Funds Model: Crowding Out, when the economy is near full employment.



The Great Recession: the government borrowing rate, r_g, plunged: Soaring company borrowing costs, r_c, did not reflect crowding out, despite the jump for government borrowing.



CBO estimates of the effects of the stimulus package

The Congressional Budget Office (CBO) is a non-partisan organization that estimates the effects of government policies.

The table shows CBO estimates of the effect of the stimulus package on economic variables, *relative to what would have happened without the stimulus package*:

Table 16.2

Year	Change in Real GDP	Change in the Unemployment Rate	Change in Employment (millions of people)
2009	0.9% to 1.9%	−0.3% to −0.5%	0.5 to 0.9
2010	1.5% to 4.2%	−0.7% to −1.8%	1.3 to 3.3
2011	0.8% to 2.3%	−0.5% to −1.4%	0.9 to 2.7
2012	0.3% to 0.8%	−0.2% to −0.6%	0.4 to 1.1

The CBO's conclusion: the stimulus package reduced the severity of the recession, but did not come close to bringing the economy back to full employment.

What about crowding out during the first years of recovery? Those warning of crowding out, spoke of an imminent rise for r_c, the borrowing costs for companies: We got the opposite

	Q4:2006	Q4:2008	Q4:2010
U.S. 10-YEAR	4.7	2.2	3.3
CORPORATE BOND	6.2	8.4	6.1
SPREAD	1.5	6.2	2.8

Fiscal policy: Automatic Stabilizers versus Active Changes?

- Jobless benefits immediately put money into the pockets of the unemployed– a good thing.
- Similarly, monetary policy is enacted, the moment it appears a change is needed—its effects take time, but the policy change requires only a vote among 12 people.
- But how long does it take to get a fiscal stimulus deal?

Think of the many hurdles for fiscal policy, given our Political system

- 435 Congressional Representatives must pass a bill
- 100 Senators must pass a bill
- A House/Senate Conference must agree upon a compromise bill.
- Both the Senate and the House must approve the compromise bill.
- The President must sign the bill.
- Then the changes can begin to be implemented.