

Institute of Food and Resource Economics



# Can voluntary arrangements secure coastal fishery survival under ITQs? The case of Denmark

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Fishermen approach land, Carl Locher, Skagen painters, 1885



Coastal fishery anno 2023



# Outline

1. The issue
2. ITQs in Danish fisheries
3. The coastal fishery arrangement
4. Effects
5. Conclusions.



# 1. The issue

## Background

- ❑ ITQ regulated fisheries often protect small-scale fisheries
  - Since large vessels earn more
- ❑ Denmark introduced ITQs 2003-07 – No protection
- ❑ Later protection politically prioritized
  - But post-ITQ protection maybe expropriation ➡ Liability of compensation
  - A voluntary arrangement chosen
- ❑ The coastal fishery arrangement
  - Voluntary
  - Allocate extra quotas on specific stocks from pools based on shares
  - Claim staying in arrangement 3 years/forever
  - Ban sale of shares/quotas to outside vessels.

# 1. The issue

## Purpose

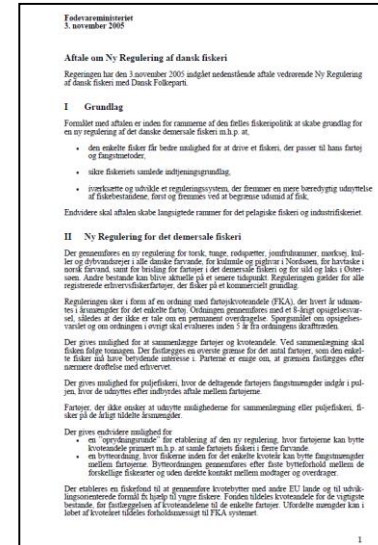
- ❑ To assess whether the Danish coastal fishery arrangement have protected vessels under the ITQ regulation?

## Why relevant?

- ❑ Relevant in debating ITQ introduction in other countries.
- ❑ Protection a priority after introduction of ITQs, where many countries protect before
- ❑ Can a voluntary protection system work?

## 2. ITQs in Danish fisheries

*Avoid that there are too many fishers to fish too fish*



- ❑ Why ITQs? To improve the economy
- ❑ ITQ trial period on herring from 2003
- ❑ ITQ/VQS rules from agreement 3 November 2005, start 2007
  - TACs and fixed quota shares, 8 now 16 years notice period
  - Free transferability of quota shares/quotas, except concentration.

### 3. The coastal fishery arrangement

#### □ Timeline

- 2010-2012 – A voluntary coastal arrangement in force:
  - Vessels < 17 m , < 80% of travels less than 3 days
  - Binding for 3 years
  - Extra quotas 1.5-3.9% of cod/sole TACs
  - Aim: *To maintain the coastal fishery share of total Danish fishery*
- 2012 – Coastal Fishery Committee recommend to make arrangement permanent and incentivize net fishery. Keep voluntary.
- 2013-2015 – Arrangement runs one year renewed. Plaice included.
- 2016 – Binding again 3 years.
  - Two groups; Larger extra quotas to nets than trawl.



### 3. The coastal fishery arrangement

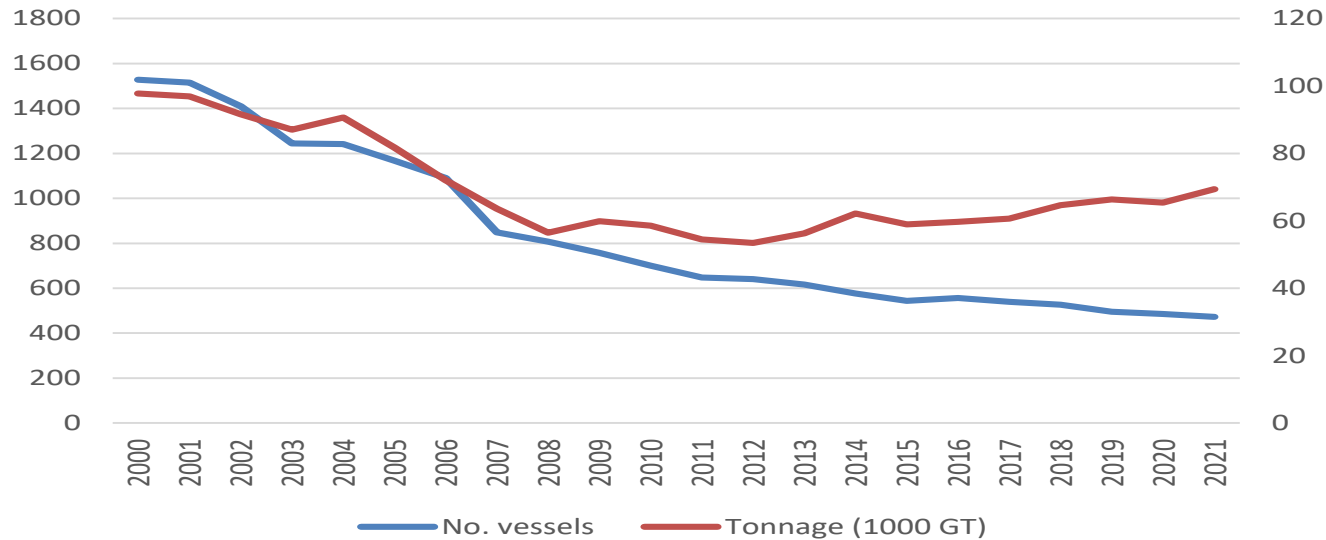
#### □ Timeline

- 2017 – Same coastal fishery supplement to all. Quota diligence award different:
  - Nets < 15 m bound forever largest (closed nets)
  - Trawl < 15 m bound forever smaller (closed trawl)
  - Trawl < 17 m bound for 3 years smallest (open trawl)
- 2018 – A fourth group
  - Nets < 17 m bound for 3 years introduced (open nets)
- 2020 – Quota diligence award abolished, allocated as coastal fishery supplement in 3 rates after application
  - Group allocation key revised to 15-5-2-1 for closed net/closed trawl/open net/open trawl
- 2023 – Fisheries Commission to recommend.



## 4. Effects

### □ Danish fleet development

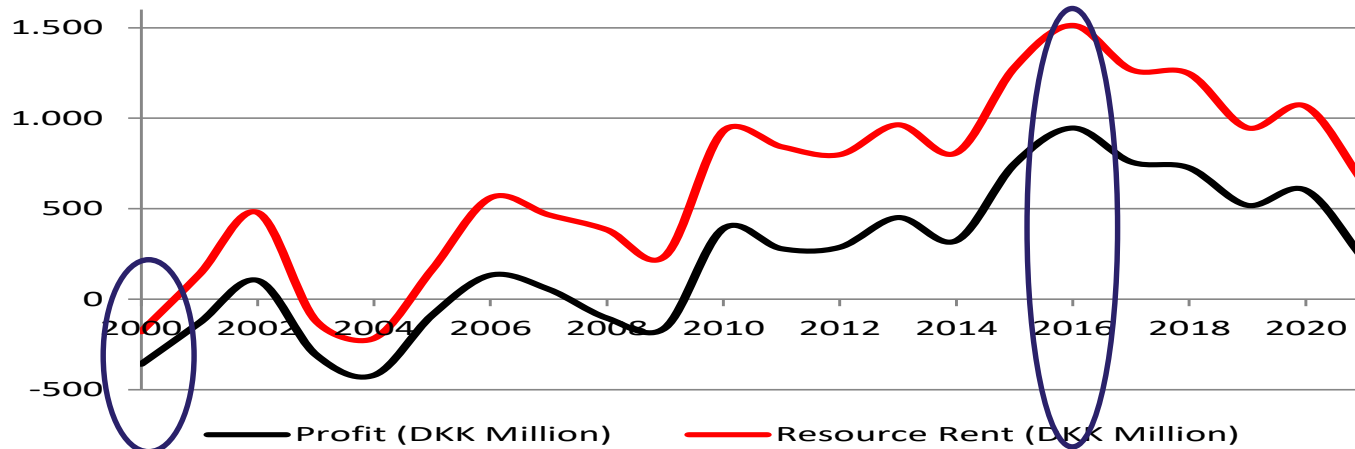


- Continuous reduction in vessels – 70% in period
- Tonnage reduction only 30% - Reduced until 2012 increase after
- ITQs drive, but so do technological development, stock changes, prices, Baltic Sea cod collapse, Brexit, etc.



## 4. Effects

### □ Economic development Danish fleet



Profit -359 DKK Million  
Resource Rent -181 DKK Million

Profit +946 DKK Million  
Resource Rent +1513 DKK Million

Turnover

– Costs (excluding labor and capital)  
– Costs of labor and capital in alternative use  
= Resource Rent

- Bad economy  $\Rightarrow$  ITQs
- ITQs  $\Rightarrow$  Profit/Resource Rent 26/41% of turnover 2016
- Economy worsen from 2016 – but for all vessels.

## 4. Effects

- ❑ Registered vessels – 2258 in 2016 ~ 1600 less/inactive of little importance
- ❑ Commercial active vessels:

Development Group	2016	2017	2018	2019	2020	2021	Change 2016-21
Closed net fishing < 15 m	0	35	35	33	29	33	.
Closed other < 15 m	0	8	5	3	8	7	.
Open net fishing < 17 m	104	0	49	44	28	29	.
Open other < 17 m	58	118	95	90	71	70	.
Coastal fishery total	<b>162</b>	<b>161</b>	<b>184</b>	<b>170</b>	<b>136</b>	<b>139</b>	-14%
Other vessels <17 m	226	206	178	171	181	180	-20%
Vessels > 17m	158	150	148	143	144	144	-9%
Total	<b>546</b>	<b>517</b>	<b>510</b>	<b>484</b>	<b>461</b>	<b>463</b>	<b>-15%</b>

\* < 18 m.

- Coastal fleet reduced as total – but less than other vessels < 17 m

## 4. Effects

### ❑ Earnings – commercial active vessels

Rate of return % total assets Group	2016	2017	2019	2020
Closed net fishing < 15 m	.	8.0	-0.7	-3.2
Closed other < 15 m	.	0.5	.	-0.8
Open net fishing < 17 m	1.1	.	-1.1	-1.2
Open other < 17 m	1.4	2.4	1.7	-0.5
Coastal fishery total	<b>1.2</b>	2.5	1.2	-1.0
Other vessels <17 m	*1.9	*1.7	-1.7	1.1
Vessels > 17m	6.9	4.5	3.5	4.1
Total	<b>6.6</b>	<b>4.4</b>	<b>3.3</b>	<b>3.4</b>

\* < 18 m.

- No pattern in economy of vessels < 17 m inside/outside arrangement
- Positive effect of arrangement counterbalanced by other developments.

## 5. Conclusions

- ❑ Lack of coastal fishery protection at ITQ start induced
  - Later demands for stronger protection
  - A sophisticated voluntary arrangement continuously changed
- ❑ Have the arrangement worked?
  - Fleet reduction a bit higher outside than inside arrangement – the arrangement *ceteris paribus* have an effect
  - Coastal fleet economy worsen – but the case for the whole fleet
  - All other things *not* equal - exact effect uncertain.
- ❑ Administratively a quota sale ban from ITQ start easier
- ❑ Small flexibility to revise ITQ system – but earnings remain high.