Econ 100.2 Taxation

Introduction to Microeconomic Theory and Policy (University of the Philippines System)

COSTS OF TAXATION

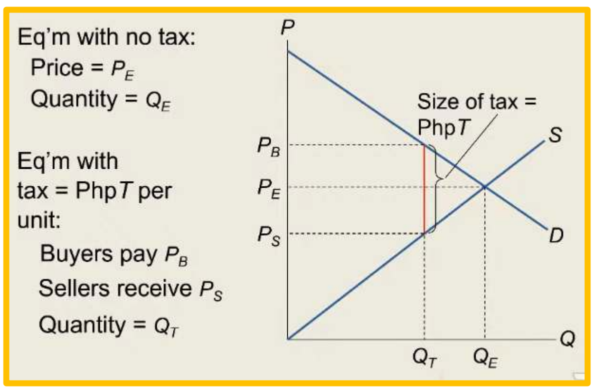
taxes

- Drives a wedge between the price buyers pay and the price sellers receive.
- Raises the price buyers pay and lowers the price sellers receive.
- Reduces the quantity bought and sold.

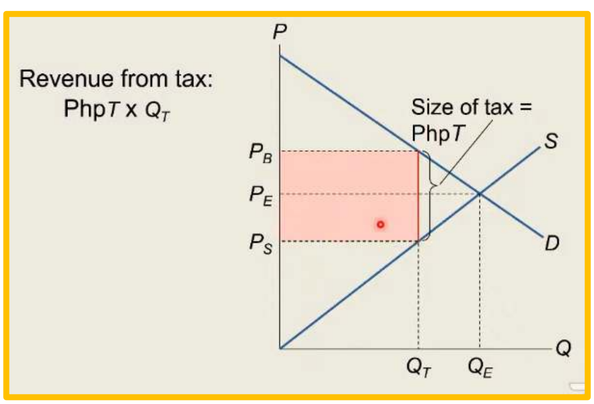
REMARK

– These effects are the same whether the tax is imposed on buyers or sellers, so we do not make this distinction in this chapter.

GRAPH WITH IMPOSED TAX



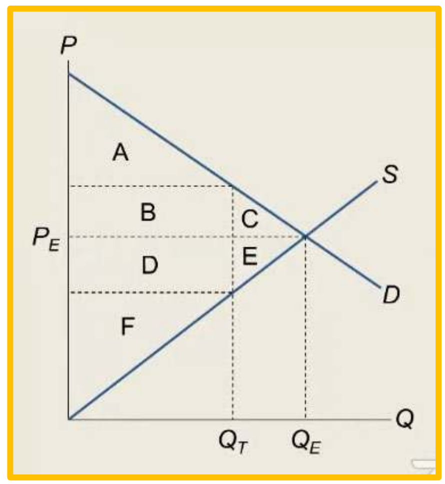
(GOVERNMENT) REVENUE FROM THE TAX



Revenue = (Tax) x (Quantity after tax was imposed)

effects of taxes

- We apply welfare economics to measure the gains and losses from a tax.
- We determine consumer surplus, producer surplus, tax revenue, and total surplus with and without the tax.
- Tax revenue can fun beneficial services (example: education, roads, police) so we include it in total surplus.



WITHOUT THE TAX:

CS = A+B+C

PS = D+E+F

Tax Revenue = 0

WITHOUT THE TAX:

CS = A

PS = F

Tax Revenue = B+D

Total Surplus = A+B+D+F

Deadweight Loss = C+E

deadweight loss

- The fall in total surplus that results from a market distortion, such as tax.
- Because of the tax, there are units not sold.
- The value of these units to buyers is greater than the cost of producing them, so the tax prevents some mutually beneficial trades.

What determines the size of the dwl?

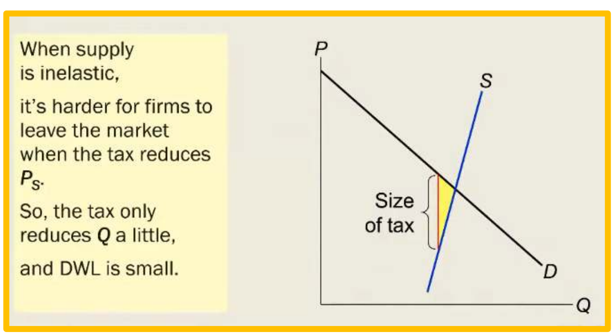
- Which goods or services should government tax to raise the revenue it needs?
  - ✓ Those with the smallest DWL.
- When is the DWL small or large?
  - ✓ It depends on the price elasticities of supply and demand.
- Recall: The price elasticity of demand (or supply) measures how much Qd (or Qs) changes when P changes

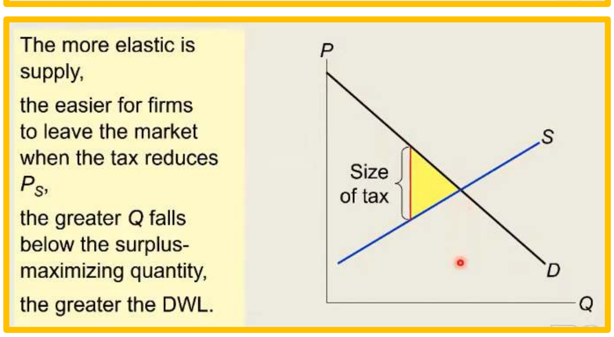
  We use total surplus as a measure of society's well-being, and we consider whether the market's allocation is efficient

dwl and the elasticity of demand and supply

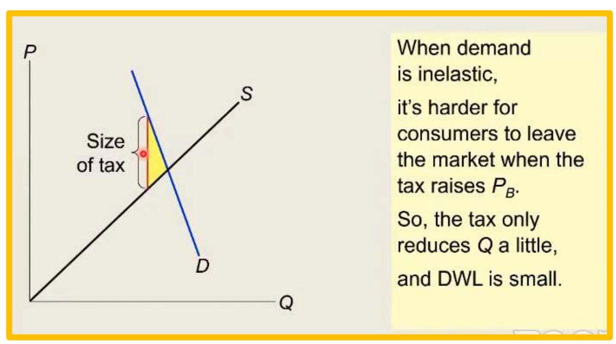
- When is the DWL larger, in the short-run or in the long-run?
  - ✓ In the long-run because people are better able to adjust their consumption and production decisions.
- When is the DWL larger, for necessities or luxuries?
  - ✓ Luxuries because it is more demand elastic than necessities.
- When is the DWL larger, for goods with substitutes or for goods without close substitutes?
  - ✓ Goods with substitutes because it is more demand inelastic than goods without close substitutes.

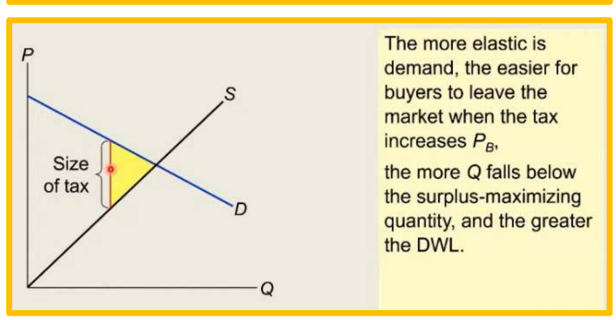
SUPPLY ELASTICITY



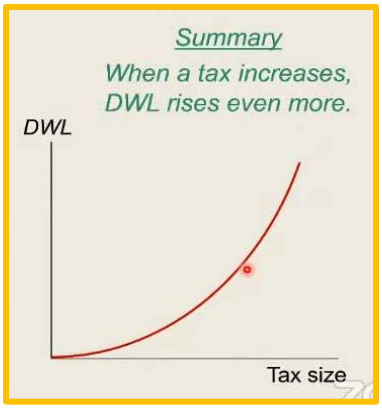


DEMAND ELASTICITY



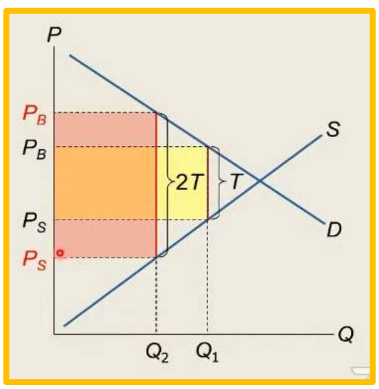


DWL AND THE SIZE OF THE TAX

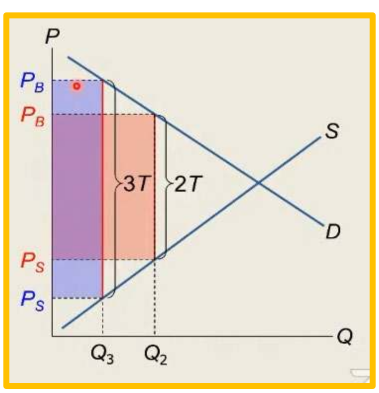


- When tax rates are low, raising them doesn't cause much harm, and lowering them doesn't bring much benefit.
- When tax rates are high, raising them is very harmful, and cutting them is very beneficial

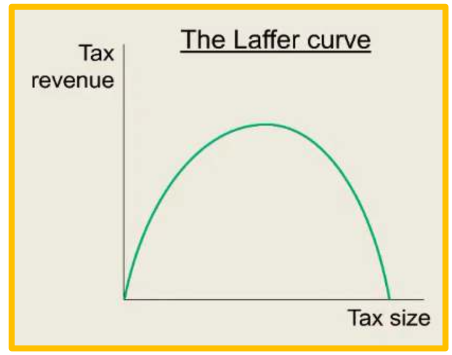
REVENUE AND THE SIZE OF THE TAX



- When the tax is small, increasing it causes tax revenue to rise.



- When the tax is larger, increasing it causes tax revenue to fall.



- The Laffer curve shows the relationship between the size of the tax and the tax revenue.
- At low tax rates, increasing the tax will increase tax revenue but after reaching a certain point (max tax that maximizes tax revenue), further increases in the tax rate will decrease tax revenue.

how big should the government be?

- A bigger government provides more services, but requires higher taxes, which cause DWLs.
- The larger the DWL from taxation, the greater the argument for smaller government.
- The tax on labor income is especially important; it's the biggest source of government income.
- In the Philippines, the marginal tax rate (the tax on the last peso of earnings) ranges from 5% to 32%.
- If labor supply is inelastic, then DWL is small.
- Some economists believe labor supply is inelastic, arguing that most workers work full-time regardless of the wage.
- Other economists believe labor taxes are highly distorting because some groups of workers have elastic supply and can respond to incentives:
  - Many workers can adjust their hours (example: by working overtime).
  - Many families have 2nd earner with discretion over whether and how much to work.
  - Many elderlies choose when to retire based on the wage they earn.

Summary

- A tax on a good reduces the welfare of buyers and sellers. This welfare loss usually exceeds the revenue the tax raises for the government.
- The fall in total surplus is called the deadweight loss (DWL) of the tax.
- A tax has a DWL because it causes consumers to buy less and producers to sell less, thus shrinking the market below the level that maximizes total surplus.
- The price elasticities of demand and supply measure how mush buyers and sellers respond to price changes. Therefore, higher elasticities imply higher DWLs.
- An increase in the size of a tax causes the DWL to rise even more.
- An increase in the size of a tax causes revenue to rise at first, but eventually revenue falls because tax reduces the size of the market.