

- Final exam Wednesday, Dec 7, 3:00 - 6:00 p.m. in Peterson 108
- You must show your student id when you turn in final exam
- 30% on Chapters 7, 9,10,11,12
- 70% on Chapters 13,14,15
- Same format as midterms but twice as long
- Please do not turn in your exam before 4:00
- Practice final exam will be reviewed in discussion sections today

## Chapter 15: Public Goods and Tax Policy

- A. Definitions of public and private goods
- B. Valuing public goods
- C. Problems with private provision of public goods
  1. Underprovision of public goods by the private market
  2. Underprovision of collective goods by the private market
- D. Paying for provision of public goods
  1. Progressivity of tax structure

If public good is to be provided by the government, it will be paid for with taxes

Who should pay the taxes, if this is the justification for the government's involvement?

Ideal answer– suppose that:

- Public goods are being provided at the point where  $MC = MB$  (social optimum)
- $MB =$  vertical sum of each individual's willingness to pay

Then if each individual contributed the amount they are willing to pay, we would just cover the costs

Conclusion:

Ideal solution is for each individual to be taxed the amount they personally are willing to pay for the public good

Problem:

How could we ever determine the willingness to pay?

Reasonable assumption: the rich are willing to pay more than the poor

Conclusion: if government expenditures are motivated by a public goods argument, then the rich should pay more taxes than the poor

Question: how much more taxes should the rich pay?

- If when your income doubles your taxes less than double, the tax system is called regressive
- If when your income doubles your taxes exactly double, the tax system is called proportional
- If when your income doubles your taxes more than double, the tax system is called progressive

- Many studies have concluded that the income elasticity of people's demand for parks, clean air, public safety is greater than 1
- That is, if your income doubles, the amount you'd be willing to pay for such items more than doubles
- Some economists use this to argue that a progressive tax system is the logical way to pay for the government's bills

## Chapter 15: Public Goods and Tax Policy

- A. Definitions of public and private goods
- B. Valuing public goods
- C. Problems with private provision of public goods
- D. Paying for provision of public goods
  - 1. Progressivity of tax structure
  - 2. What activities should we tax?

Issue: any taxes will be distortionary and impose deadweight losses by themselves

Must weigh problem of insufficient provision of public goods by private markets against problem of misallocation of resources caused by taxes

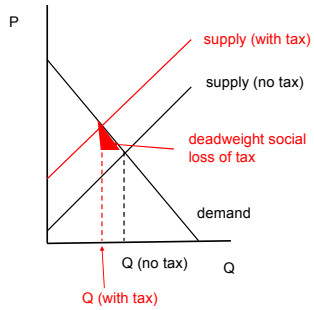
Options:

- (a) Try to tax only those activities you want to discourage
  - argument for: internalize the negative externality
  - argument against: not enough revenue, tax would be far greater than actual social costs

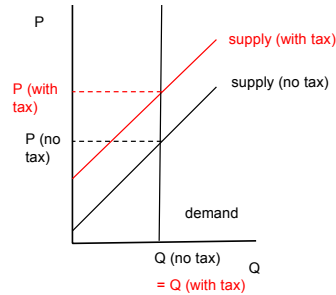
Options:

- (b) Try only to tax those goods whose demand or supply is very inelastic

### Deadweight loss for usual demand curve



### There is no deadweight loss with perfectly inelastic demand curve



- Nature of deadweight loss from tax is that less of the good is produced
- If demand is perfectly inelastic, there is no change in the quantity and no deadweight loss from the tax
- Same is true of supply: if supply is perfectly inelastic, there is no change in quantity and no deadweight loss from the tax

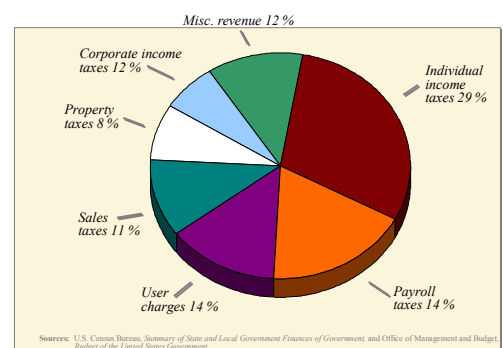
### Options:

- (b) Try only to tax those goods whose demand or supply is very inelastic
  - argument for: if people don't change their behavior, no deadweight loss
  - arguments against: hard to identify such goods, not consistent with willingness to pay principle or equity concerns

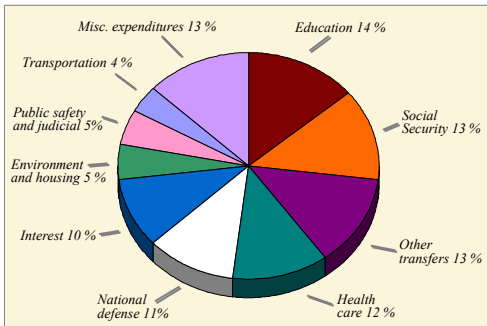
## Chapter 15: Public Goods and Tax Policy

- C. Problems with private provision of public goods
- D. Paying for provision of public goods
- E. Summary of facts on U.S. taxes and spending

### Sources of combined federal, state, and local revenues



### Combined federal, state, and local spending



## Chapter 15: Public Goods and Tax Policy

- C. Problems with private provision of public goods
- D. Paying for provision of public goods
- E. Summary of facts on U.S. taxes and spending
- F. Problems with government provision of public goods
  - 1. It is hard for government to calculate willingness to pay for public good

## Chapter 15: Public Goods and Tax Policy

- F. Problems with government provision of public goods
  - 1. It is hard for government to calculate willingness to pay for public good
  - 2. Without the incentives and discipline of private market competition, government provision of goods can often be inefficient
  - 3. Pork barrel legislation

Consider a project that costs the federal government \$150 million that generates \$100 million in benefits to West Virginia

Cost to West Virginia taxpayers: approximately \$3 million

Senator from West Virginia would be quite popular with West Virginians if it's approved

Why would senator from Kentucky vote in favor?

Answer: because the senator from West Virginia agreed to vote for a similar project for Kentucky

If senators from 26 states all agree on a set of such projects, may all get approved together

When a legislator votes for a project he or she does not particularly favor in exchange for getting the vote from another legislator on legislation that is very important to him or her, it is called *logrolling*.

Public spending that is not in the overall public interest but is vigorously supported by the local representatives of particular regions is called *pork barrel legislation*.