

EE475 Natural Resource Economics

Economic Frameworks and Natural
Resource Problems (2):

Static Efficiency, Market Failure, and Role of the Government

By Ajarn Chol Bunnag

Faculty of Economics, Thammasat University



Outline

- Essay 1 and the Assignments
- Static Efficiency
 - Consumer Surplus, Producer Surplus, and Social Welfare
 - Property Rights Structure
 - Production Possibility Frontiers (PPF) and Social Indifference Curve
- Market Failures
 - Externalities
 - Monopoly
- Government Failure



Essay 1

- (1) Choose a natural resource problem (news)
- (2) analyze it by applying a theory or framework discussed in week 1-3
- (3) discuss limitation of the theory, policy recommendation or question(s) arise from the analysis.
- Write 1-2 pages of A4 (excluding bibliography). Write it in the form of magazine article.
- Font: Times New Roman, size 11; spacing 1.5
- Citation style: Chicago - Plagiarism will not be tolerated.



Assignment 1



- ▶ Each member of a group writes 1-2 pages summary of current situations / problems of the resource in the context of Thailand.
- ▶ Content written by each member of the group must be different but connected to give overall picture of the resource current situation.
- ▶ This assignment is to be in the first class of each resource sector.
 - ▶ 15-20 minutes per person
- ▶ The paper is submitted in the first class of each resource sector.



Assignment 2

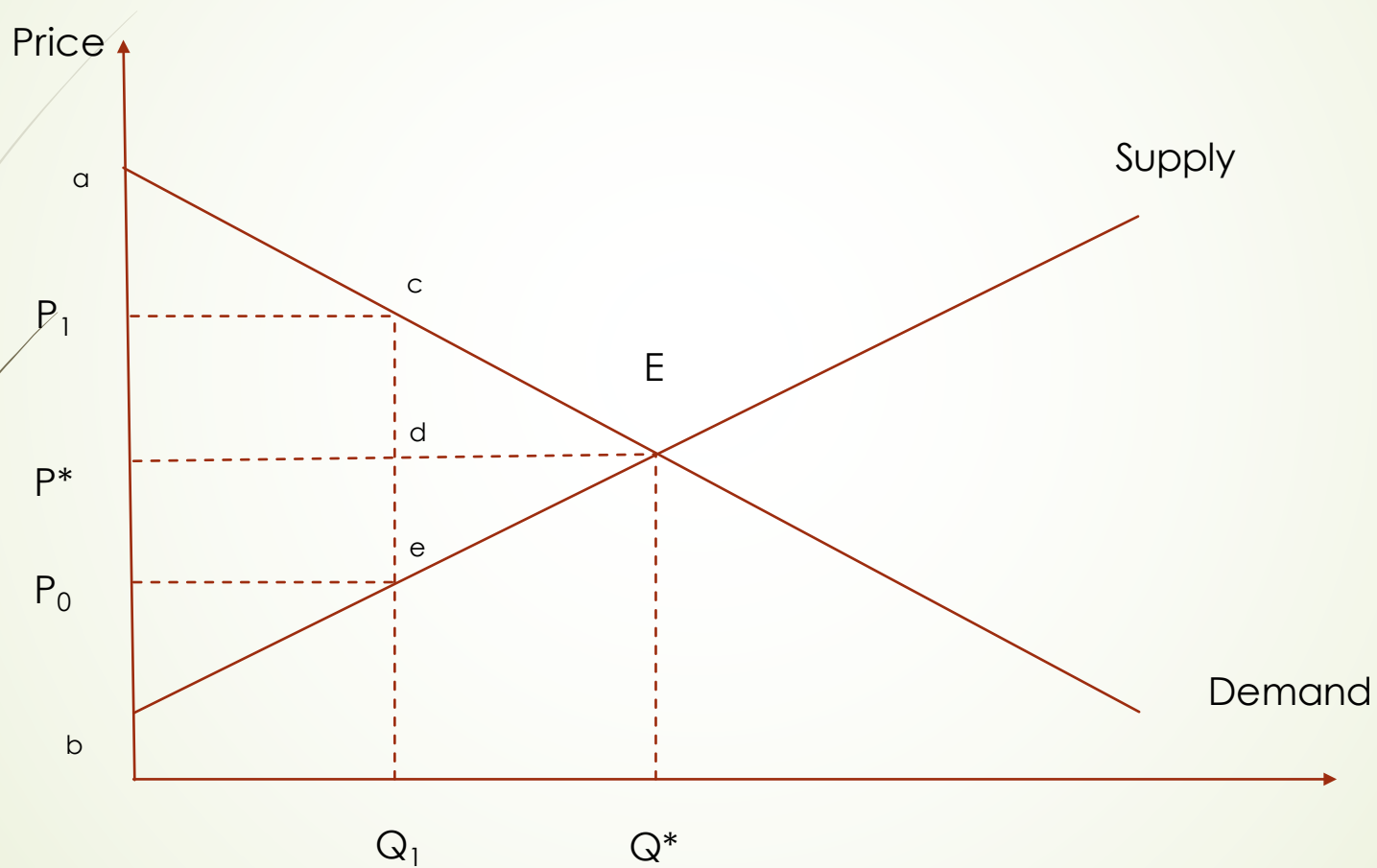
- ▶ Each member of the group reads an academic article and summarizes the content in 1-2 pages.
 - ▶ Research question(s) of the paper
 - ▶ The author(s)' argument
 - ▶ Variables being considered (independent, dependent, controlled)
 - ▶ Research methods
- ▶ Presentation: 10-15 minutes per person
- ▶ The presenter has to pose 3 questions for group discussion.
- ▶ The academic article has to be informed to and approved by the lecturer 3 weeks before the last class of each resource sector.



Static Efficiency

- ▶ What is the difference between the term “Static” and “Dynamic” ?
- ▶ What is the mechanism that allocate resources in economics?
- ▶ In what circumstance we could say that the resource allocation satisfies the static Efficiency criterion?

Static Efficiency: What can we tell?





Property Rights and Efficiency in Resource use

Structures of the property rights that promote efficiency of market economy.

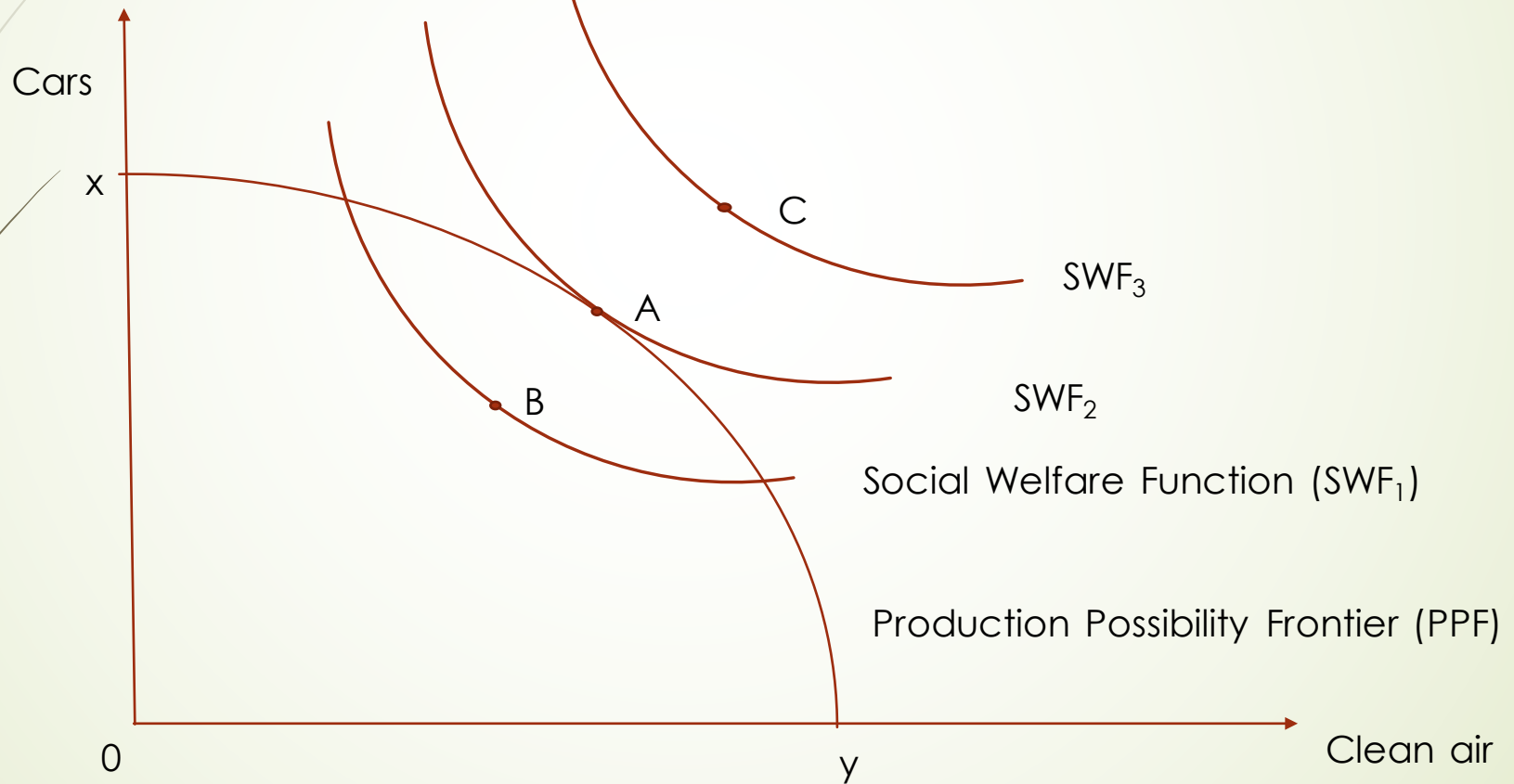
- ▶ *Exclusivity* - All benefits and costs accrued as a result of owning and using the resources should accrue to the owner, and only to the owner, either directly or indirectly by sale to others.
- ▶ *Transferability* - All property rights should be transferable from one owner to another in a voluntary exchange.
- ▶ *Enforceability* - Property rights should be secure from involuntary seizure or encroachment by others.



Property Rights and Efficiency in Resource use

	Private Property Rights	Common Property Rights	Open-Access
Exclusivity	Exclusion is possible at individual level.	Resource is shared among members. Exclusion of non-member is possible.	Not possible
Transferability	Transferability is totally possible.	Transferability is limited within the members, or non-existence.	Not possible
Enforceability	Under proper legal and enforcement system	For members, this depends on local rules. Enforcing local rules on non-members can be limited and requires state recognition	Not possible

PPF and Social Welfare Function: What can we tell?





Pareto Optimality

- What is “Pareto Optimal” allocation of resource?
- What are the assumptions behind this simple representation of Pareto Optimality?

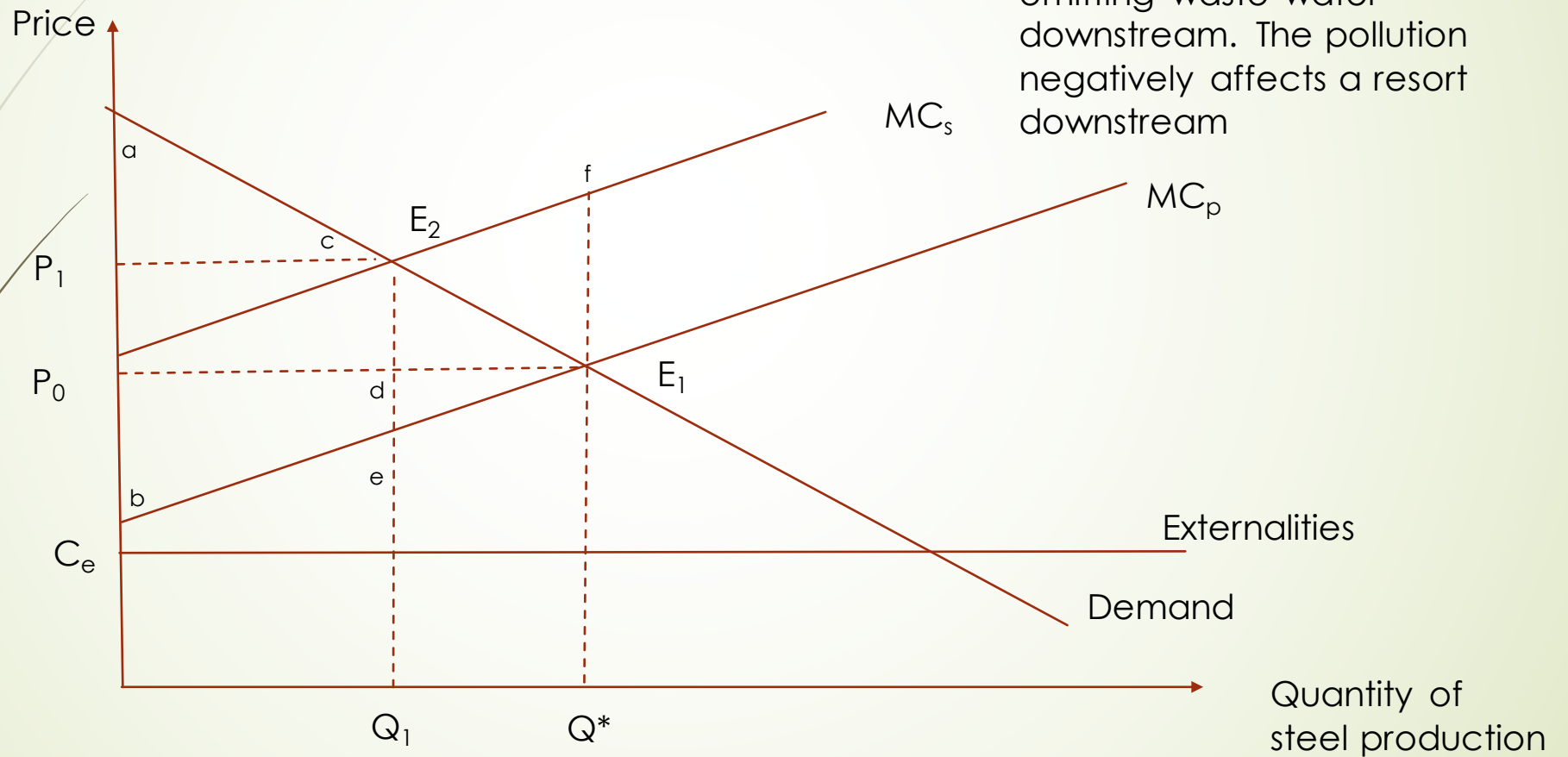


Market Failure

- ▶ What is market failure?
- ▶ Which types of market failure are relevant to natural resource use?

Externalities: What can we tell?

Steel Factor is located upstream, emitting waste water downstream. The pollution negatively affects a resort downstream





What do you know?

- ▶ What needs to be done in order to correct the market failure?
- ▶ Who has to pay for the external cost?
 - ▶ The steel factory?
 - ▶ The victim of pollution?



The pursuit of Efficiency

- The Courts: Property rules and Liability Rules
- “Property rules”
 - specify the initial allocation of the entitlement.
 - *In our case*: Conflicting entitlements - the right to add waste products to the river and the right to have an attractive river.
 - The court merely decides which right is preeminent and places an injunction against violating that right.
 - In the absence of a court decision, the entitlement is naturally allocated to the party that can most easily seize it.



The pursuit of Efficiency

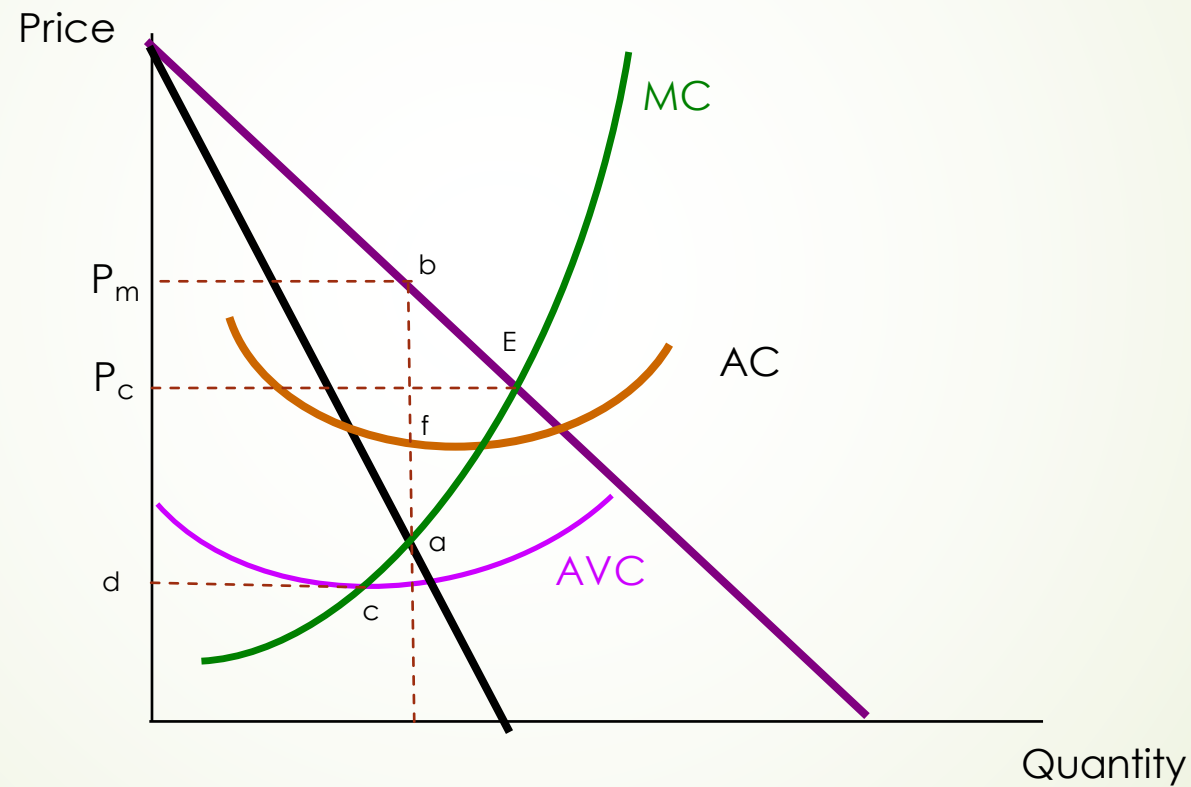
- ▶ Coase Theorem - Ronald Coase (1960)
 - ▶ As long as negotiation costs are negligible and affected consumers can negotiate freely with each other (when the number of affected parties is small), the court could allocate the entitlement to *either* party, and an efficient allocation would result.
 - ▶ The only effect of the court's decision would be to change the distribution of surplus among the affected parties.



The pursuit of Efficiency

- ▶ “Liability Rules”
 - ▶ The liability rules award monetary damages, after the fact, to the injured party.
 - ▶ The steel factory has to compensate the resort for all damages incurred: the area between two marginal cost curves from the origin to the chosen level of output.
 - ▶ Internalization of Externalities

Monopoly: What can we tell?





Monopoly

- ▶ What are the problems of monopoly?
- ▶ What are the remedies for monopoly problem?



Government Failure

- ▶ Government and political process can be the cause of inefficiency in resource allocation.
 - ▶ Providing wrong incentives is the root of the problem.
- ▶ Rent Seeking
 - ▶ Examples
 - ▶ Producers seek protection from competitive pressures
 - ▶ Consumer groups seek price ceiling or special subsidies.
- ▶ Increase benefits of the interest group, lower the surplus to society as a whole.



Government Failure

- Why, normally don't the losers rise up to protect their interests?
- Why voters (you?) remain ignorant to the problems?

Government Failure: What can we tell?

