



# **The Impact of Intervention**

Gavin Cameron

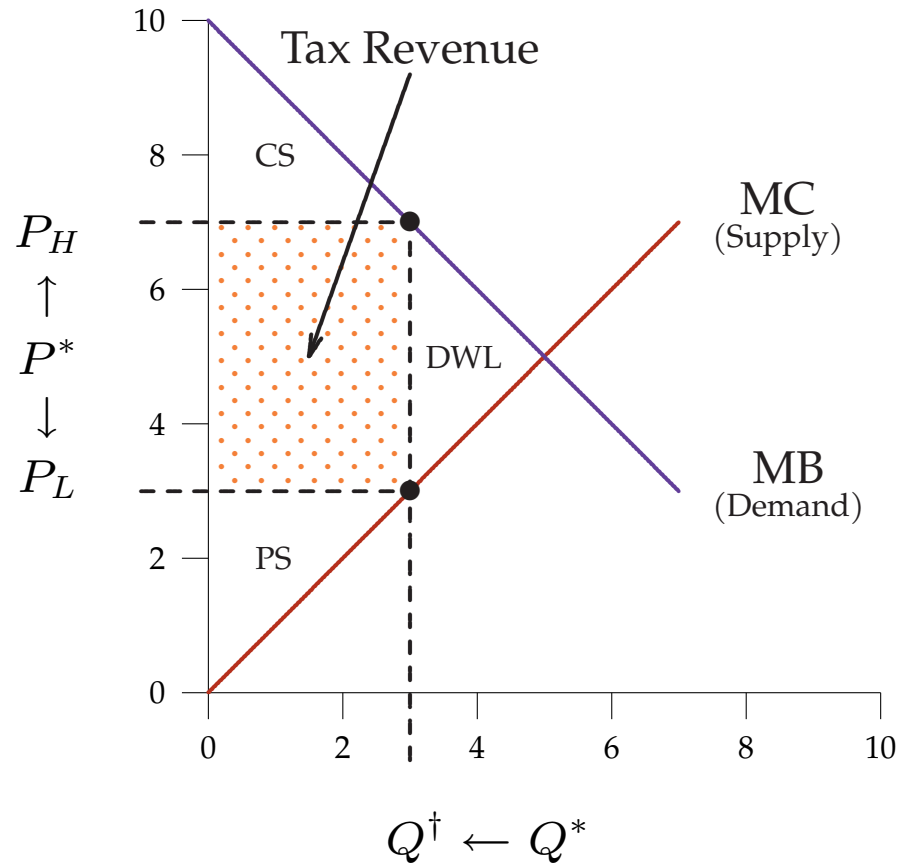
# Principles of Taxation

- Equity:
  - Horizontal: people with equivalent circumstances should be treated equally.
  - Vertical: people should contribute in proportion to their respective abilities.
- Simple, transparent, and timely.
- Low cost of administration, collection, and compliance.
- Efficiency: does the marginal benefit minus the marginal cost of the spending exceed the marginal deadweight loss of taxation?

# Tax Incidence

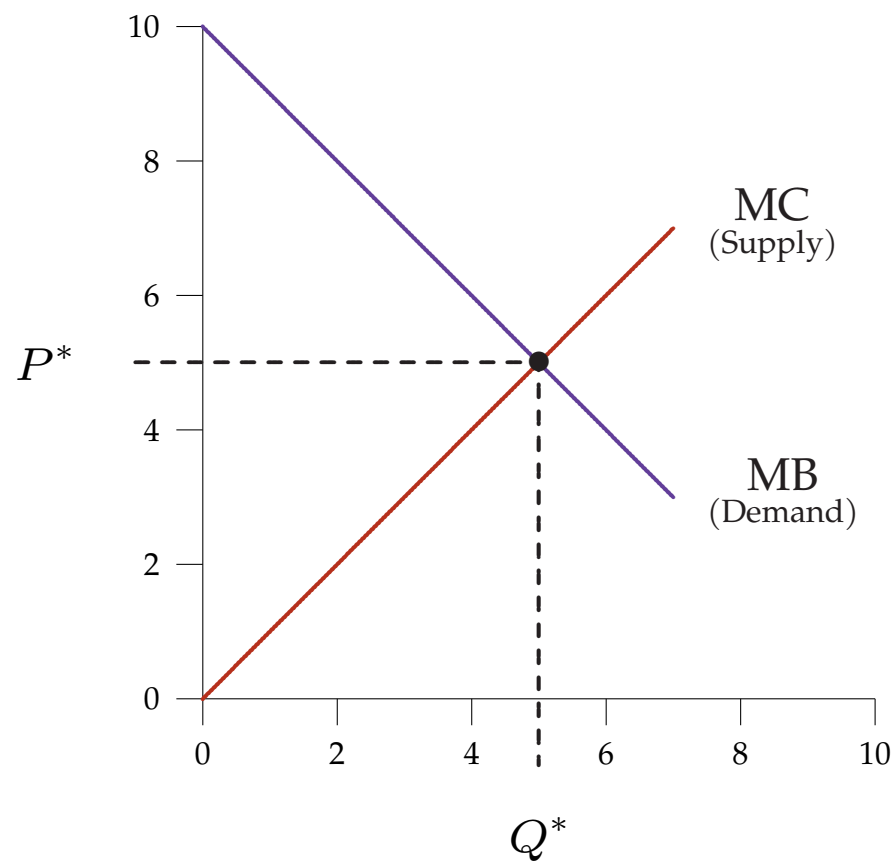
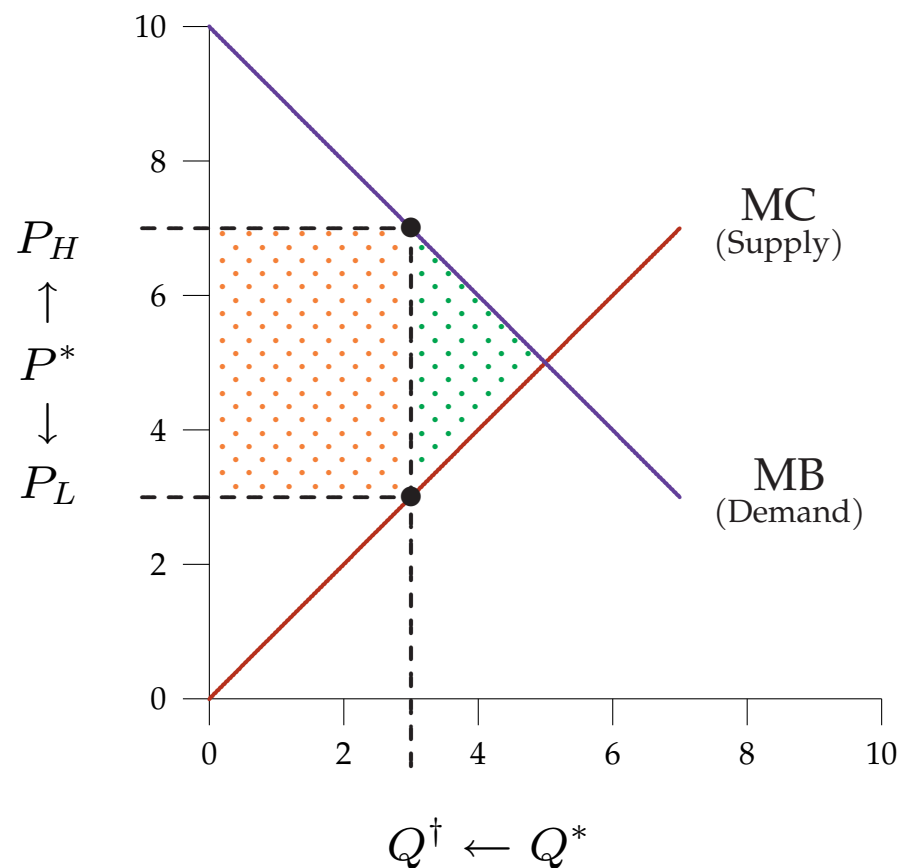
- It doesn't matter whether a tax is levied upon buyers or sellers ... the price paid by buyers rises, and the price received by sellers falls.
- Economic incidence is not the same as administrative incidence.
- A tax is a “wedge” between the price paid by buyers and that received by sellers.
- The quantity sold falls below the level that would be sold before the tax.
- The size of the market shrinks, and there is a deadweight loss ...
- ... a fall in economic surplus due to the distortion of the market.

# The Effects of a Tax

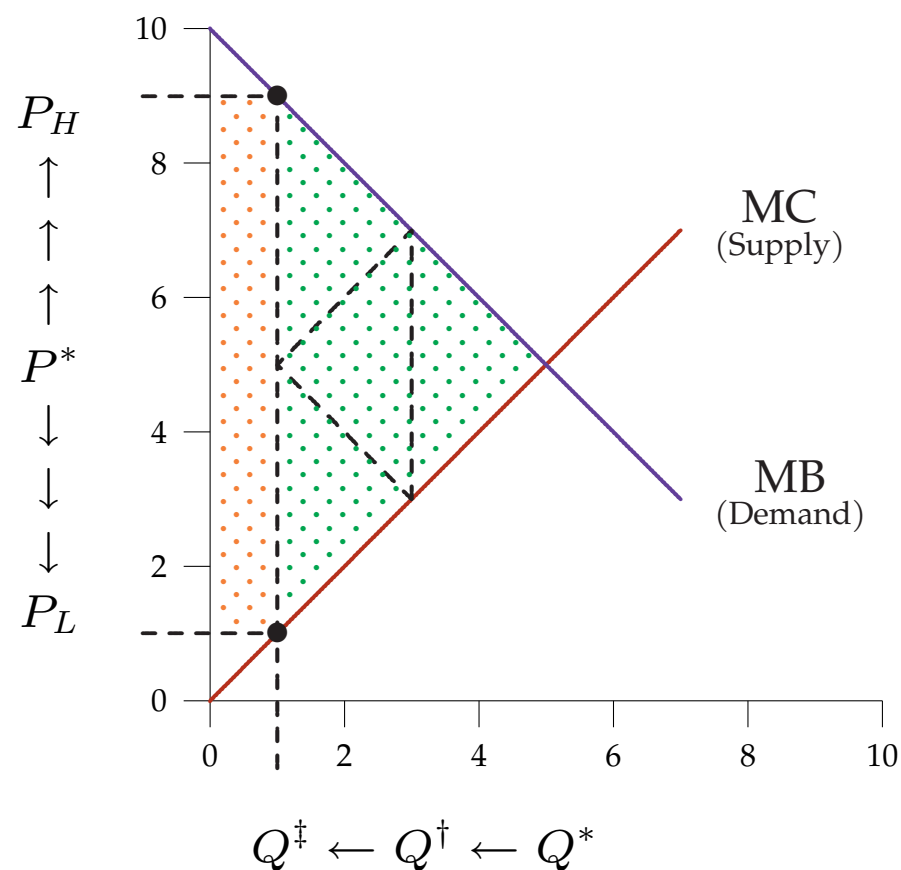
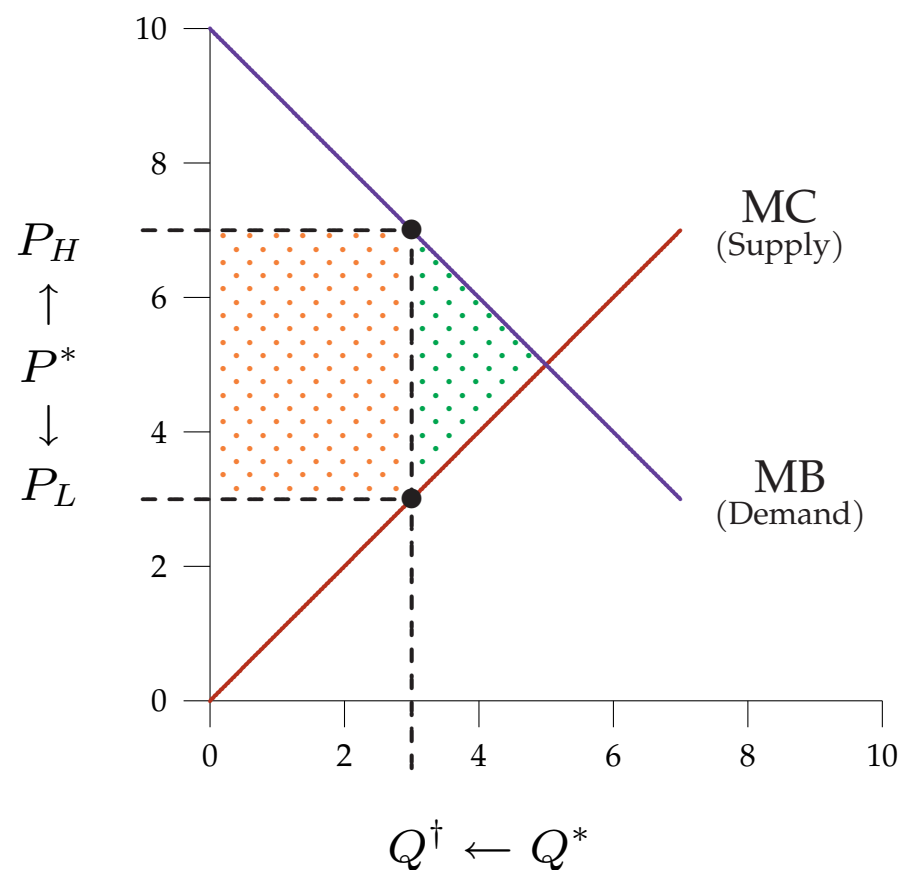


- Supply & demand  $\Rightarrow P^*$  &  $Q^*$ .
- Imposition of a tax:
  - Quantity falls from  $Q^*$  to  $Q^\dagger$ .
  - Consumer price rises to  $P_H$ .
  - Producer price falls to  $P_L$ .
- Raise tax revenue ...
- ...but create deadweight loss DWL.
- DWL is a “Harberger” triangle.

# Taxation and Deadweight Loss

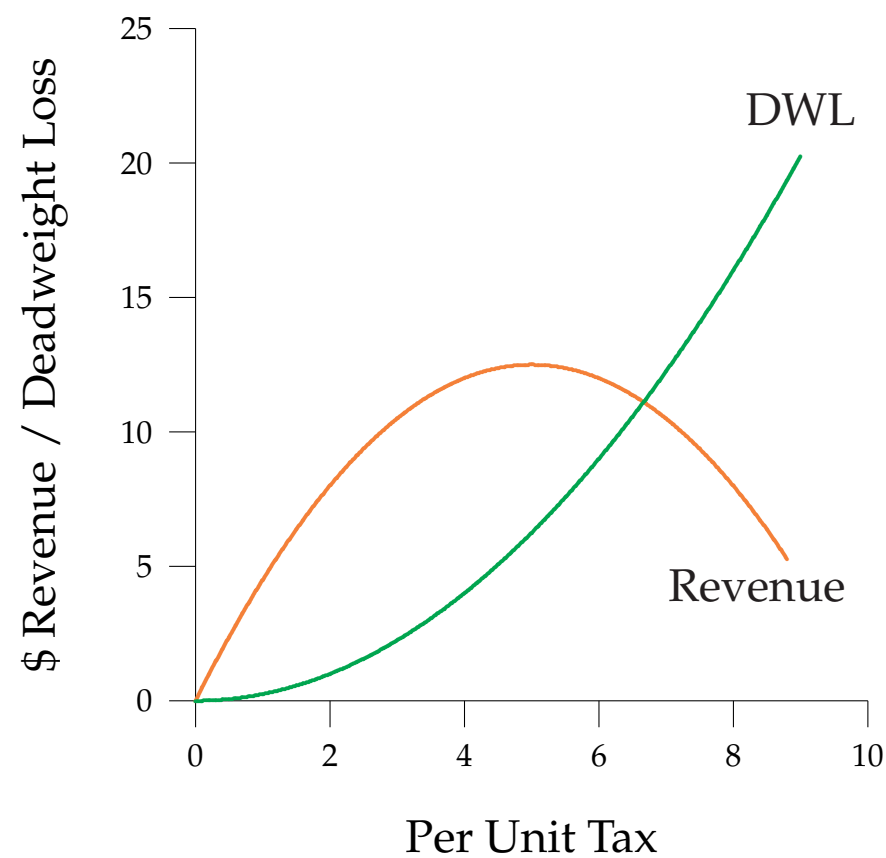
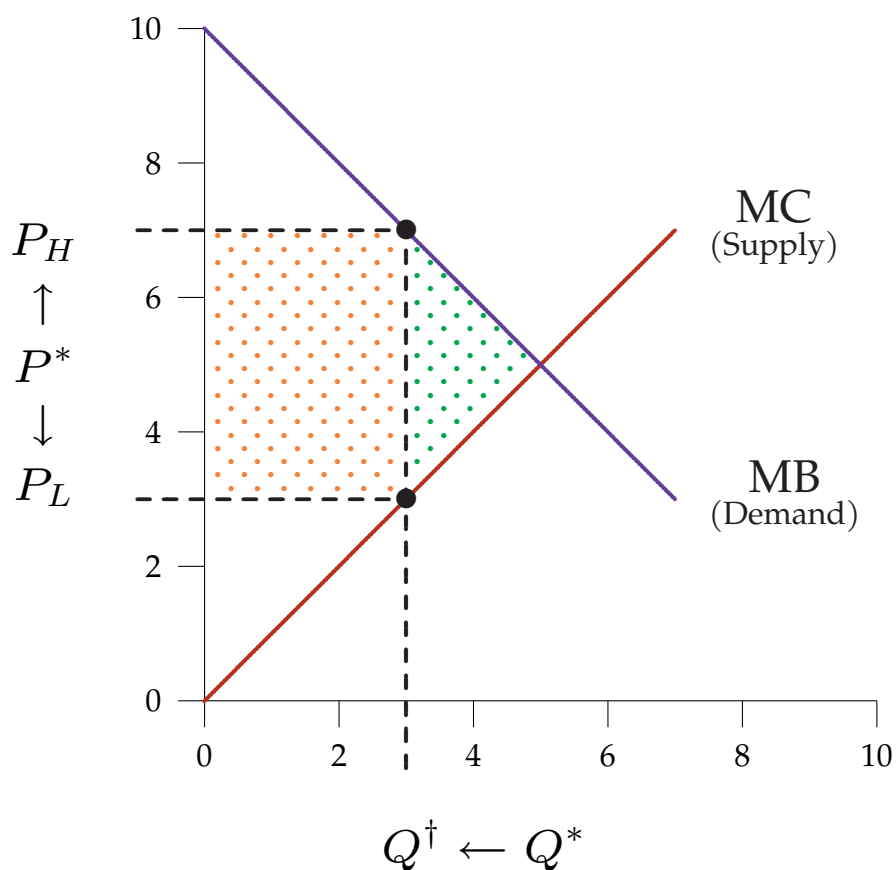


# Taxation and Deadweight Loss



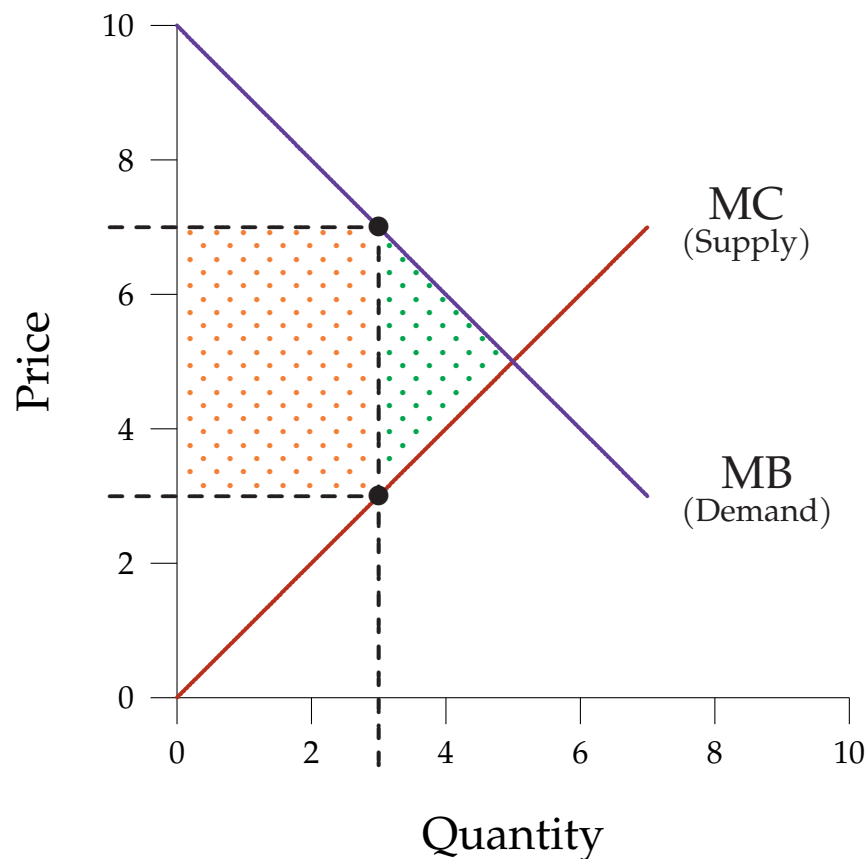
“Doubling the tax quadruples the deadweight loss, less than doubles revenue.”

# Taxation and Deadweight Loss



“One big tax is at least twice as bad as two small taxes.”

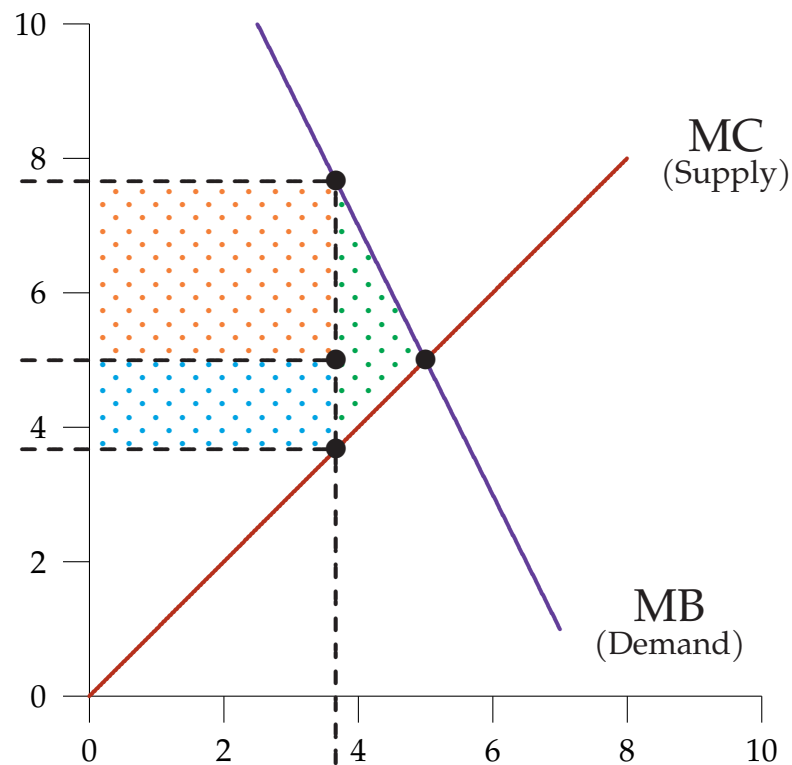
# The Incidence of a Tax



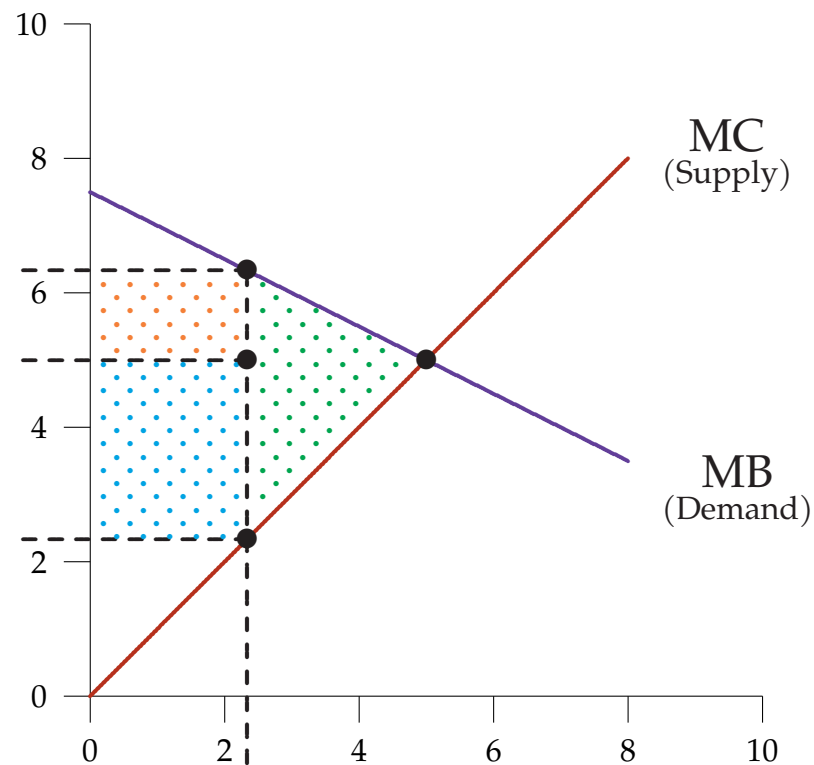
- Who (effectively) pays a tax?
- This is (economic) incidence.
- Answer depends on:
  - Slope of MC.
  - Slope of MB.
- Equivalently:
  - Elasticity of demand.
  - Elasticity of supply.



# The Incidence of a Tax: Demand Elasticity

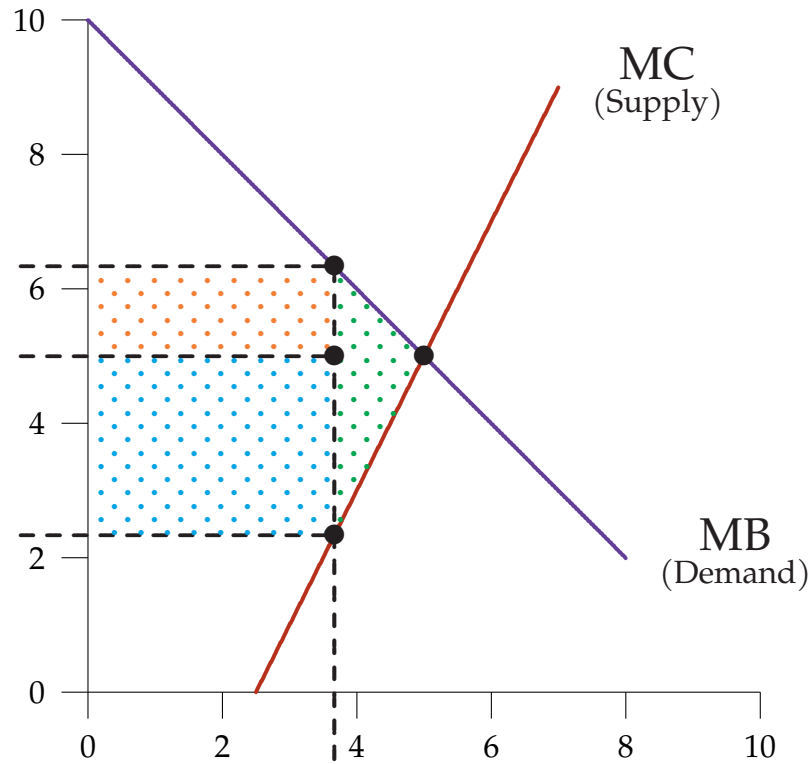


*Inelastic Demand*

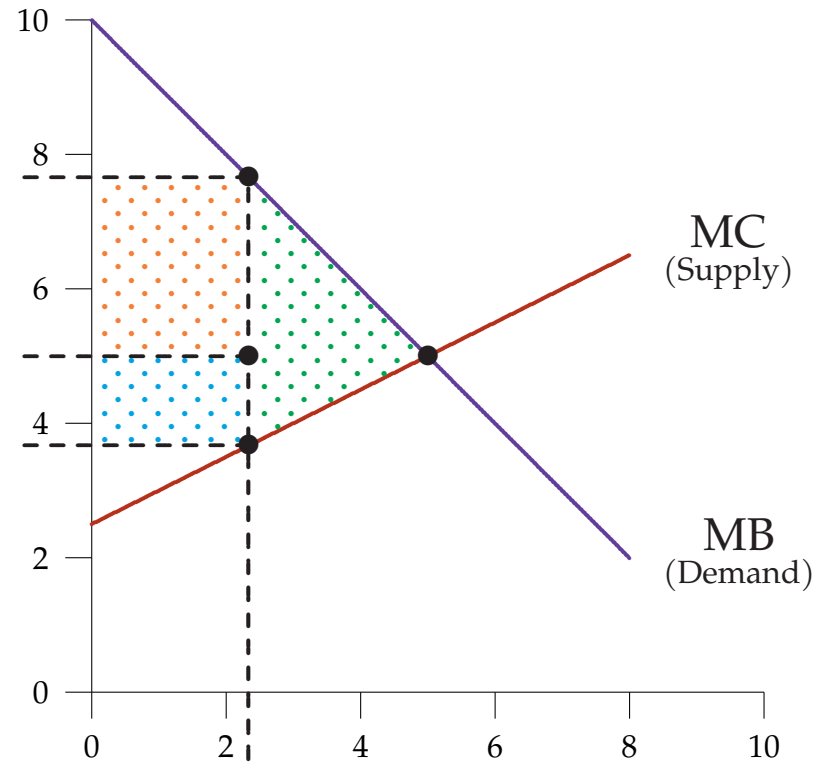


*Elastic Demand*

# The Incidence of a Tax: Supply Elasticity



*Inelastic Supply*

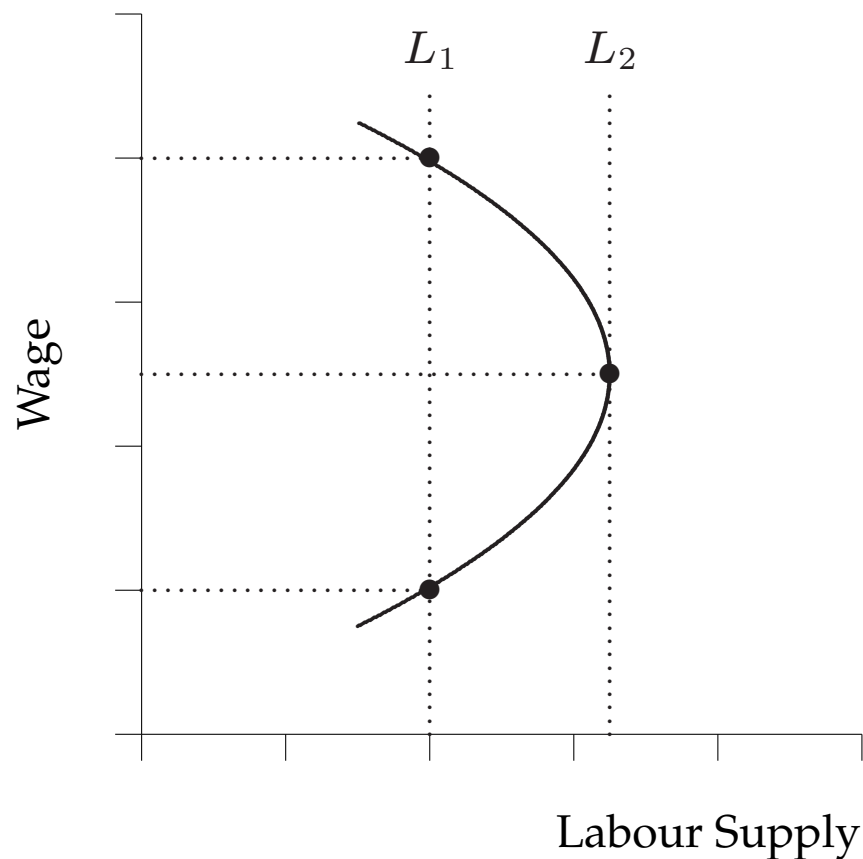
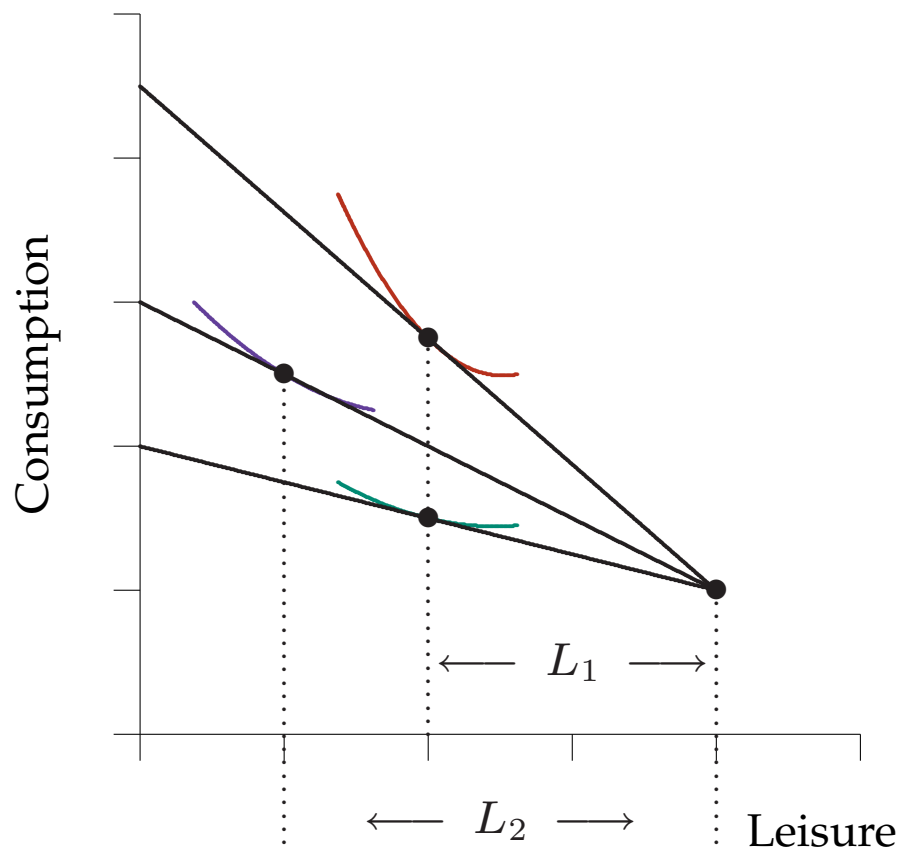


*Elastic Supply*

# Taxes in General Equilibrium

- Some economists believe that labour supply is fairly inelastic ...
  - ... so that the deadweight loss of labour taxation is fairly low.
- Since capital is mobile, labour might bear the incidence of most taxes. However,
  - Short-run elasticity less than long-run, since adjustment takes time.
  - Many workers can adjust their hours worked, by taking overtime.
  - Some families have second earners, whose supply is elastic.
  - Many elderly people can choose when to retire.
  - The underground economy may provide an alternative income.
- The “marginal excess burden” of taxation is the welfare loss, net of any external benefits, caused by raising one extra dollar of revenue.
- Empirical estimates suggest MEB of 25–50%, and some of over 100%.

# Labour Supply



- As the wage rises (e.g., due to a tax cut) it pushes labour supply from  $L_1$  to  $L_2$ .
- But a further increase reduces the labour supply back to  $L_1$ .

# Subsidies, Price Ceilings, and Price Floors

- Just as taxes distort decisions, so do subsidies (they are negative taxes).
- Governments also set price ceilings and floors, to achieve distributional goals.
- For example, rent controls to reduce housing expenditure of the poor.
- If the supply of rental accommodation were fixed, this would be a transfer of income from landlords to poor people.
- But the supply isn't fixed ... hence supply falls below demand.
- The existing stock of poor people benefit at first, but their landlords then stop doing repairs! It then becomes increasingly hard to find accommodation.
- The final effect is either slum dwellings (UK) or sidepayments (Sweden).

# Government Failures

- Government interventions distort the price system:
  - The price mechanism plays distributional and allocative roles.
  - People response to incentives: minimum wages, rent controls.
  - The world is in general equilibrium: CAP and trade policy.
- The economic incidence is not the same as the formal incidence.
- Costs versus benefits:
  - Marginal costs rise, marginal benefits fall.
  - Selection bias, opportunity cost, deadweight loss of taxation.
- Political economy:
  - Regulatory capture, special interest groups.
  - Benefits often accrue to small numbers, costs are spread across many.

# Summary

- Taxation drives a wedge into the price system.
- Roughly speaking, doubling the tax will quadruple the deadweight loss ...  
... and hence one big tax is at least twice as bad as two small ones ...  
... but it will actually raise less revenue.
- The impact and incidence depend upon the elasticities of supply and demand.
- Some estimates of the deadweight loss are very large.
- In the long run, taxes fall mainly on consumers.

## Issues for Adjudication

“Wealthy landowners will pass any land tax on to their poorer tenants.”

“Wealthy landowners will pass any apartment tax on to their poorer tenants.”

“A tax that has no deadweight loss cannot raise any revenue.”

“A tax that raises no revenue cannot have any deadweight loss.”

“The only way to solve the pensions crisis is for ...

... businesses to pay more into their pension schemes.”

... workers to pay more into pension schemes.”

“Earned income tax credits benefit low-wage workers by raising incomes.”

“Earned income tax credits benefit employers by letting them pay low wages.”





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