

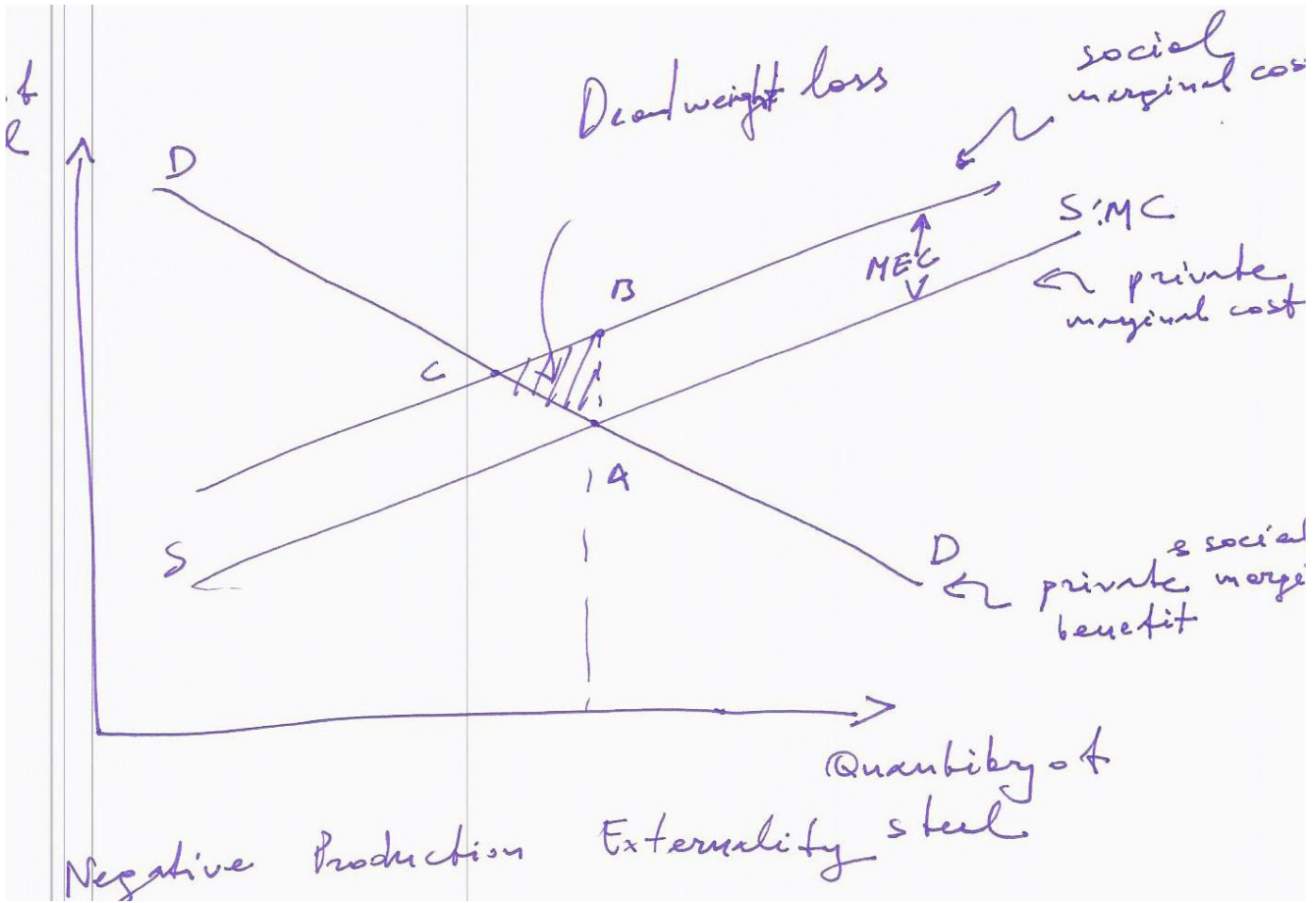
# LECTURE III

## Externalities

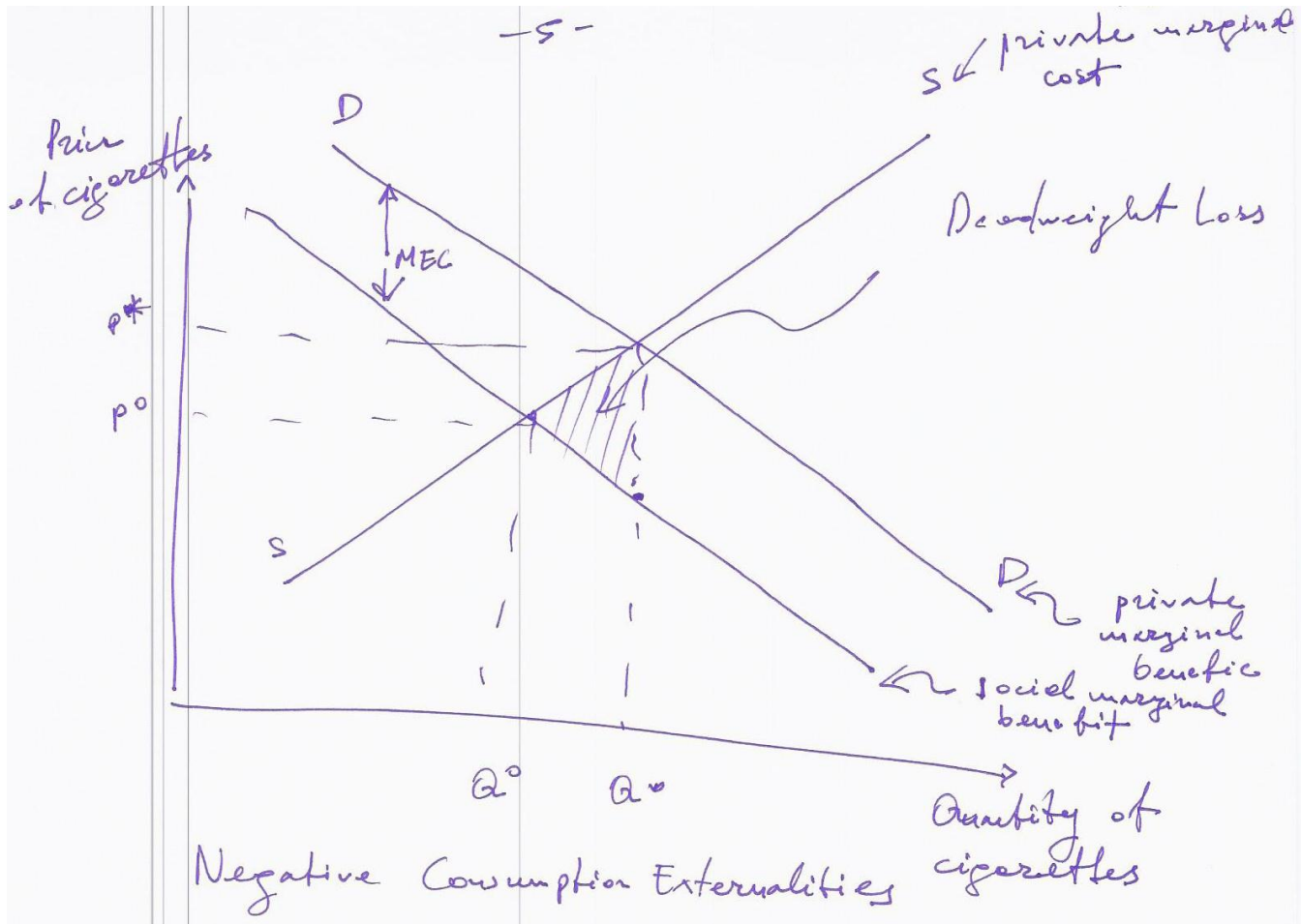
- An externality occurs whenever the actions of one party make another party worse or better off, yet the first party neither bears the costs nor receives the benefits of doing so.
- Examples: global warming due to emissions of fossil fuels, acid rain,...
- Externalities are a classic example of market failure (i.e., inefficient resource allocation)

# Negative production externalities

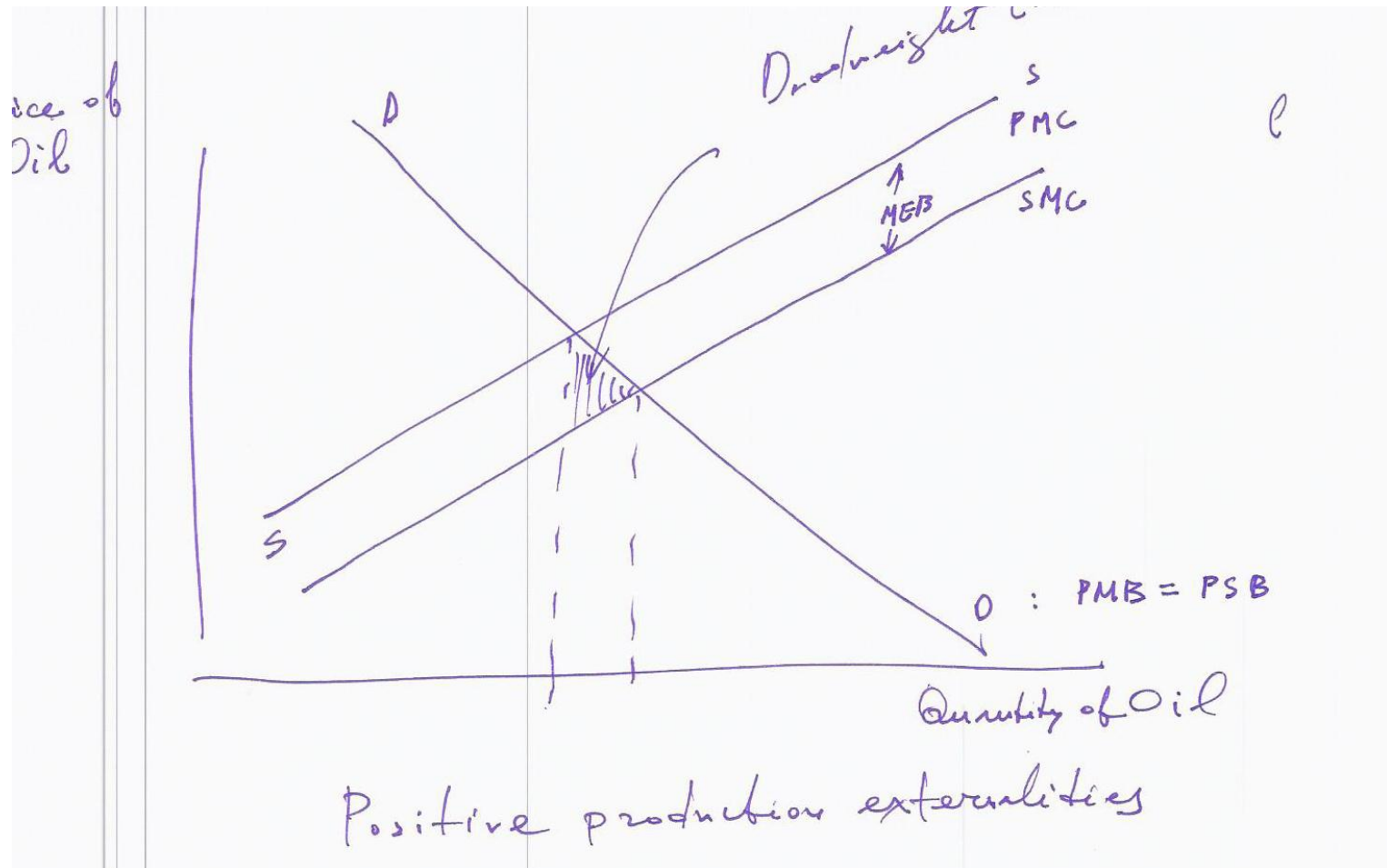
- Example: Steel products and river pollution
- Marginal social costs and benefits vs private social costs and benefits



# Negative Consumption Externality



# Positive Externalities



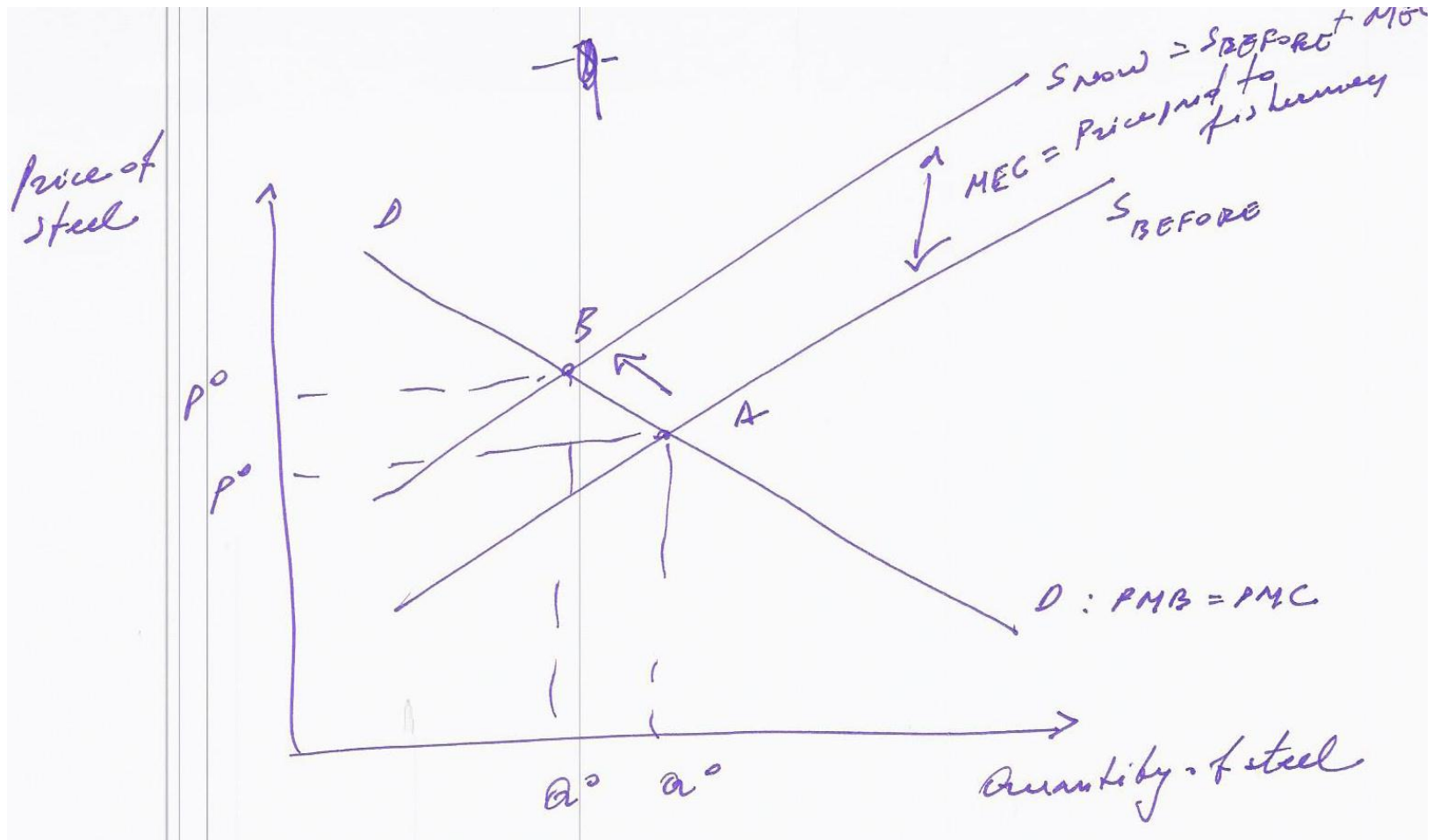
# Private Sector Solutions to Negative Externalities

- Ronald Coase and the assignment of property rights
- Coase's Theorem: Part (a): When there are well -defined property rights and costless bargaining, the negotiations between the party creating the externality and the party affected by the externality can bring about the socially optimal market quantity (i.e., an efficient resource allocation).

- Part (b): The efficient solution to an externality does not depend on which party is assigned the property rights, as long as someone is assigned those rights.



# A Coasian Solution

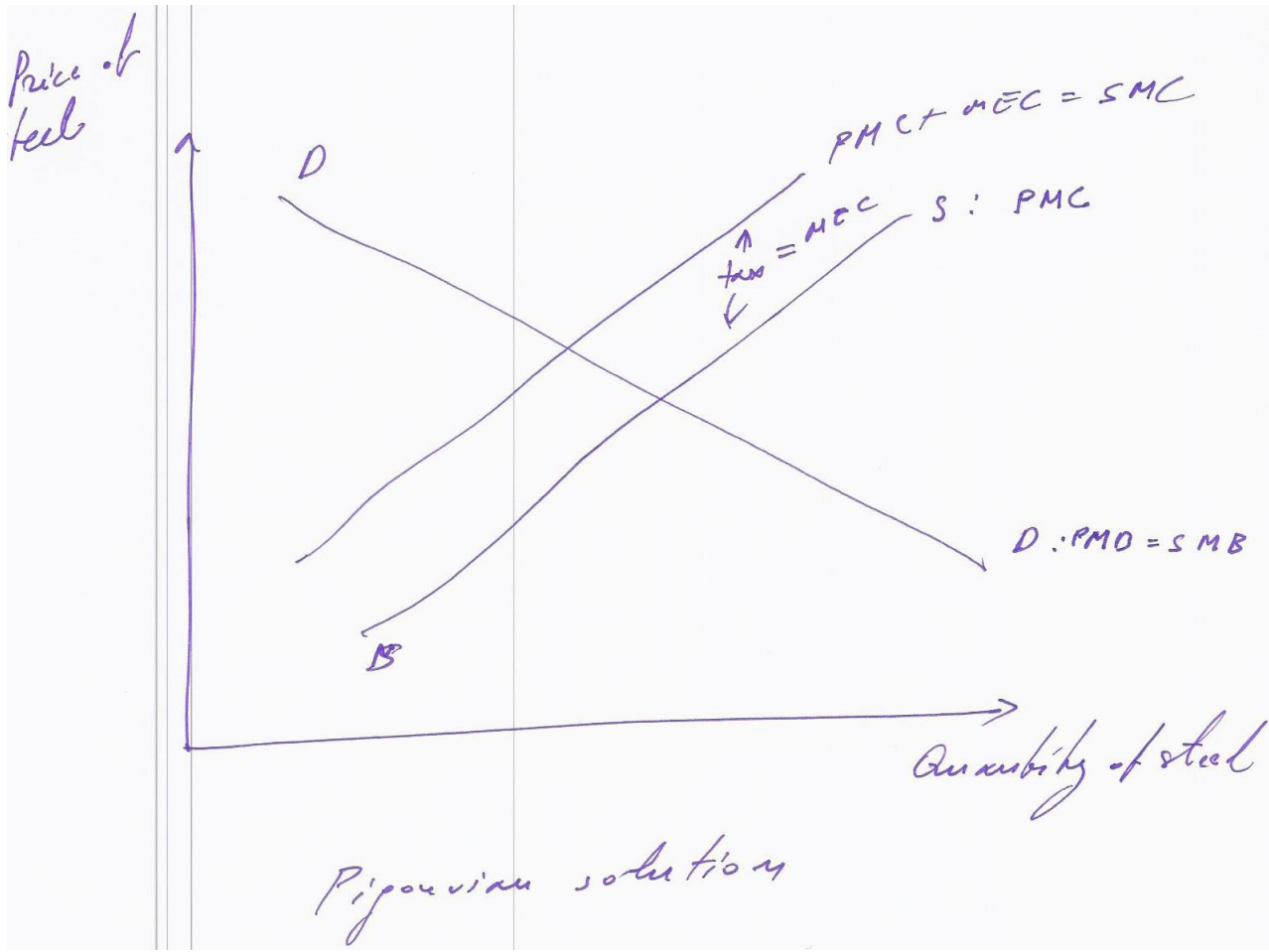


# Problems with Coasian Solutions

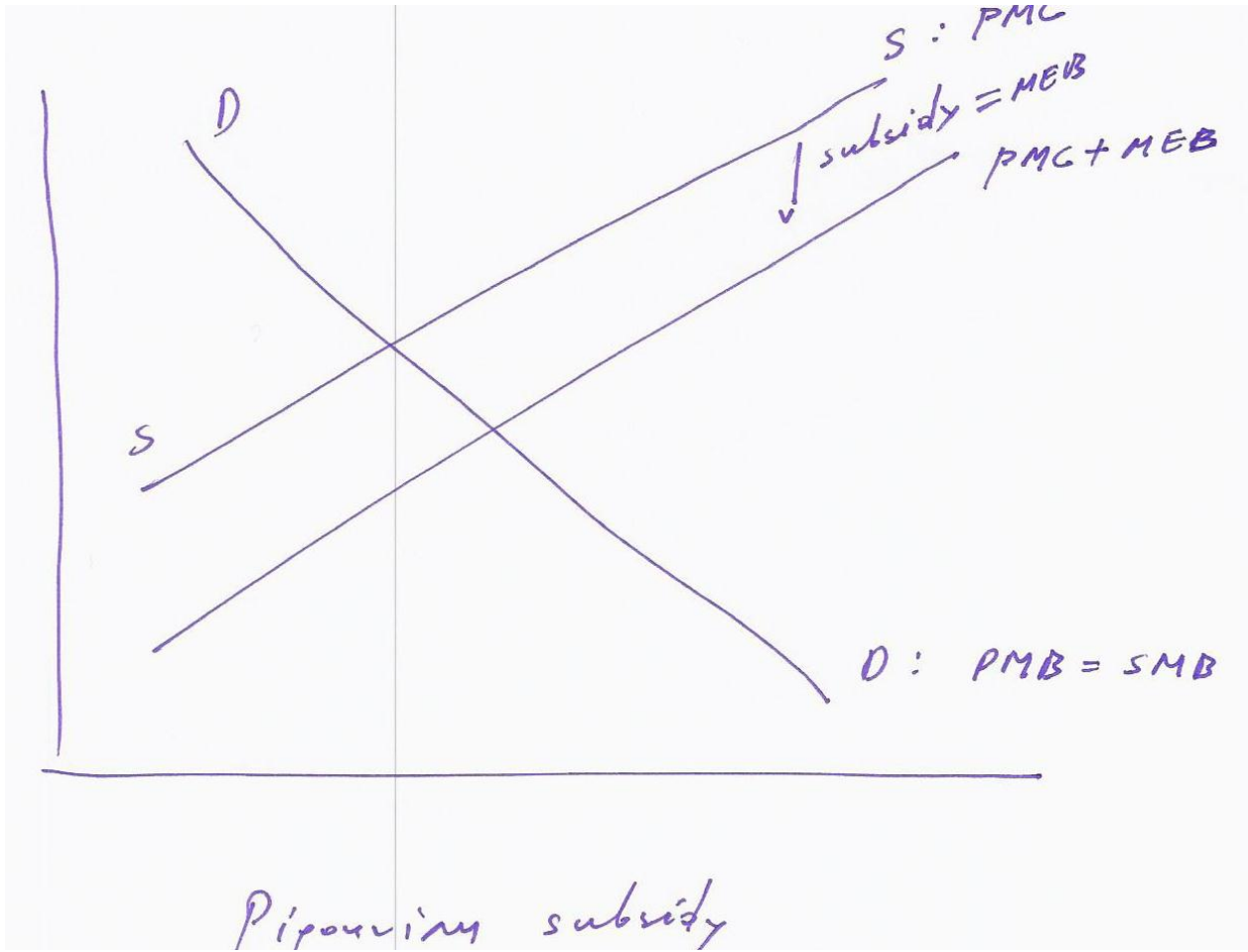
- The assignment problem: Identification and Damage assessment
- Bargaining problems: holdout strategy and the free rider's problem
- Transactions costs and negotiation problems (local externalities vs global externalities)

# Public Sector Solutions

- Pigouvian tax



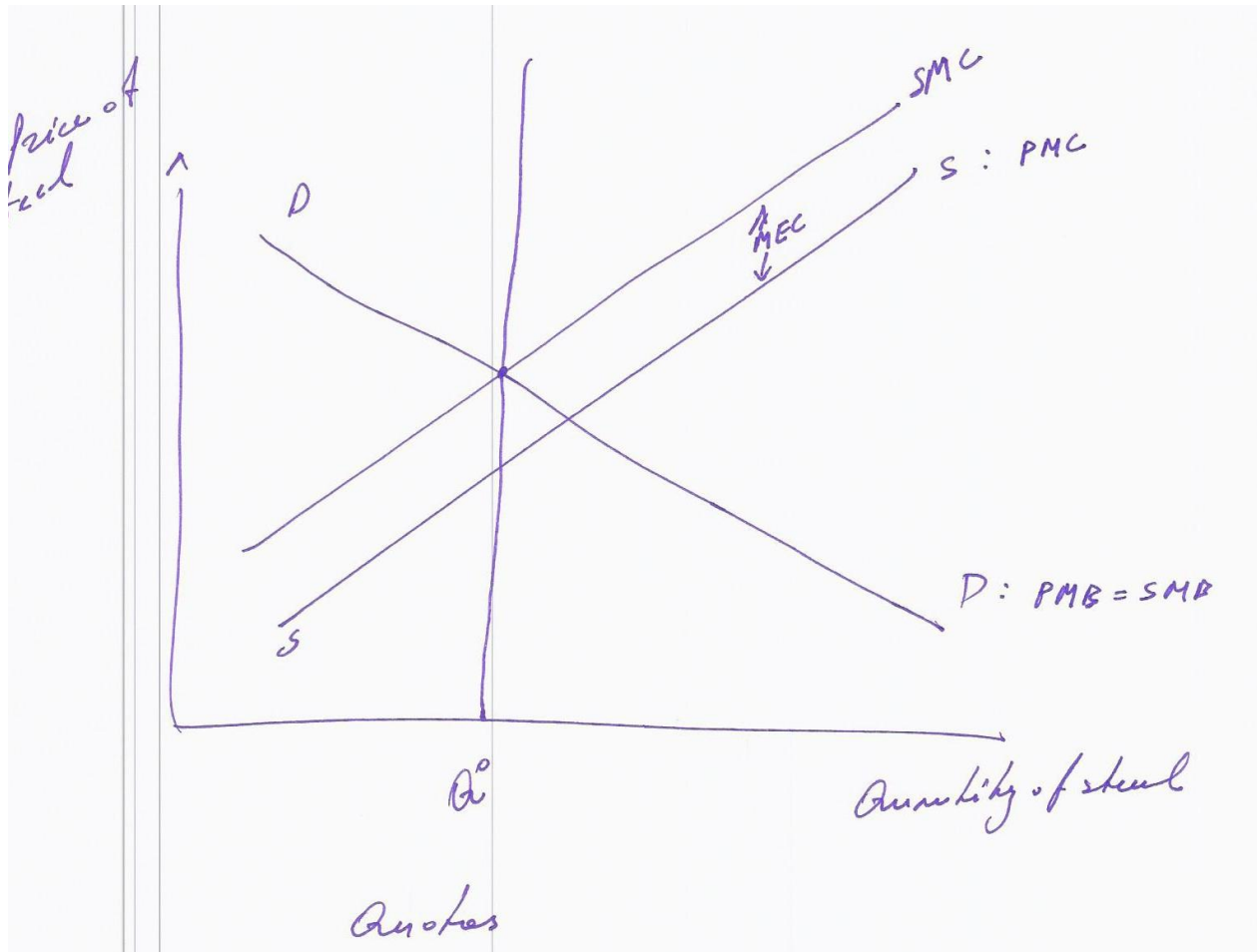
- Subsidy



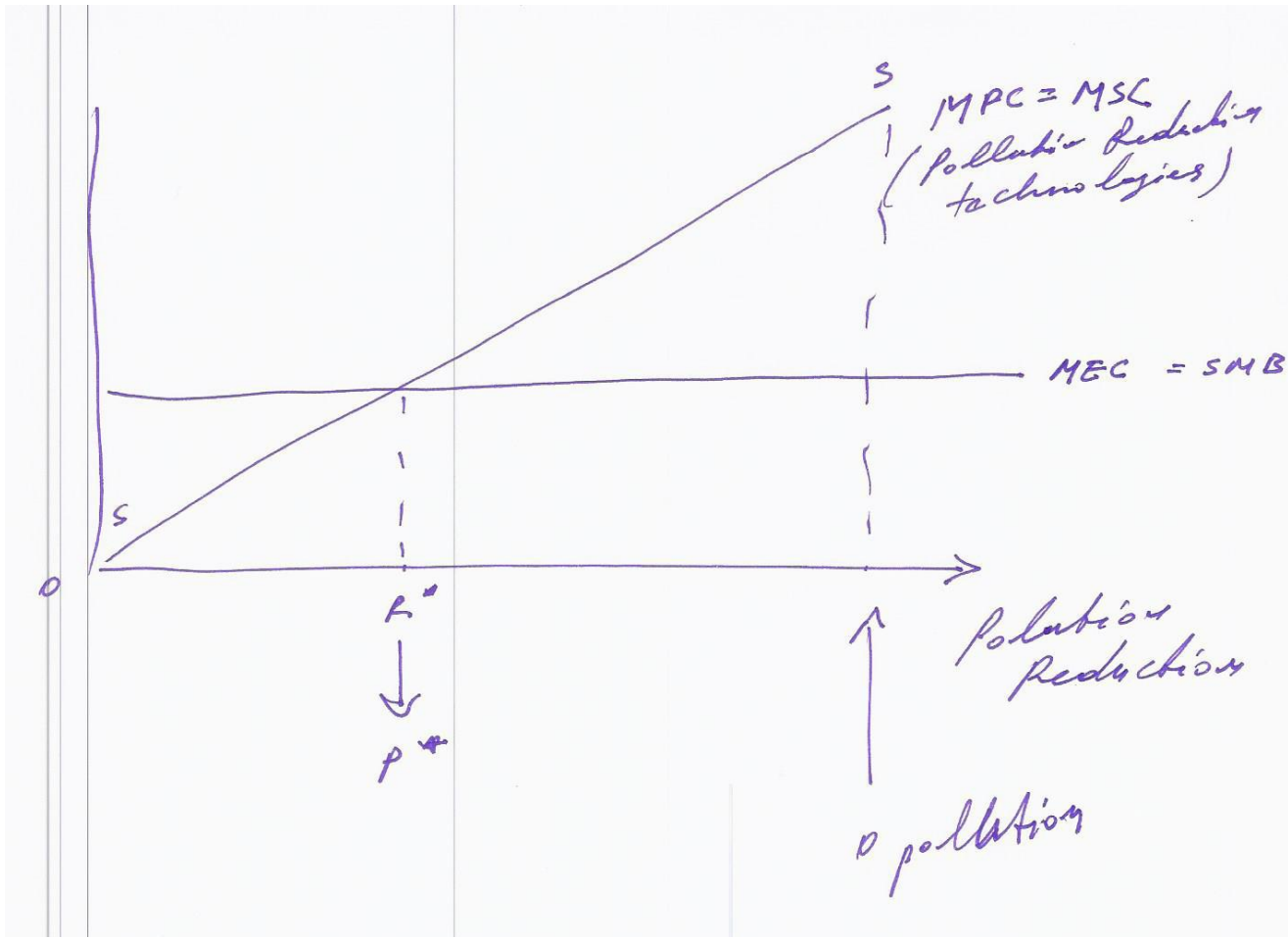
# Regulation

- Production quotas
- Problems with figuring out the optimal level

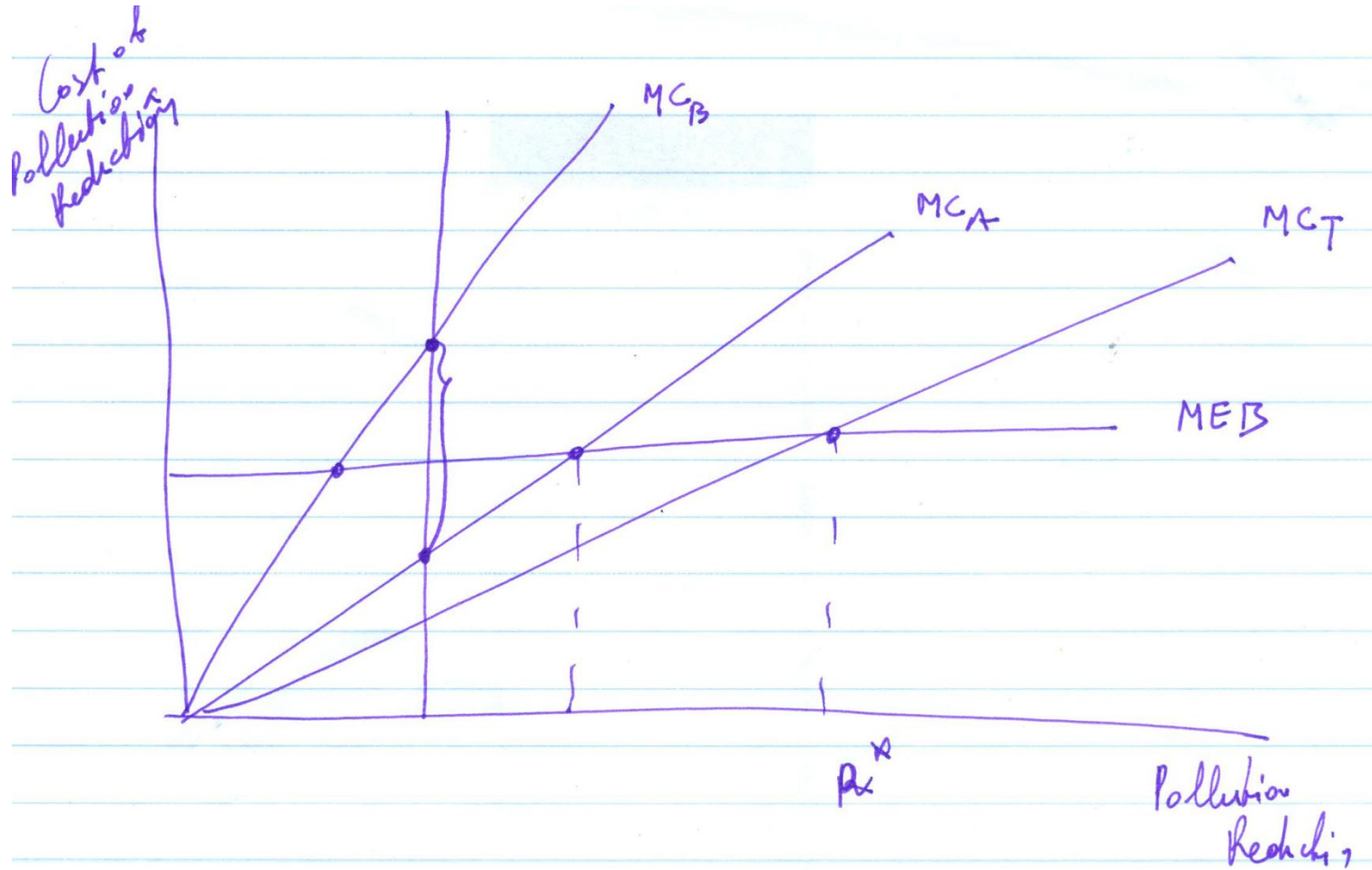
# Taxes vs Regulation







# Cost Uncertainty



# Rule of Thumb

- Quotas ensure environmental protection but at a variable cost to firms. Taxes ensure firms' costs but at a variable level of environmental protection.