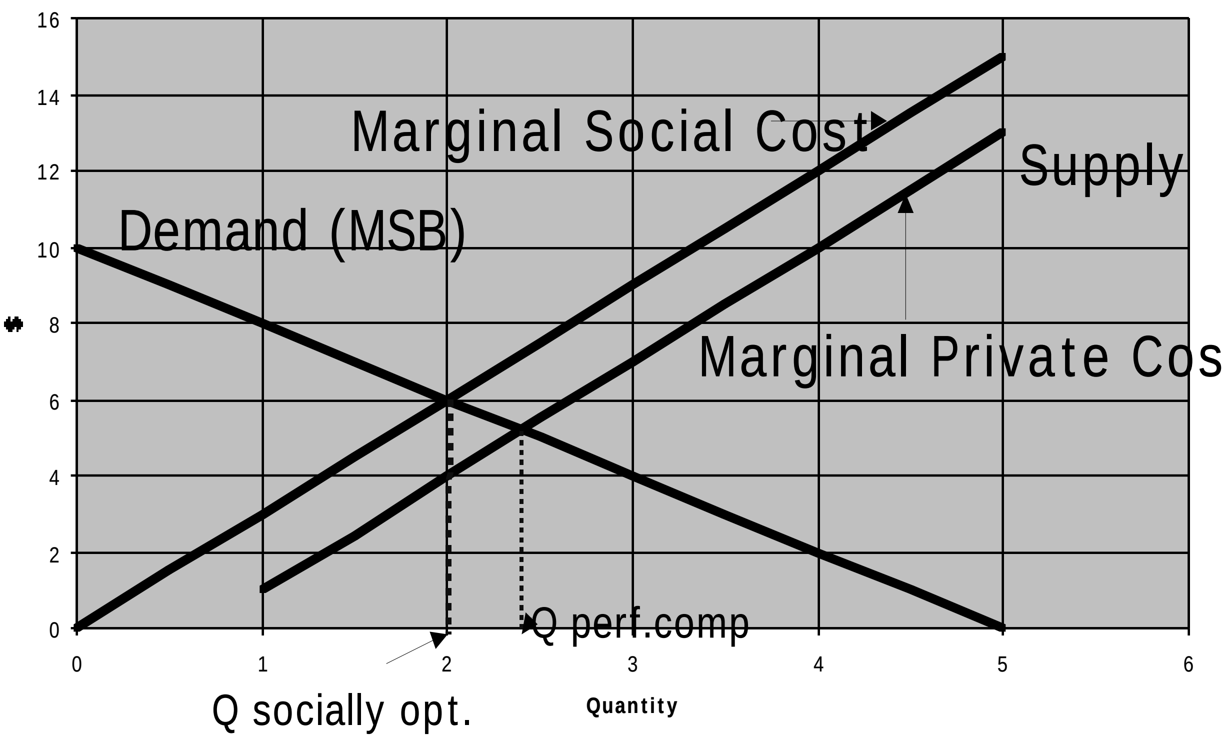
Externalities

Negative Externalities; Regulation, Pigovian Taxes, Tradeable Permits

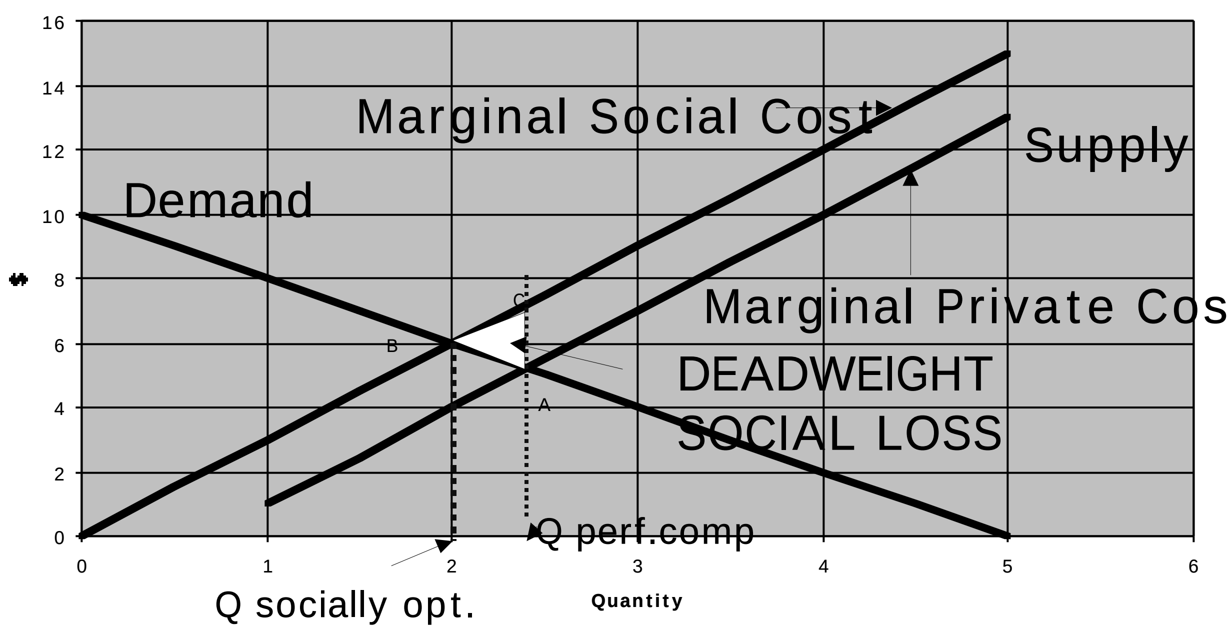
Negative Externality: MSC>MPC



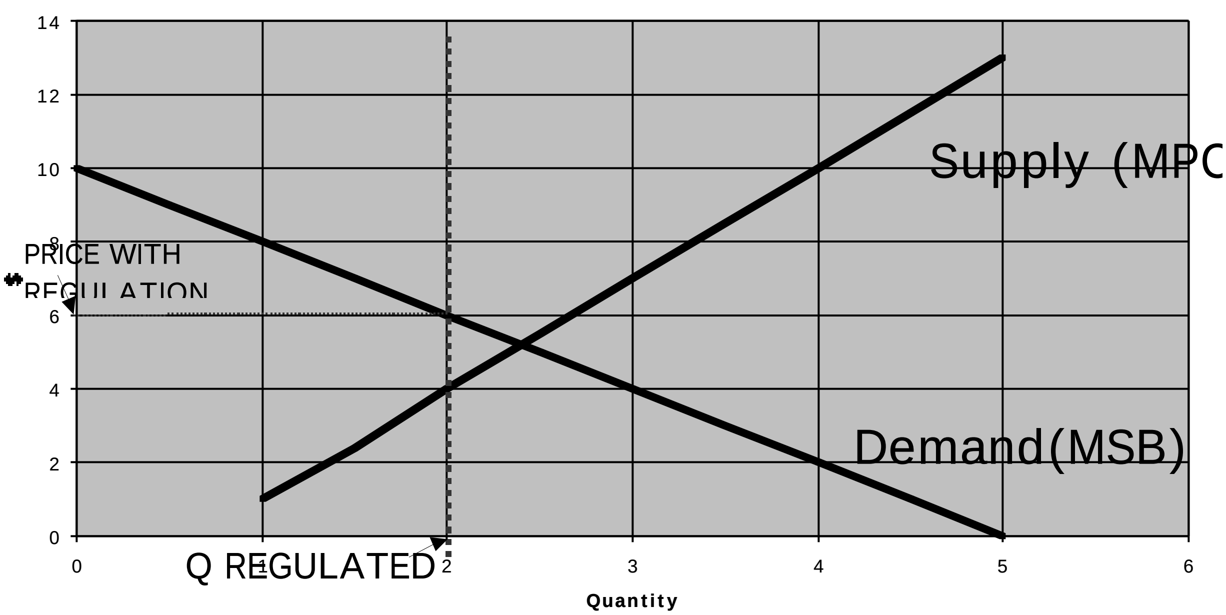
Negative Externality

- With Perfect Competition, MSB<MSC. Too Much Produced
- Deadweight Social Loss
- Optimal Pollution >0
- Solutions?
  - Regulation and taxes
    - Administrative costs
    - Requires information about MSC
  - Property Rights

Deadweight Social Loss

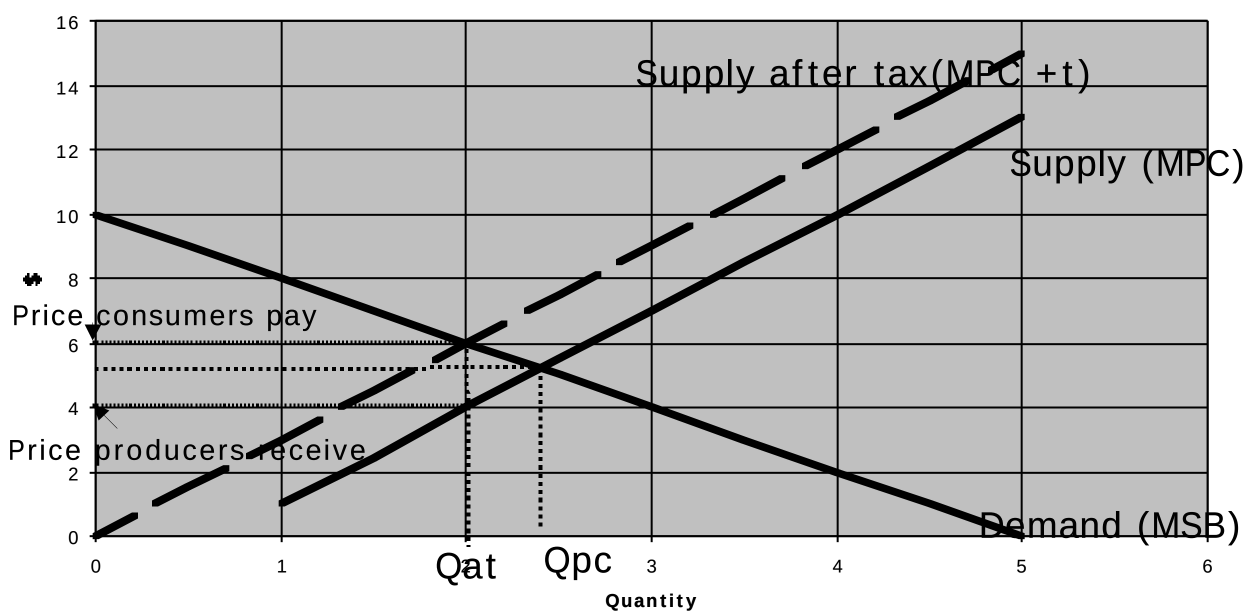


Regulation



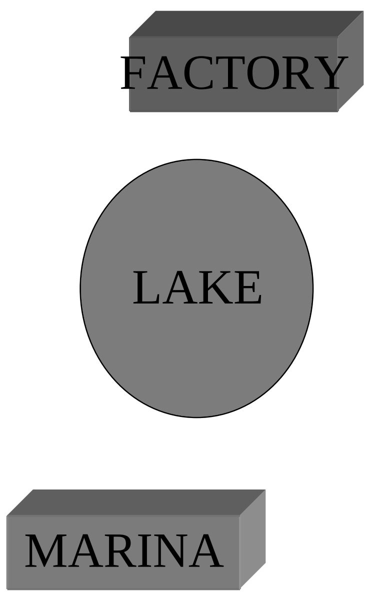
14
12
10
8
6
4
2
0
0
1
2
3
4
5
6
Quantity
Supply (MPC
Demand(MSB)
PRICE WITH REGULATION
Q REGULATED

Taxes



Supply after tax(MPC +t)
Supply (MPC)
Demand (MSB)
$
Price consumers pay
Price producers receive
Qat
Qpc
Quantity
0
2
4
6
8
10
12
14
16
0
1
3
4
5
6

A Pollution Problem



- Factory produces SCUM. Marginal Private Cost of dumping SCUM in lake is zero. Marginal Private Cost of filters to clean up scum is $X
- SCUM makes lake less attractive for boating etc. Marina's profits are reduced by $Y if SCUM is in lake.

Scenarios

- Taxes and Regulation
  - Need to know X and Y
- Assign Property Rights
  - Assign Rights to Factory. Factory will dump SCUM if \$X>\$Y. Factory will not dump SCUM if \$Y>\$X.
  - Assign Rights to Marina. Factory will dump SCUM if \$X>\$Y. Factory will not dump SCUM if \$Y>\$X.

Coase Theorem

With sufficiently low transactions costs, the equilibrium is economically efficient regardless of who has the property right.

Discussion

- Suppose MSB>MPB -- show that market produces too little of the good.
- Give some examples where MSB>MPB.
- Discuss how regulation and taxes and subsidies might solve this externality.
- Is there a way to assign property rights so as to solve the problem?