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# **Grandfathering, auctions, taxation and social wellbeing**

**Conference on fisheries management  
Thorshavn, May 31 2016**

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# Topics

## 1. Preliminaries

- Why do we need fisheries management?
- What fisheries management?
- Economic benefits of fisheries management

## 2. Allocation of fishing rights

- Grandfathering vs. other (political) allocation

## 3. Extraction of fisheries profits

- None vs. taxes vs. auctions

## 4. What maximizes social wellbeing?

# Why fisheries management?

- Many fisheries are rich and can generate high net economic returns
- Without proper management  $\Rightarrow$  very little net returns
- Cause: “The common property problem”
  - Fishing effort expands until net returns  $\approx$  zero!

# What fisheries management?

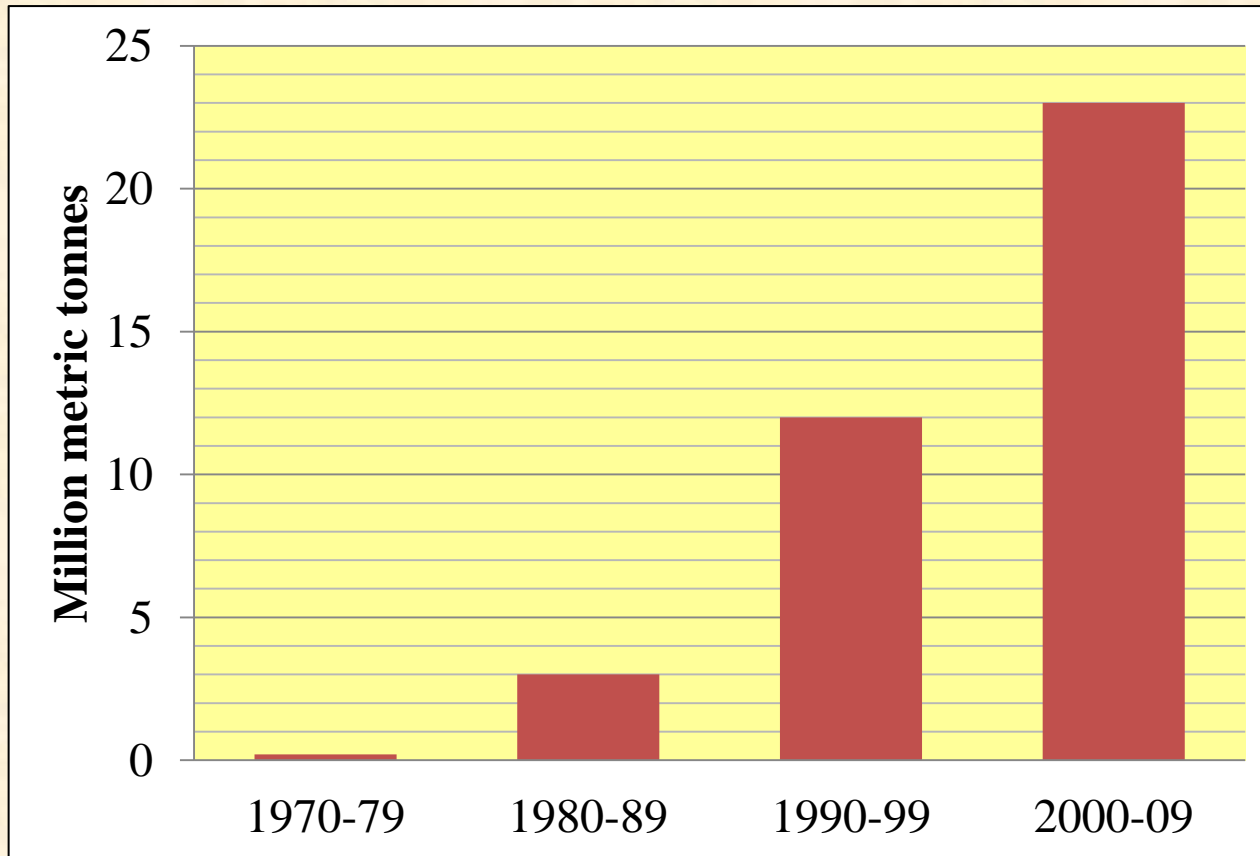
- Much thinking and experimentation
  - Only rights-based systems work
  - Several rights-based systems (Sole ownership, Turfs, ITQs, Community rights)
  - ITQs most commonly used
  - Been very successful (effort, price, quality & stocks)
- ⇒ Increasingly used around the world

# Adoption of ITQs Worldwide

- Since the late 1970s, ITQs been adopted in the world's fisheries at an increasingly fast rate.
  - Currently, ITQs are employed in hundreds of fisheries worldwide.
  - At least **24** fishing nations employ ITQs as a major component of their fisheries management.  
(New-Zealand, Australia, USA, Canada, Greenland, Iceland, Holland, Norway, Denmark, Sweden, Estonia, Germany, UK, Portugal, Spain, Russia, Morocco, Namibia, South Africa, Chile, Peru, Falkland, Mexico, Argentina)
  - Close to **25%** of the global catch is taken under ITQs!

# ITQ adoption

## Accumulative volume of harvest



# Net economic benefits (profits) under ITQs

- Depends on fishery
- Commonly **20-40%** of revenues (more if crew remuneration is included)
- In Iceland  $\approx$  US\$ **200-400** million annually
- In Faroe Islands: **?** (US\$ **50-100** million ?)

Most of the benefits under ITQs have nothing to do with the resource, but rather various improvements made possible by the ITQs !

# Typical improvements under ITQs

- (i) Reduction in fishing effort and fleets
- (ii) Rebuilding of fish stocks
- (iii) Rationalization of fishing and fish processing operations
- (iv) Improved quality of landings
- (v) Improved marketing of fish products

## Nota Bene

Improvements undertaken at great cost to the fishing industry!



# Two fundamental fallacies about net economic benefits under ITQs

## Fallacy I

They are generated by the resource  
and not by the fishing firms.

Corollary: Un-earned profits

## Fallacy II

They go to owners of the ITQs  
and not members of society

Corollary: Must be expropriated by the State

# Fallacy I

(Profits generated by the resource)

- Falseness follows from standard economic theory. (Resource is just one of many inputs)
- Easy to see why the claim must be false:
- If it were true
  - Why little or no profits (rents) in the 19<sup>th</sup> century?  
(Stocks 2-3 larger than now)
  - Why no profits 1978-1983?  
(Stocks much greater, cod catch 300-400 thousand tonnes)

# Fallacy II

(Only ITQ-holders gain)

- An naïve assertion without analysis
- Simple analysis immediately shows that this is not true
- The benefits of ITQs are widely spread to society
  - Both in the first instance
  - In the long run

# Some of the factors promoting wider distribution of ITQ benefits

1. Share of labour (crew & fish workers) in profits
2. Increased demand  $\Rightarrow$  higher incomes for others
3. Higher exchange rates  $\Rightarrow$  lower import prices
4. Taxes  $\Rightarrow$  increased provision of public goods
5. Investment and growth (retained profits are invested, greater competitiveness)

# Stylized example

(Based on Icelandic conditions, but Faroese are similar)

## Share in ITQ gains

Companies (owners):	34.4%
Crew & fish workers:	22.4%
Others:	3.2%
State:	40.0%

## Nota Bene

Short term (same year) gains

Ignores demand and economic growth gains (usually widely distributed)

# Allocation of fishing rights

1. Grandfathering (current harvesters get the rights)
2. Political allocations (by some criteria)
  - Equally
  - To the disadvantaged
  - Randomly
  - Selling
    - At a fixed price
    - To the highest bidder: Auctions

# Grandfathering

(Fishing rights go to current harvesters)

Employed virtually everywhere  
where explicit fishing rights  
(including TURFs and ITQs)  
have been defined!

Very good reasons for this!

# Reasons for grandfathering

1. Anything else would be immoral and illegal
  - Current harvesters have invested their capital, time and lives in the fishery  $\Rightarrow$  cannot be taken away
2. Encourages innovation and discovery
  - Harvesters retain benefits of innovations and discovery of new methods, resources.
3. Guarantees Pareto gain from improved fisheries management
  - Pareto gain: Some people benefit and no-one loses



# Reasons for grandfathering (cont.)

4. Encourages good fisheries management
  - Without grandfathering, harvesters would oppose rationalization; better to have small, safe profits than none.
5. Keeps the most efficient operators in the industry
6. Keeps capital in the industry
  - Doesn't weaken international and domestic competitiveness
7. Does not distort industry investment
  - Non-grandfathering reduces expected profits. Note: other industries exempt from non-grandfathering.

# Reasons for grandfathering (cont.)

8. Does not require government intervention
  - Avoids government distortions and problems
9. Re-allocation of rights is costly, perhaps very costly
  - Technical costs, administrative costs, company costs, rent seeking costs etc.

Non-grandfathering  
All the opposite happens\*

This can be very costly !  
(GDP↓ General well-being ↓)

\* Except sometimes capital is retained,  
i.e. if rights given out free

# Extraction of fisheries profits

1. Taxation
2. Selling rights
  - Fixed price
  - Auctions

Note: selling rights = another form of taxation (but on the basis of government expropriation of the rights- nationalization)

# Special taxation of fisheries

## Many disadvantages

1. Reduces incentives (for innovations, discovery and improvements)
2. Removes capital from industry ( $\Rightarrow$  interest rates  $\uparrow$ )
3. Distorts investments (domestically and internationally)
4. Reduces international competitiveness ( $\Rightarrow$  export prices  $\downarrow$ )
5. Transfers funds to governments ( $\Rightarrow$  waste)

**$\therefore$  Reduces GDP and GDP growth!!!**

# Auctions

- Particularly inferior form of taxation
- To the usual disadvantages they add:
  - New uncertainty to businesses (will we get rights?)  $\Rightarrow$  costs
  - Lead to complicated games between government, industry companies  $\Rightarrow$  uncertain outcomes & costs (A-theory)
  - Subject to manipulation, collusion and cheating (A-theory)
  - $\Rightarrow$  Costly to design well (A-theory)
  - $\Rightarrow$  Costly to bid sensibly (A-theory)
  - Winner's curse (winner bids too high)

The experience of auctions in fisheries confirms this

Tried in Estonia 2001-2, Russia 2001-3

Both places abandoned because of poor outcomes

# Auctions: conclusions

A particularly bad way to extract funds  
from the fishing industry

However

If rights are to be sold, auctions may be the  
least bad way to do it. (..how else to do it?)

A much better way to extract fisheries profits:  
Special income taxes (like in oil)

# Example:

## Extraction of fisheries profits in Iceland

- Much debate (since 1990s)
  - Including auctions and various forms of taxation
- Provisional conclusion
  - No auctions
  - Special (profits) taxation
  - “Moderate” amount



# Special fisheries taxation in Iceland

## - Fishing fee -

Year	Fishing fee (M.US\$)	Fishing fee/ catch value	Fishing fee/ export value
2005	12.0	1.1%	0.7%
2006	6.0	0.6%	0.3%
2007	6.6	0.5%	0.3%
2008	2.0	0.2%	0.1%
2009	8.2	0.9%	0.5%
2010	18.6	1.7%	1.0%
2011	31.6	2.4%	1.5%
2012	78.3	6.1%	3.6%
2013	79.4	6.4%	3.6%
2014	69.2	5.9%	3.3%

So, in recent years, special fee has been about **6.1%** of catch value & **3.4%** of export value. Approximately: **20%** of profits

# Maximizing social wellbeing

There is no (real) dispute about distribution.  
We all want to make the poor better off  
The dispute is about how best to do it!

The best way:  
Enlarge the cake (GDP)

Just redistributing the cake will ultimately make  
the poor worse off.

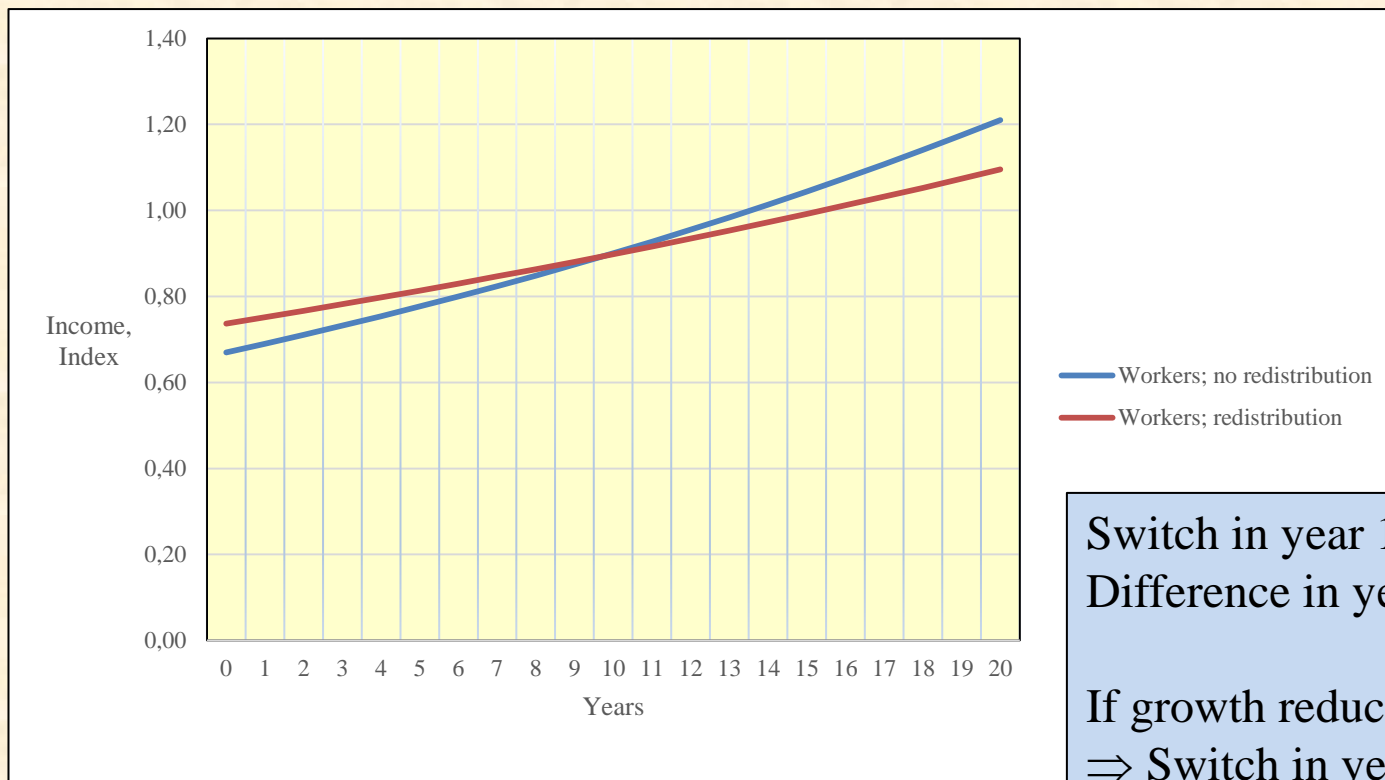
(By distorting incentives and reducing economic growth)

# Special taxation of fisheries (..not to mention taxation by auctions) reduces economic growth

- Reduced international competitiveness
- Reduced capital for investment
- Reduced incentive for investments
- Reduced incentives for innovations and discovery

# Redistribution by taxation: Example

(Labour share: Increased from 67% to 74%  
⇒ Economic growth reduced by 1%)



Switch in year 10  
Difference in year 20; -10%

If growth reduction 2%  
⇒ Switch in year 5  
Difference in year 20; -34%

# Conclusions

1. Bad idea to disadvantage or tax any industry disproportionately
  - This will not help poor people in the long run
2. Auctions are a particularly bad form of taxation
3. Special income tax is preferable to auctions

# Did the ITQ system in Iceland contribute to the financial collapse in 2008?

- Definitely did not cause it!
  - It happened in most Western countries
  - A banking crisis in Nordic countries in 1990s
- Did it exacerbate the crisis?
  - Probably not (quota values too small and emerged much earlier; (in the 1990s))
  - Fishery instrumental in restoring the economy!



END

# ITQs worldwide: Speed of adoption

Decade	Adoption of ITQs: (no. of countries)	Approximate volume of harvest (m. metric tonnes)
1970-79	2	0.2
1980-89	5	2.8
1990-99	8	9.0
2000-09	8	11.0
Total	23	23.0



Profits under ITQs are not generated by  
the resource!

To see this:

Why little or no profit decades ago when resources were much larger?

Why little or no profits in the Mediterranean where resources are much greater?

They are not resource rents!

# Outcomes of ITQs

- General pattern around the world -

## Economically very successful!

- (1) Reduction in fishing effort (immediate)
- (2) Fishing capital declines (but usually slowly)
- (3) Biomass recovers (slowly)
- (4) Unit price of landings quickly increases (often greatly)
- (5) Quotas become valuable (quickly!)
- (6) Enhanced resource stewardship by fishers
- (7) Discarding often reduced

## Key assumptions:

1. Share of crew: 38% (of landed value)
2. Increased pay to fish workers: 5% (of increased company profits)
3. Higher exchange rates: 2%
4. Tax rate (income, value-added, other): 40%

Note: No economic growth effects

The crux of the matter

What maximizes the benefits  
of working people and the  
general population?

# The real reason for increased profits

The ITQ system allows:

- (i) Reduction in fishing effort and fleets
- (ii) Rebuilding of fish stocks
- (iii) Rationalization of fishing and fish processing operations
- (iv) Improved quality of landings
- (v) Greatly improved marketing of fish products

Nota Bene

Undertaken at great cost to the fishing industry!