

# Economics: always pleading for market-based instruments?

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## OUTLINE

- 1 economics of overfishing and market-based instruments
- 2 transaction cost of fisheries policy

## OPPORTUNITY COST OF FISHING

**definition:** the opportunity cost of a decision is the value of the next-highest-valued alternative.

opportunity cost of fishing consist of the foregone future benefit of fish in the ocean

- growth of individuals
- reproduction
- mortality

## ECONOMICS OF OVERFISHING

**definition:** a fish stock is [economically] overfished, if a higher present value of yields could be obtained at the same or lower present value of effort.

**Benchmark:** optimal fishing.

$$\underbrace{u'(h)}_{\text{marginal benefit of fishing}} = \underbrace{c(x)}_{\text{marginal fishing cost}} + \underbrace{\mu}_{\text{marg. opportunity cost}}$$

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- fundamental problem: no well-defined property rights on marine fish stocks
- opportunity cost are external to the individual fisherman

## OVERFISHING AND FISHERIES POLICY

from an economic perspective:

aim of fisheries policy should be that fishermen take into account opportunity cost of fishing

what should not be addressed by fisheries policy

- 1 benefits of fishing — consumers' demand
- 2 direct cost of fishing — fishermen's decisions on
  - fishing days
  - engine power / vessel size
  - fishing gear

## OVERFISHING AND FISHERIES POLICY

economic instruments

- landing fees
- individual tradable quotas
- exclusive spatial harvest rights
- cooperatives

"command-and-control"

- fishing days/engine power
- fleet size
- fishing gear
- marine protected areas

opportunity  
cost

## TRANSACTION COST

- Ronald H. Coase (*J. Law Econ.* 1960)
- transaction cost are all the cost that are involved with carrying out a [market] transaction
- transaction cost of fisheries policy on the authority's side
  - effort needed for monitoring and enforcing compliance
  - cost involved in determining the right target levels of quotas or fees
- transaction cost of fisheries policy on the fishermen's side
  - cost of obtaining the licenses required
  - cost of reporting catches and effort

## ECONOMICS: ALWAYS PLEADING FOR MARKET-BASED INSTRUMENTS?

- yes, because of efficiency
- research needed: which instruments set the 'right' incentives?
- research needed: how do instruments compare with regard to transaction cost?

## OVERFISHING AND FISHERIES POLICY

### economic instruments

- landing fees
- individual tradable quotas  
[rights-based fisheries policy; catch shares]
- cooperatives
- exclusive spatial harvest rights

### "command-and-control"

- fishing days/engine power
- fleet size
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- marine protected areas

