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# Fisheries taxation and economic efficiency

**DRAFT**

Conference on  
Fishing rights: Grandfathering, taxation and efficiency

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# Topics

1. Fisheries profits can be large
2. Three fallacies (about fisheries benefits)
3. Where do the benefits go?
4. Economic impacts of taxation
5. Auctions; particularly bad form of taxation
6. Summary

# Net economic benefits\* in fisheries

Can be large (..besides being sustainable)

- 20%-40% of revenues not uncommon in well-managed fisheries (America N-Atlantic)
- Empirical modelling: Even higher benefits attainable

\* Net benefits= profits+wages above the going wage

# Three fundamental fallacies (about fisheries profits/benefits)

## Fallacy I

Fisheries profits/benefits are generated by the resource and not by the fishing firms

Corollary: Un-earned profits

## Fallacy II

Fisheries profits/benefits go to owners of fishing rights and not other members of society

Corollary: Must be expropriated by the State

## Fallacy III

Fisheries profits/benefits can be taxed without negative economic consequences

Corollary: An ideal tax-base

# Fallacy I

(Profits/benefits 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)

# Real reason for increased profits

- (i) Rebuilding of fish stocks
- (ii) Reduction in fishing effort and fleets
- (iii) Rationalization of fishing and fish processing operations
- (iv) Improved quality of landings
- (v) Greatly improved marketing of fish products
- (vi) Innovations and technological progress
- (vii) Discovery of new fishing opportunities

**N.B: Undertaken at great cost to the fishing industry!**

# Fallacy II

(Only holders of fishing rights gain)

- An assertion without analysis
- Simple examination of the facts quickly shows that this is not true
- The benefits of fishing rights are widely spread around society
  - Both in the first instance
  - And (even more so) in the long run



# Some factors promoting wide distribution of fisheries benefits

1. Share of crew in landed value
2. Remuneration of labour in fishing industry
3. More favourable exchange rates
4. General taxation
5. Demand effects
6. Investment and growth

# Share of crew in value of landings

In most fisheries the crew receives a share of the value of landings

⇒ Crew will benefit from higher income per unit effort

In Iceland this share is between 0.3 and 0.4  
Most other countries similar [0.2-0.5]

# Remuneration of labour in the fishing industry

Fisheries rationalization leads to increased labour productivity

(Follows from increased profitability in fishing)

⇒ Wage of labour should increase correspondingly

⇒ At least labour is in a strong position to get a raise

Indications that this is happening  
in the Icelandic fishing industry

# Exchange rates

In Iceland (and many other countries) the fishing industry exports much of its products and imports part of the inputs

⇒ Improved fisheries lead to stronger exchange rates

This reduces fishing industry profits and benefits consumers of imports

In Iceland this strengthening of exchange rates may be 2 to 6%

# Taxes

In most countries a substantial part of increased income is paid to the government in the form of taxes

## Typical taxes

1. Income tax
2. Value-added tax
3. Duties and excise taxes

In Iceland taxation amounts to about 42% of income

# Numerical example

(Based on the above; Crew=38%; fishing labour=5%;  
exchange rate=+3%; tax=42%)

## Share in fisheries gains

Companies (owners):	34.2%
Crew & fish workers:	22.1%
Others:	1.7%
State:	42.0%

## Nota Bene

Short term (same year) gains!

Ignores demand and economic growth gains (usually widely distributed)

# Longer term impacts

- Demand effects
  - Higher profits/income in fisheries ⇒
    - Increased demand for goods and services
    - Higher profits and wages in the economy
- Economic growth effects
  - Added income in fisheries increases investment ⇒
    - Increased economic growth
    - Benefits to all sectors of the economy

# Fallacy III

(Fisheries profits can be taxed without negative economic impacts)

- A myth based on naïve interpretation of Ricardo's theory of rents.
  - Main proponent: The populist Henry George (1839-97); Georgeism
- No formal economic analysis to support this claim!
- On the contrary
  - Plenty of analysis show it is false



# Special fisheries taxation in the Icelandic context

Many significant drawbacks  
- Here only mention a few -

# 1. Erodes international competitiveness of the Icelandic fishing industry

- Competitors (Canada, US, Norway, New Zealand, many EU-countries etc.) also have ITQs
- They do not pay special taxes (rather subsidies)
- ⇒ Will gain a competitive edge
- Will squeeze Iceland out of the most lucrative markets

∴ Export prices will fall accordingly

2. Reduces the competitiveness of the fishing industry domestically

⇒ Physical, human and financial capital will move out of the fishery (to other less productive industries)

∴ An economic distortion which reduces the efficiency of the Icelandic economy

### 3. Reduces investment in the fishing industry

- Less expected benefits of investments
- Less retained profits to invest
- More risk (less profit margin, one more tax to worry about)
- Higher rate of interest (increased risk to lenders)

∴ Less productivity growth

#### 4. Reduces discovery and innovation in the fishing industry

- D&I activity is inherently risky
  - Less expected benefits of this activity (due to tax)
- ⇒ Less incentive to engage in discovery and innovation

∴ Less progress; tendency to stagnation

## 5. Reduces overall investment in the economy

- Increased risk (All industries use natural resources  $\Rightarrow$  similar taxes may be imposed)
- Interest on foreign capital increases (more risk, less domestic funds for investments)

**∴ Less economic growth**

All of this contributes to weaker the Icelandic economy and reduced economic growth

A significant effect because of the economic importance of the fishing industry

- It is a base industry!
- Direct contribution to GDP  $\approx 10\%$
- Direct and indirect effects  $\approx 24\%$  of the GDP

# An example

## Economic statistics

- Economic growth in Iceland has been  $\approx 2.5\%$
- Fishing industry has contributed  $\approx 0.7\%$

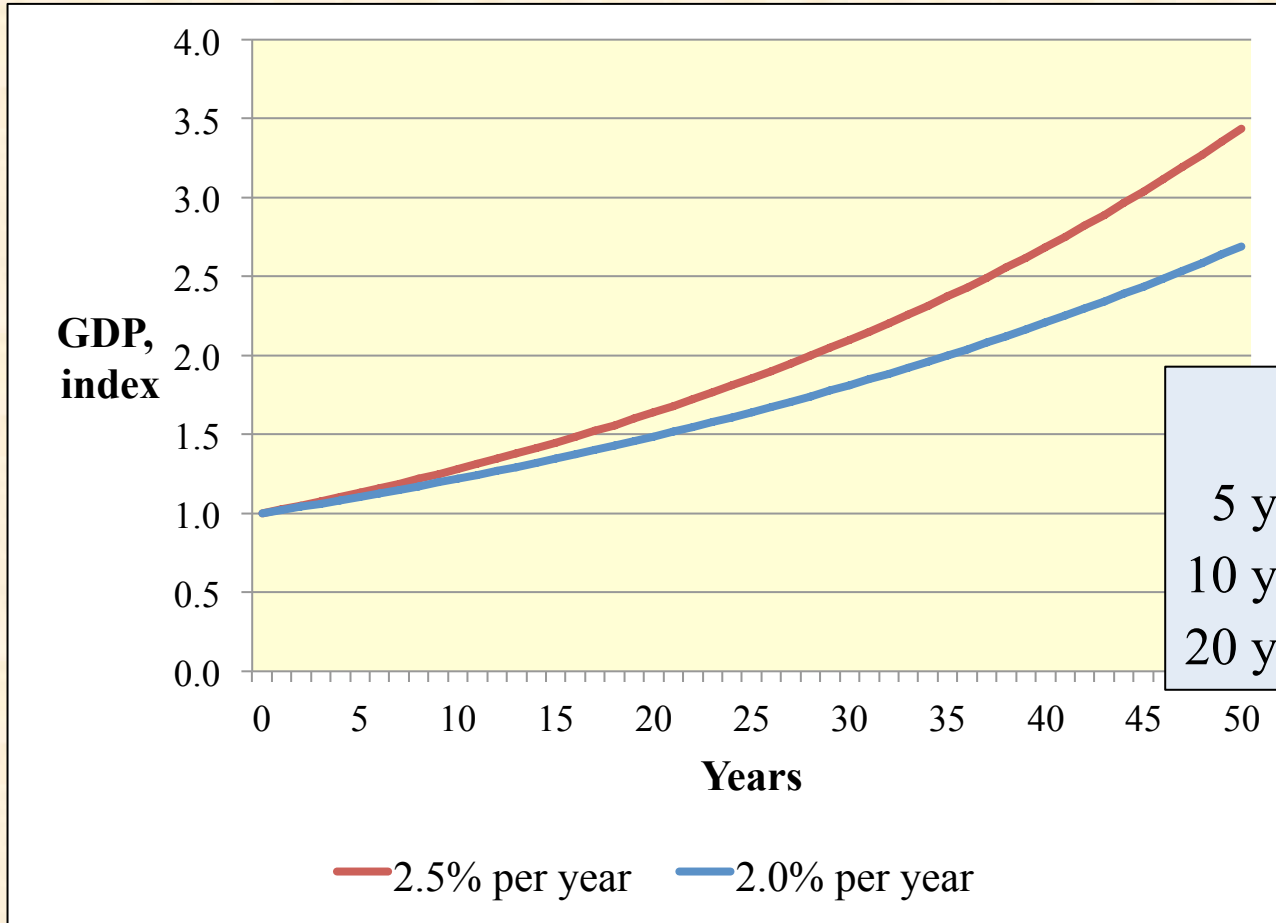
Assume:

Fishing industry contribution falls to  $0.2\%$

$\Rightarrow$  Economic growth falls to  $2\%$



# Impacts on GDP



**Difference**  
5 years=2.5% of GDP  
10 years=5.0% of GDP  
20 years=10.3% of GDP

## Motivation for special fisheries tax

Generate revenues to pay for government services  
(hospitals, schools, welfare system etc.)

**But this is an illusion!**

Less economic growth will lead to reduced  
tax revenues in the future!

⇒ less funds to pay for government services

# 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)

The experience of auctions in fisheries confirms this

Tried in Estonia 2001-2, Russia 2001-3

Both places abandoned because of poor outcomes

# Summary

1. Well-managed fisheries can generate large net economic benefits
2. These benefits are widely distributed in the economy
  - In the short run (crew share, fishing labour, exchange rates and normal taxes)
  - In the long run (demand and economic growth effects)
3. Special taxation of fisheries is economically damaging
  - Reduces efficiency of the fishing sector and the economy
  - Reduces economic growth
  - Reduces taxation revenue in the long run
4. Auctions are a particularly damaging form of taxation

**END**