Lecture 4(iii) Announcements

Midterm Mon Oct 8, 7pm-8pm (Rooms announced this Monday)

Resources
Practice Midterms (Week 5 at Canvas)

Question and Answer Sessions

Wed Oct 3: 4-5:30: Anderson 310
Wed Oct 3, 7:30-9: Anderson 210
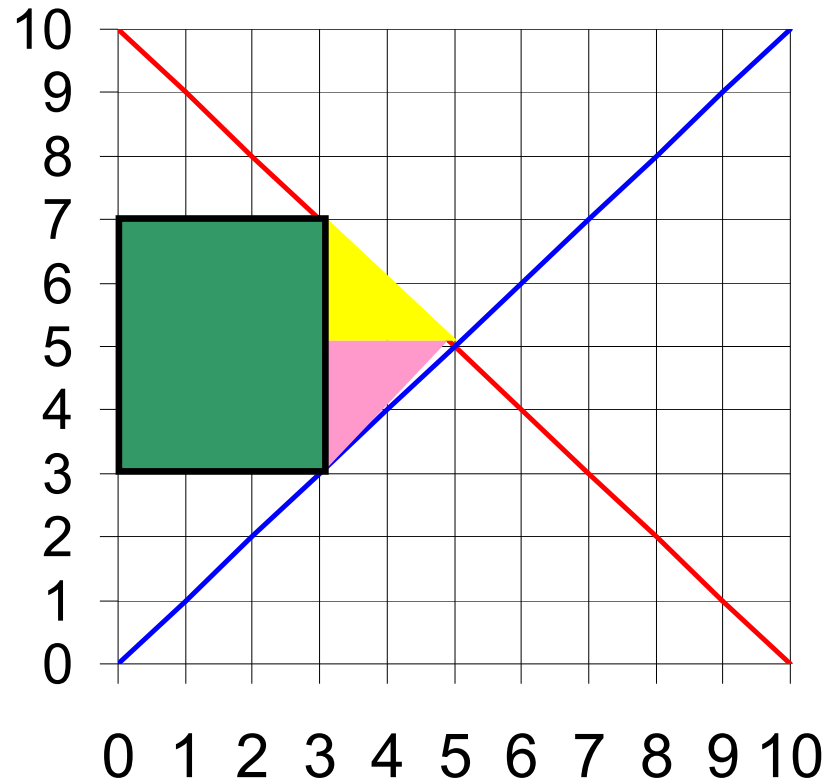Thur Oct 4 3:30-5 : Anderson 210

Another chance for Experiment 2 Friday (today) 3pm

Lecture

0. Deadweight loss of a tax

1. Head taxes and discriminatory taxes

2. Deadweight loss and elasticity

3. Deadweight loss and size of tax

4. Taxation of Labor

With tax: ΔGS = Q × tax is less than loss of CS+PS:

Deadweight loss. Allocation with tax not Pareto Efficient!

Diagnosis of the Source of Inefficiency.

Problem: Breakdown of General Principle 3, Efficient Quantity where Marginal Reservation Price (MRP) equal to Marginal Cost (MC).

Q = 3 is too small (Tax puts wedge between MRP and MC)

(But note General Principle 1 and 2 continue to hold. Get efficient allocation of consumption and production.)

See the problem:

D4 values at $6
S4 has cost of $4.

 D4 gives $5 to S4
S4 gives D4 widget
Both are better off!

But doesn't happen because taxman says "Wait, over here, $4 please!

The transaction doesn't generate enough surplus to cut in taxman, so doesn't happen.

Suppose gov't needs money. D10 and S10 are senior citizens and there is Medicare in Econland. The program costs $12.

Alternative to the Widget Tx 1
Head Tax $0.60 a person.
Tax 20 people raises $12.
No deadweight loss from widget tax.

Tax widgets, number changes
Tax heads, number won't change
No distortions of behavior

Head tax is the same regardless of income. Therefore, under this scheme, the poor share of their income on the tax than the rich, making it a **regressive tax.**

The opposite of a **progressive tax** where rich pay higher share.

Alternative 2:
Tax of $2 for people with last names <=3. (So S1,S2,S3, D1,D2,D3 all pay $2)

Pareto improvement compared to $4 widget tax.

Principle
　　Taxes that distort decision making reduce the size of the social pie compared to taxes that don't distort decisions.

One more example.
Suppose start with widget tax of $4. But need to add some additional information.

- D1 is able to get a special tax deduction of $2 that does not depend upon his behavior (gets the money regardless of how many widgets he buys.
- D2 and D3 each get $1 deductions.
- Total tax revenue collected is $8=$12-$4

New Plan
- Lower widget tax to $2, but get rid of deductions
- Lower marginal tax rates results in higher output and more total surplus (quantity goes to 4 instead of 3)
- But by getting rid of the deductions, net tax revenue is the same $8, so can finance same government programs.

1986 Tax Reform
+Republican president (Ronald Reagan
+Democratic controlled House
+Republican-controlled Senate

Great achievement in lowering marginal rates and getting rid of various tax preferences in an attempt to be revenue neutral.

But didn't last too long, the tinkering with the tax code happened pretty fast, and we are back to a mess.

Bush Tax Cuts (2001)
cut taxes without paying for them

Tax Cuts 2017 not revenue neutral either!
Main Story:
    -big cut corporate tax
    -smaller cuts to personal taxes
Original plan cut lot of deductions, but in the end cut one main one: Deduction for State and Local Income Tax (SALT).
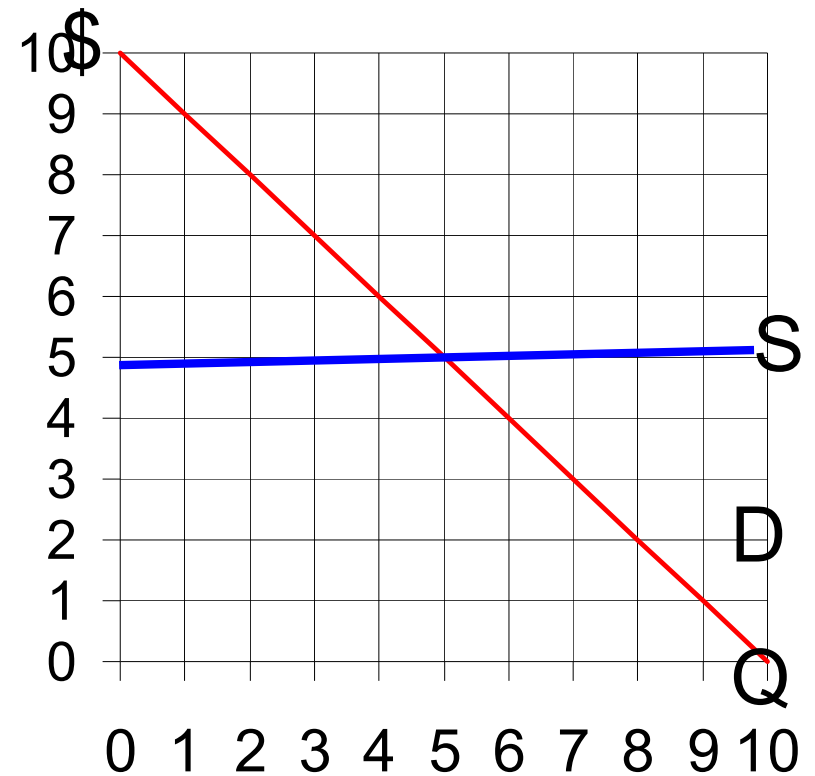
"Starve the Beast" strategy
(cut taxes first, then after deficits show up, use them to force spending cuts)
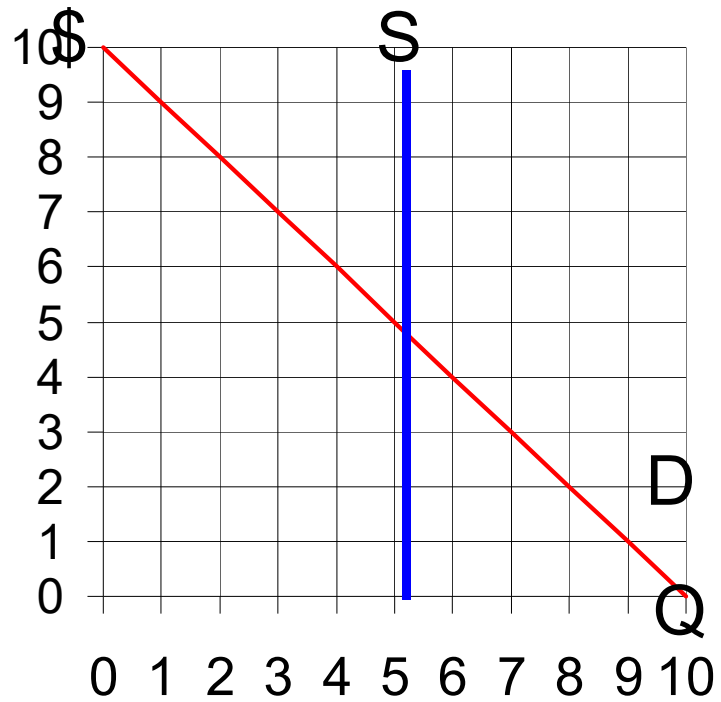
3. Deadweight Loss and Elasticity

Looks at special cases where

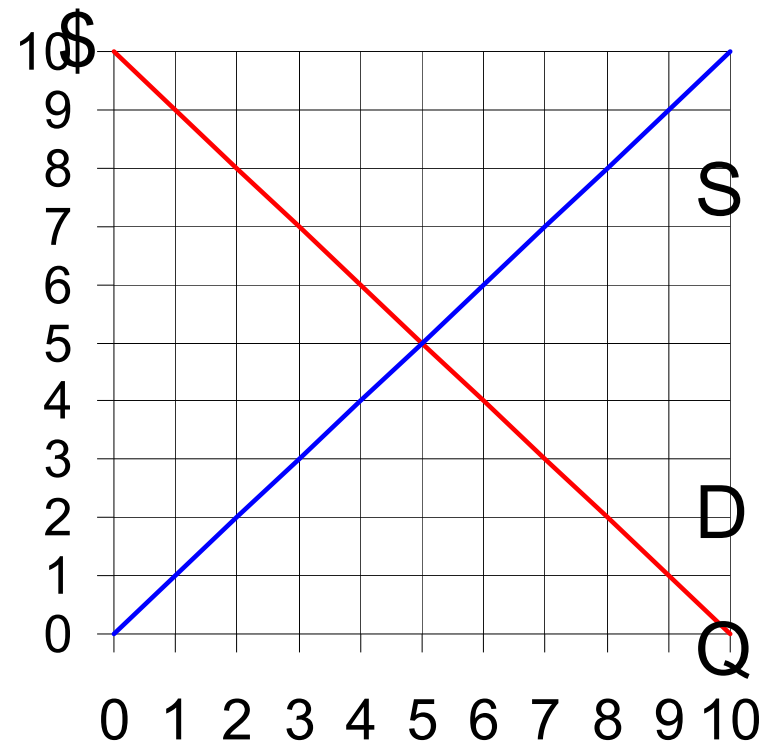1. Supply is perfectly elastic

2. Supply is perfectly inelastic

Effect of taxes when supply is perfectly elastic:

Effect of taxes when supply is
perfectly inelastic

4. Deadweight loss and size of tax
Back to Econland setup:

For various tax levels, calculate deadweight loss per unit tax revenue collected:

Tax	Q	Revenue	Dead-wgt Loss	Dead-wgt loss per $ Tax Rev
1	4.5	4.50	.25	.056
2	4.0	8.00	1.00	.125
4	3.0	12.00	4.00	.333
5	2.5	12.50	6.25	.50
6	2.0	12.00	9.00	.75

What is intuition?

What do you think about a tax level equal to $6 per unit?

Taxation of Labor

Can make a convincing argument that long-run demand for labor is very elastic (for most labor markets)

In this case, who pays this tax?

Labor taxes in the U.S.
1. Social Sec+Medicare
2. Federal Income Tax
3. State Income Tax

Social Security plus Medicare

Social Security	% tax
Worker	6.2
Employer	6.2
Total	12.4
Medicare	
Worker	1.45
Employer	1.45
Total	2.9
Total	15.3

Note: Soc. Sec. paid on income up to $124,400
But medicare uncapped. In fact there is 0.9% surcharge above 250k in income.

Federal (single with standard deduction $12k)

Cutoff Income at Which Rate Kicks in ($1,000)	Marginal Rate (Percent)
0	0
12	10
22	12
51	22
95	24
170	32
212	35
512	37

State (single with standard deduction)

Cutoff Income at Which Rate Kicks in ($1,000)	Marginal Rate (Percent)
0	0.0
12	5.35
38	7.05
97	7.85
172	9.85

(State taxes are deductible for federal up to 10,000, so effective rate lower than above, until hit 10k cap)

Case 1: Student
(College student making less than $12,000 a year.)

What is marginal tax rate?

- Federal/State Income tax= 0

- Social Sec+Medicare? (Work in labor markets with elastic demand. Expect workers to bear entire burden of tax.

Conclusion: **Marginal Tax rate = 15.3 (percent)**

Case 2: Steph Curry
Salary $35,000,000 year

Marginal Rate (percent):

37 (Federal income tax)

+ 13.3 (CA highest rate, no longer deducts this)

+ 2.9 (Medicare)
+ 0.9 Medicare surchare

= 54.1 percent

Case 3: Donald Trump
Don't know much about his tax returns
Good bet to assume much of it is capital gains income.
(Put probably some **pass through as well**

Marginal Tax Rate

20.0 (high income capital gains)
+3.8 (Obamacare tax)
+8.2 New York STate
=34.0 percent. **!**
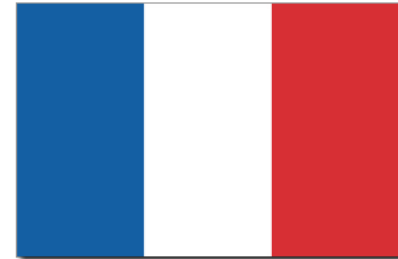
Case 4: Top Bracket in France (over $1mil)

15.5 (Social Security)

+45.0 (top bracket)

+4.0 (surcharge)
=64.5 percent

 (Plus sales tax of 20% on consumption)
Conclude: taxes on high earners higher in France than here.

Case 5: Low income person in the United States whose income is just below the threshold for qualifying for Medicaid.

If income goes up $1, loses eligibility for Medicaid

The marginal tax rate would be higher than all the previous examples!

Lose benefit worth thousands from earning one dollar.

Tricky problem of how to phase out benefits.