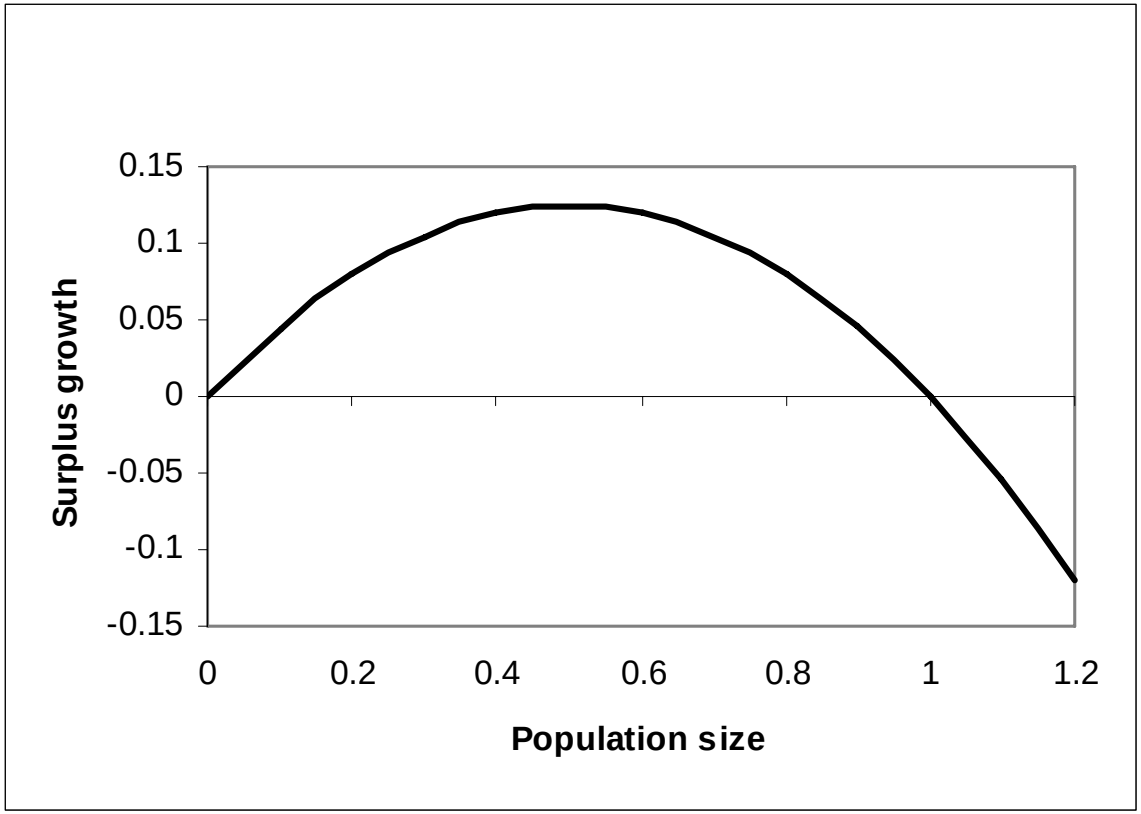
# Catch shares and fisheries managment

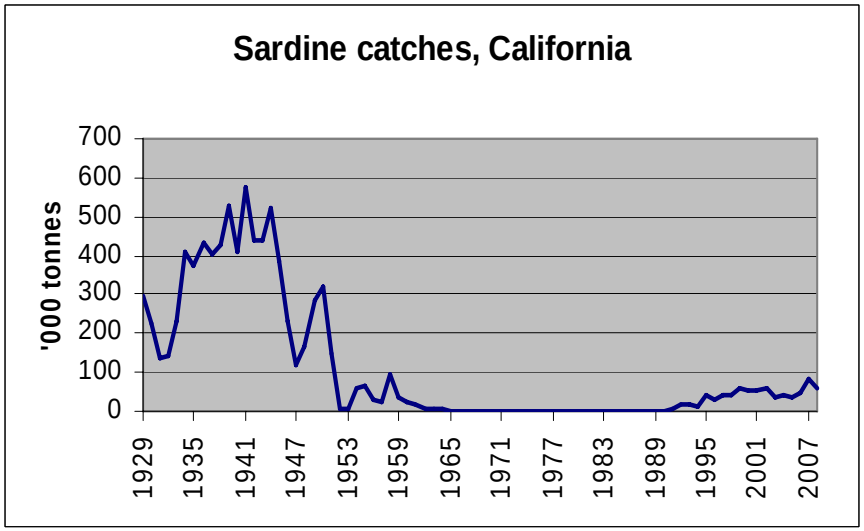
Rögnvaldur Hannesson
Norwegian School of Economics & Business Administration
Bergen, Norway

# Sustainable fishing in a simplified world

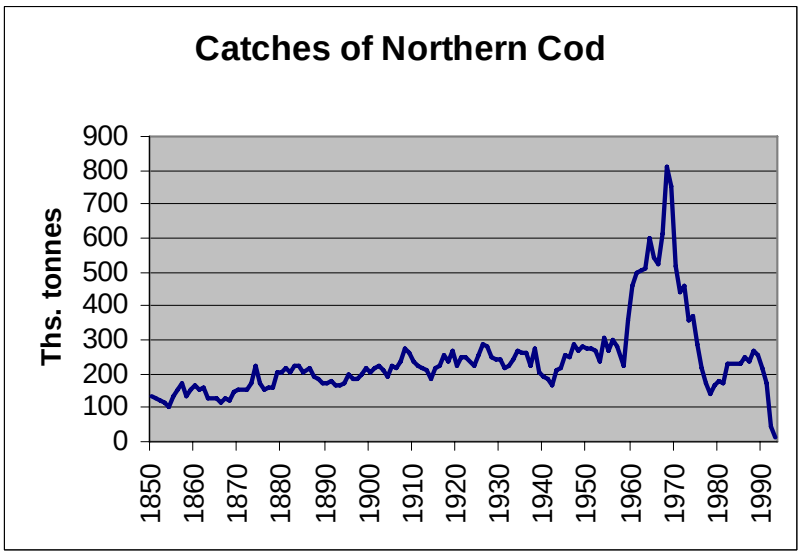


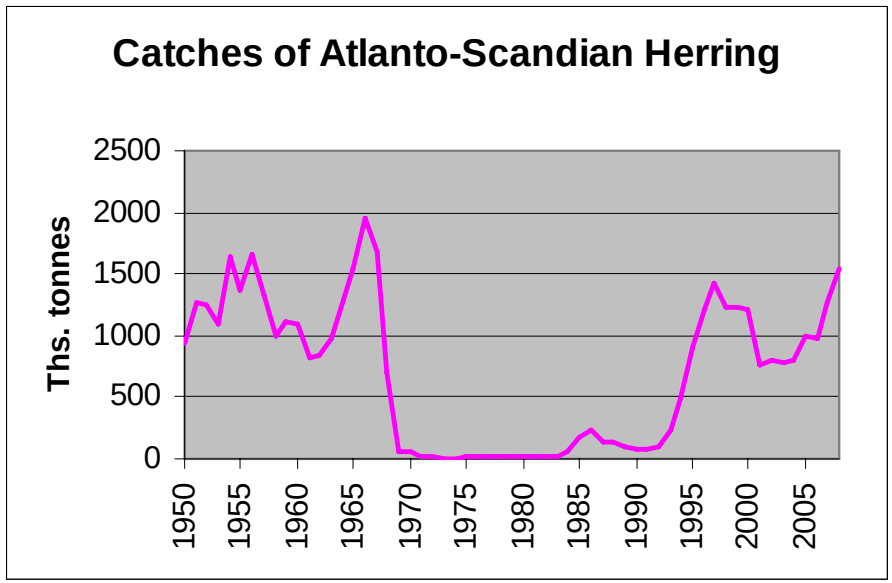

Sustainability alone doesn’t get us very far

# And what about this?




Fish catches must be limited, for environmental and economic reasons



# So we need to limit catches: How do we do it?

- Directly, with catch quotas
  - Disadvantages
    - Costly monitoring
    - Imprecise stock assessment
- Indirectly, with effort controls
  - Number of boats, days fishing
  - Disadvantages
    - Substitution (change boat design, use more gear)
    - effort creep (perverse technical progress)

# A case where effort control would work better when stock assessment is imprecise

One unit of effort catches a given share of the stock

Limiting effort limits the share of the stock caught

Depends critically on the stock being evenly distributed in the sea

Works badly when small stocks ”contract” and occupy a smaller area

# Tradeable catch shares

- Cap and trade by another name
- Efficiency gains
- IQs
  - Avoid race for the fish
  - Facilitate enforcement
- ITQs
  - Fishing by those who get the best product or the lowest costs

# The thorny issues of ITQs

- Initial allocation
- Is catch history a good criterion?
  - Minimum interference with business as usual
  - But there are some legitimate exceptions
    - Recent entry or investment
  - Important to avoid positioning
- Who shall get the rents?

# Why is transferability important?

- Short term
  - Total quota sometimes too low to accommodate all boats
  - Stock rebuilding & capacity reduction
    - Voluntary adjustment, survival of the fittest
- Long term
  - Matches fleet capacity & average stock yield
  - Accommodates technical progress
    - Avoids effort creep

# Rents

- Rent = revenues – costs
- Rents drive investment, technological innovation
- Will disappear if marginal cost is constant (i.e., if production facilities can be replicated endlessly)
- Rents, a sign of transient situation that will correct itself
- Not so in the fishing industry

# Fishing rents

- Reflect the value of the fixed factor (nature) that cannot be replicated
- Analogous to rent for ”good” land
- Rent in the fishing industry sign of a successful fisheries policy
- Rent is generated by good management, it does not come at anyone’s expense
- Will become capitalized in market value of quotas or licenses

# Who should get the rent?

- Fish stocks public resources
  - A case for confiscating rents through taxes or auctions
- Rents collected by industry could be a necessary price to pay to get better management
- Rents accruing to industry provide incentives for better management
  - Asset value dependent on management

# How an ITQ story could play out

1. Overfished stock, oversized fishing fleet
2. Stock rebuilding program, quotas, catches cut back
3. Some boats unprofitable, owners exit by selling quotas to those that operate profitably, quota prices low
4. Stock recovers, profits improve for those who remain
5. Quota prices rise, entrants have to buy their way in from ”fat cats”
6. Success, and yet resentment

# Conclusion

- Many fish stocks are overexploited
- Necessity is the mother of invention
  - The 200 mile zone a response to this
  - Has made it possible to introduce fishing rights
- Little doubt that transferable quota shares are the best way to go if
  - Stock assessment reasonably accurate
  - Sufficiently cheap to implement