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Taxing the fisheries

Experience from Iceland

Ráðstevna um tilfeingisgjald

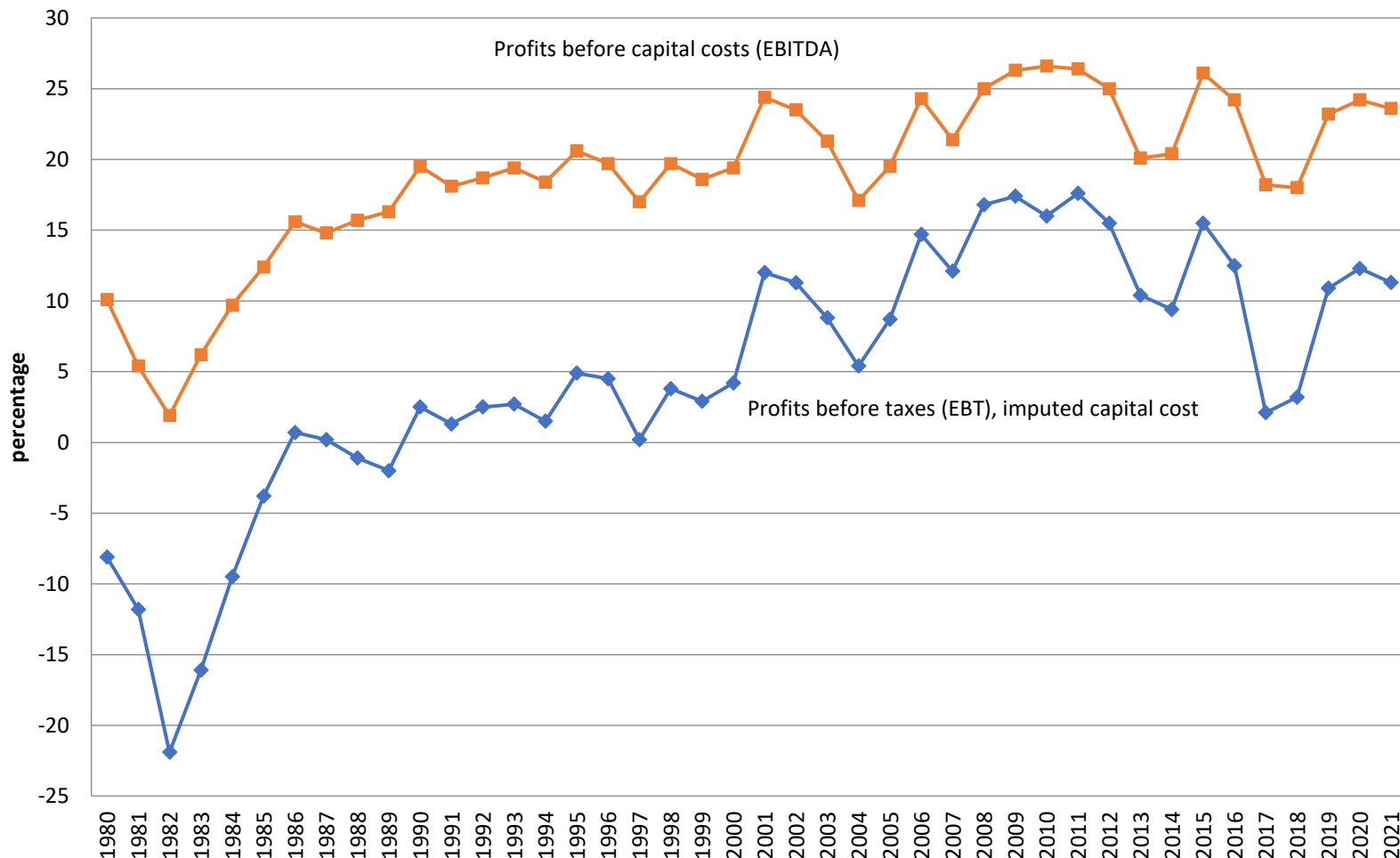
Faroe Islands

March 17, 2023

My talk today

- Will discuss the term „resource rent“ and specific taxation on that rent.
 - Also detail the main features of the fishing tax (veiðigjald) in Iceland.
 - As the title of my talk suggests I am building on the Icelandic experience over the last 4 decades or so.
-
- Let us start by looking at the situation of the Icelandic fisheries in the early 1980s and how the performance of the industry has changed.

Improved economic performance of the fisheries



The major reason for this change, increased profits („rents“), is the introduction of ITQs (individual transferable quotas) in the fisheries.

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: They have to be expropriated

Fallacy I

- 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 19th century?
 - (Stocks 2-3 larger than now)
 - Why no profits 1978-1983?
 - (Cod catch 300-400 thousand tonnes)

Real reason for increased profits

The ITQ system allows:

- (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

Nota Bene

Undertaken at great cost to the fishing industry!

Fallacy II (Only ITQ-holders gain)

- An naïve assertion without analysis
- 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)

The concept of rents

- Originates with classical economics
 - Often associated with D. Ricardo ($\Rightarrow$ H. George, Georgism)
 - Rents $\neq$ profits
 - Rent is the income of the landowner
 - Increasing land rents $\Rightarrow$ falling profits in manufacture
 - New classical economics rejects this approach
 - The concept economic “rent” lingers on, with various, and often somewhat conflicting meaning
 - “Something” in excess of opportunity cost
 - That could apply also to “economic profit”

A non-distortive tax! Is this really correct?

- Often assumed (claimed, argued) that resource rent taxes are non-distortive
- What about incentives for technological advances?
- What about heterogeneous companies?
 - Will the more capable leave the taxed industry?
- What about the discovery and development of new resource industries?
- What about impacts on the yet untaxed industries?

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)

Reduces GDP and GDP growth!!

Special taxation on resource use

Resource rent taxes are

- (i) No less distortive than profit taxes!
- (ii) Possibly more distortive (can exceed profits)

Taxes on resource use must be
regarded/ assessed in this context

Evolution of the ITQ Management System

- 1975 The herring fishery: Individual vessel quotas
- 1980 The capelin industry: Individual vessel quotas
- 1984 The demersal fisheries Individual (transferable) vessel quotas
- 1985 The demersal fisheries: Effort quota option introduced
- 1991 A complete uniform system of individual transferable share quotas in all major fisheries (for all vessels over 6 GRT)
- 2004 Separate ITQ system for small vessels

Free initial allocation of quotas

- Initial allocation mostly grandfathered.
 - Quotas have (for the most part) been allocated on the basis of history in the fisheries in a given period.
- This makes sense for various reasons
 - Easier to get acceptance for the institutional change
 - The change becomes compatible to the fisher's interest
 - Also dynamic efficiency reasons
- Doing so doesn't take away from anyone else.

Win-win situation

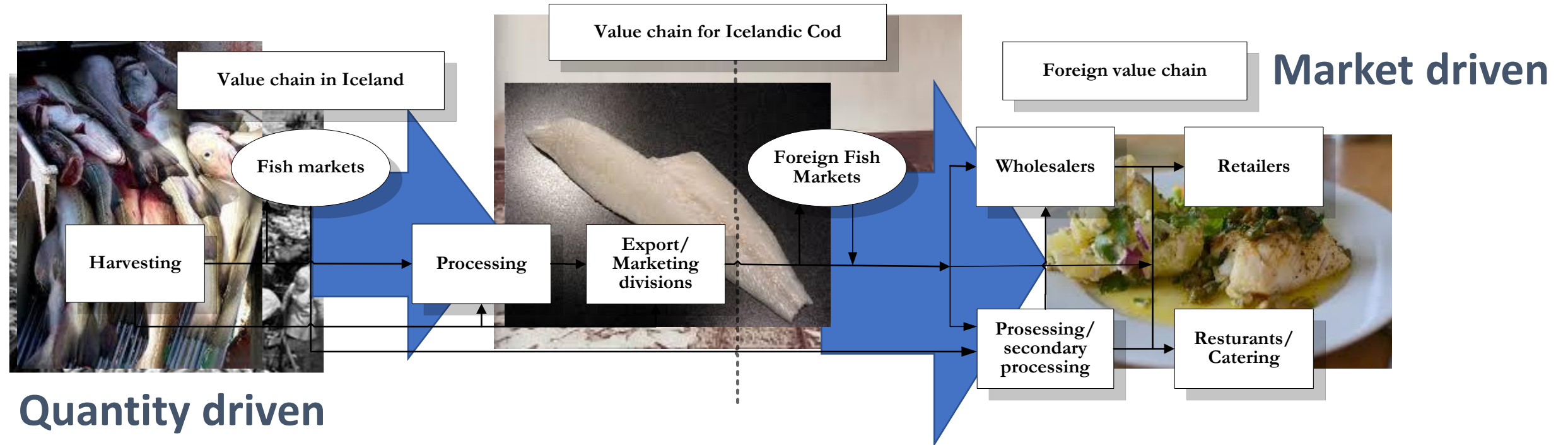
- Implicit in this approach is the incentive for the better (or lucky) fishers to compensate (or buy out) the others.
- Lesser (or unlucky) fishers realize that they are better off leaving the fishery, sell their share, and seek employment elsewhere.
 - Fishers who buy their shares become profitable and better off.
- No one else in society is any worse off, and, probably, may become better off as the gains from the fisheries flow to the other sectors of the economy.
- An example of a win-win institutional change.

Results of ITQs

Economically very successful

- Immediate reduction in fishing effort
- Fishing capital declines (slowly)
- Biomass recovers (slowly)
- Unit price of landings quickly increases (often greatly)
- Quotas become valuable
- Enhanced resource stewardship by fishers
- Discarding often reduced

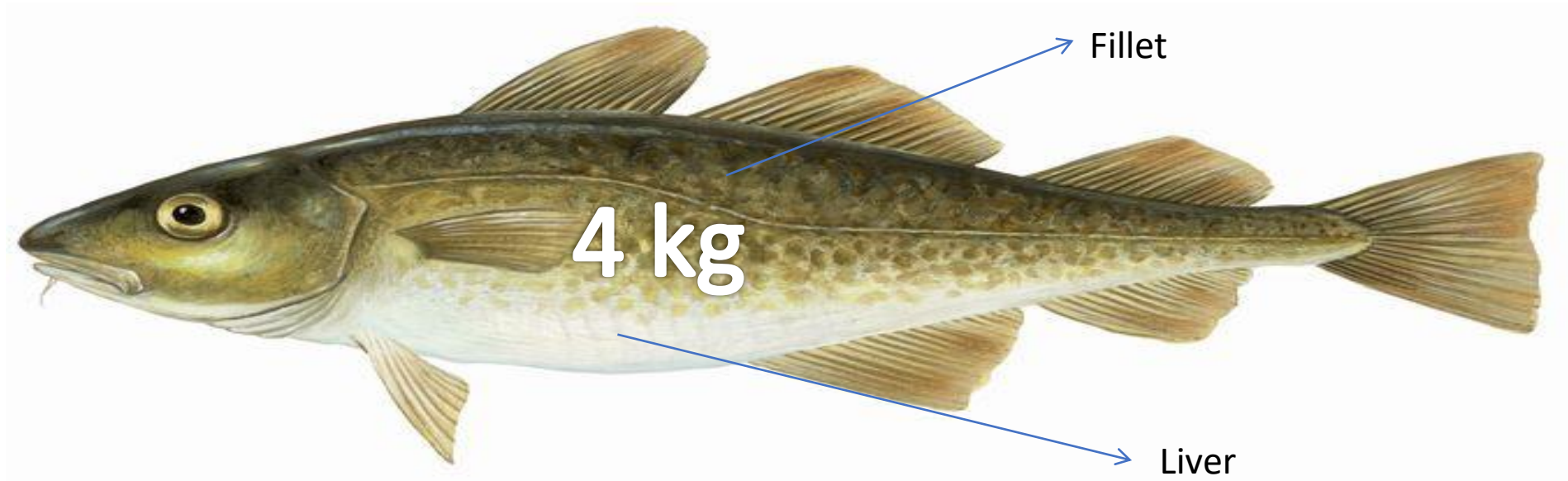
Icelandic experience



Quantity driven

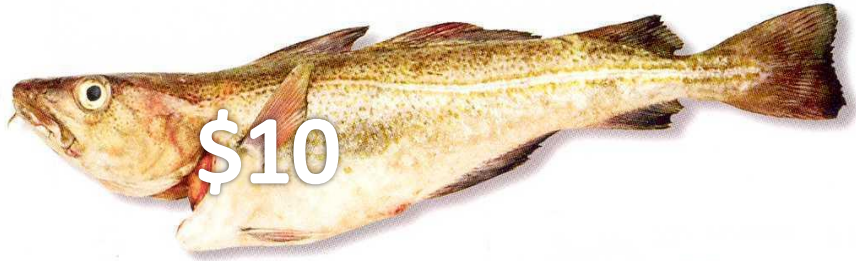
Market driven

Increasing the value from cod in Iceland

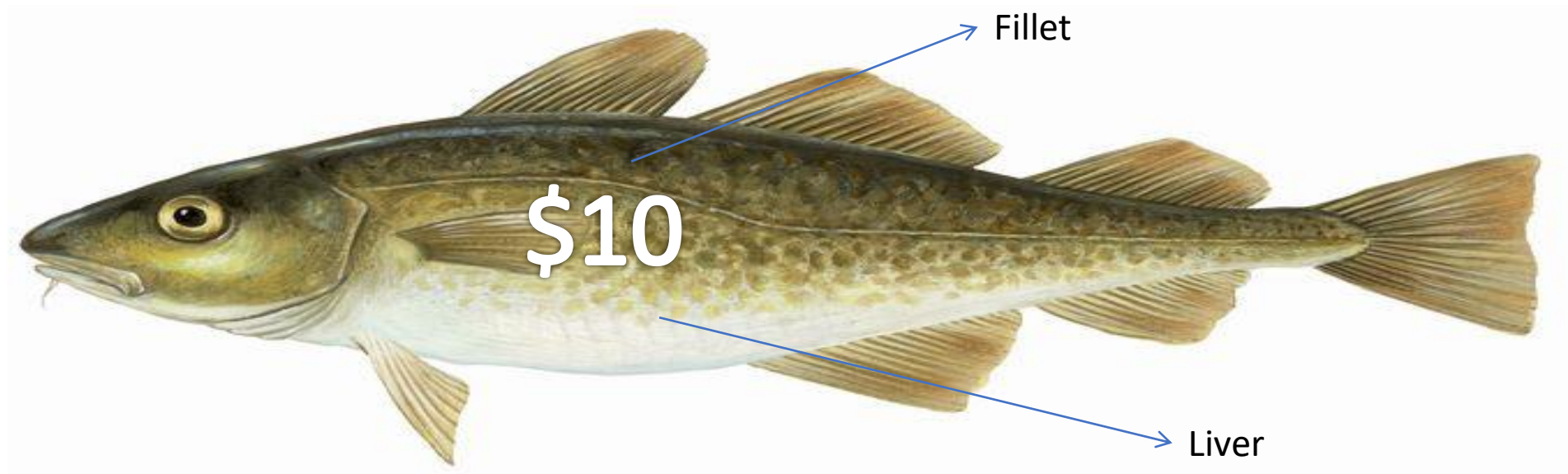


Quality a key issue

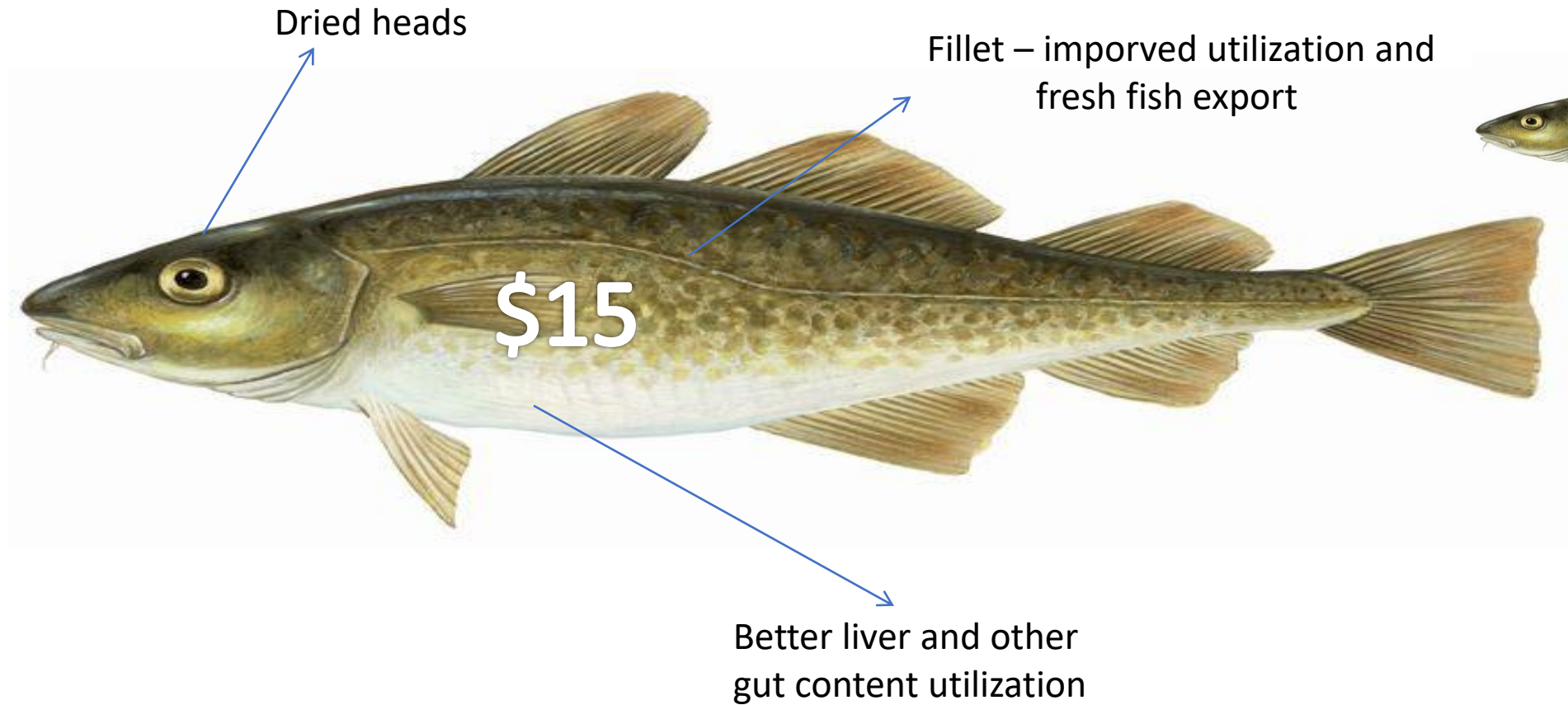
The value of a 4 kg cod



Quality



Better utilization





Canned fish liver products



Fish liver oil



Enzymes used for natural fish flavourings



Fish leather used by shoe & fashion industry



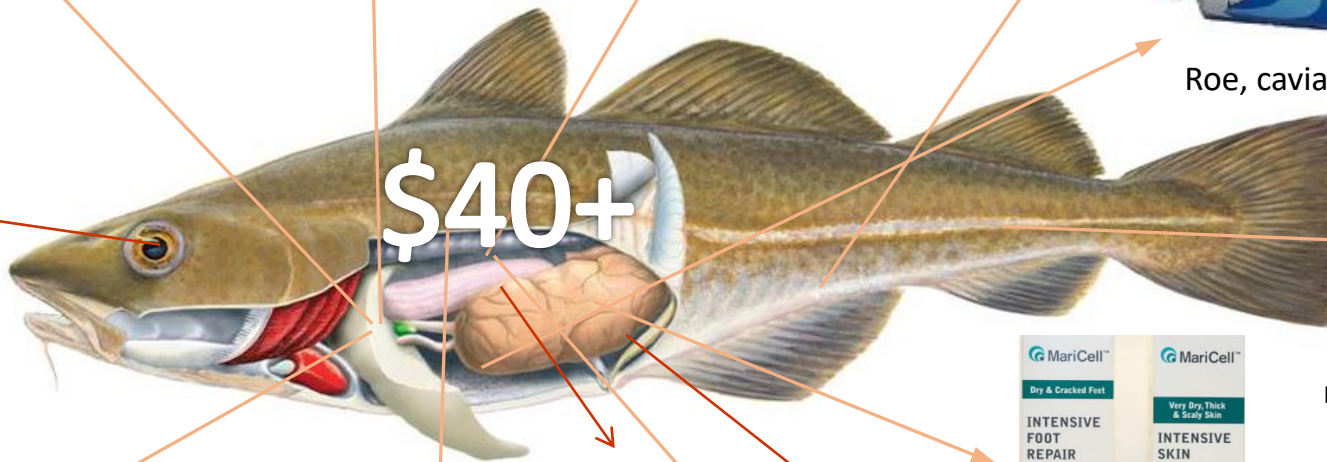
Roe, caviar and spreads



\$15



Dried heads



\$40+



Pharmaceutical tissue and nerve-regeneration products

Fish meal and oil



Enzymes from the gut used for cosmetics, hygiene & pharmaceutical products



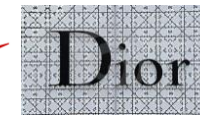
Beauty collagens (anti-aging products)



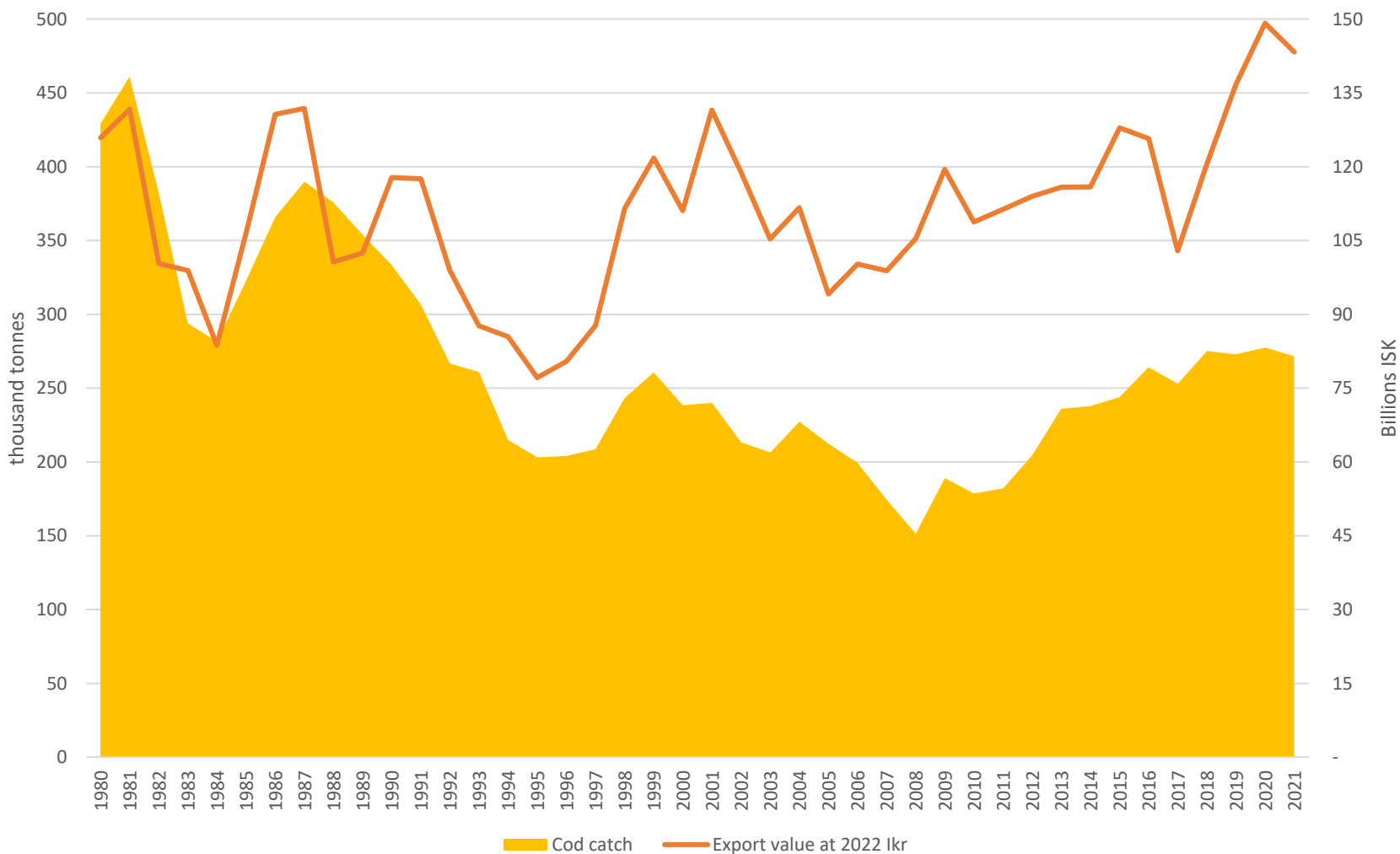
Gelatin pharmaceutical capsules



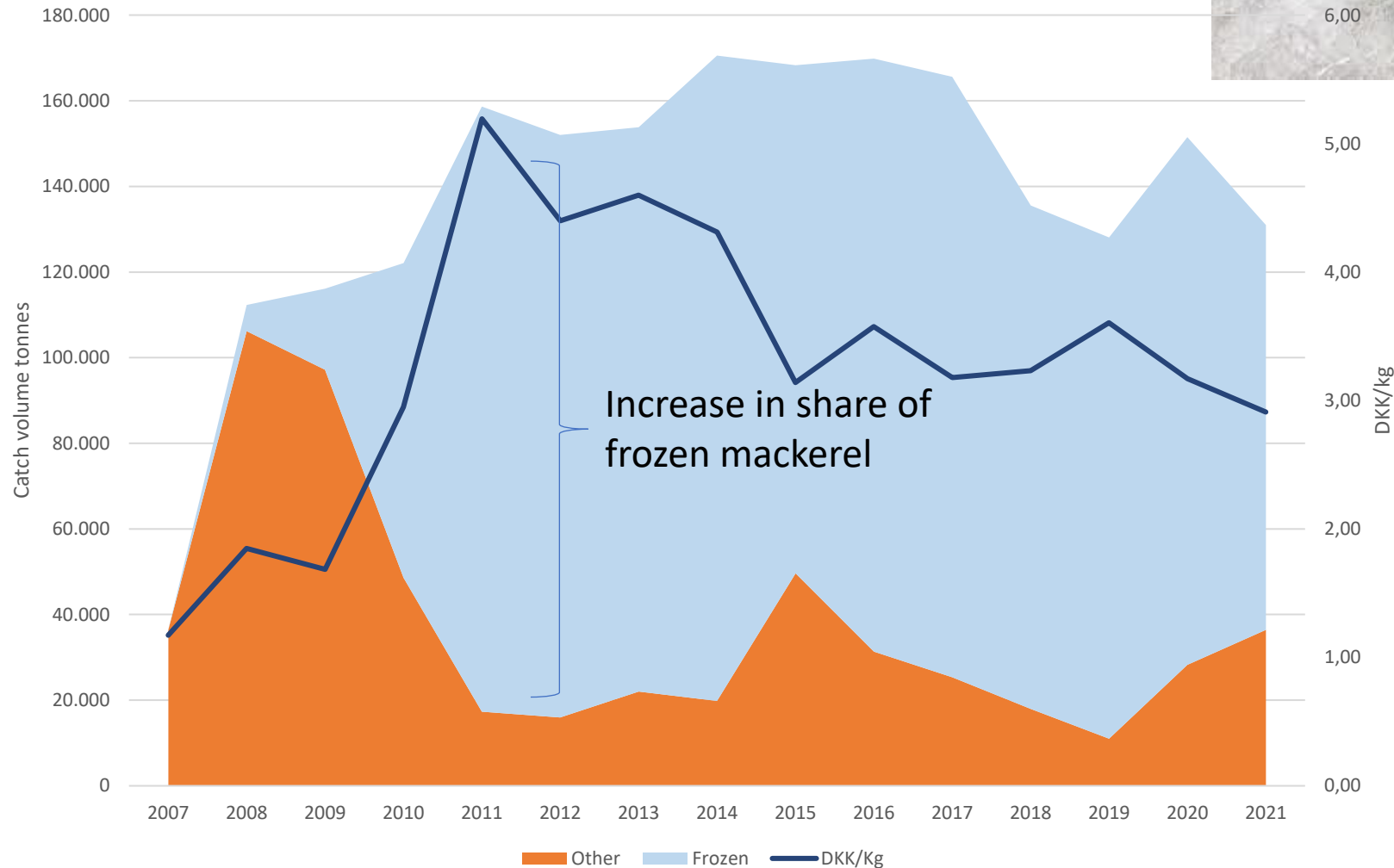
Hand & foot creams for preventing and treating diabetic ulcers



Total cod catch, landed value and export value of cod products 1993-2021 (constant prices 2022)

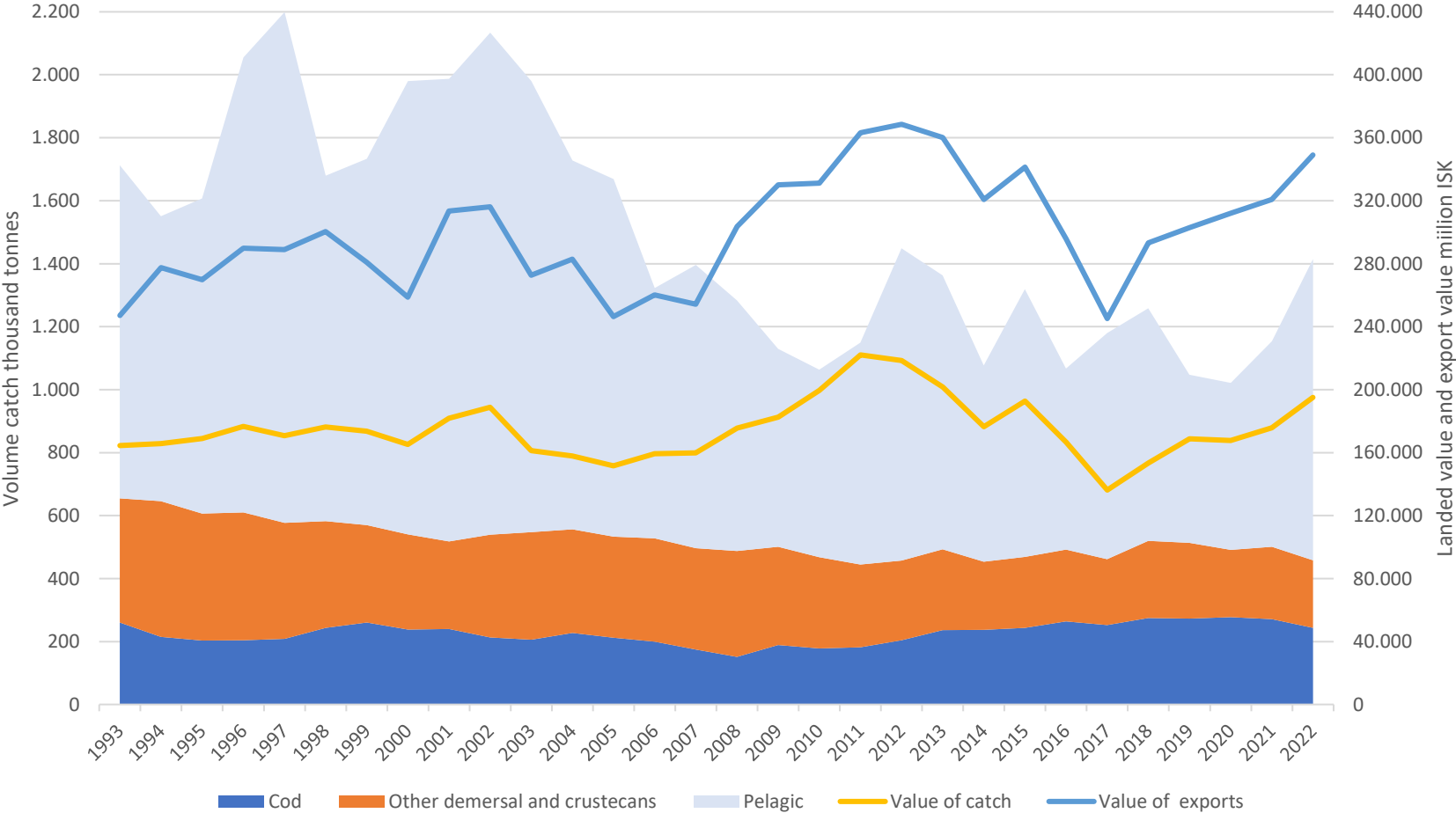


Example - mackerel



Research on
how lean
mackerel can be
frozen
Successfully,
doubles export
value

Total fish catch, landed value and export value of fish products 1993-2022 (constant prices 2022)



The call for Taxing the Fishery

- When vessel quotas were introduced in 1970s and 1980s; no serious suggestion that the industry should be taxed (zero or negative profits)
- Proposals on taxing and auctions arise in the 1990s; increased efficiency and profits
- Industry pays for increased efficiency through fees (Development fund) but mostly by buying others out (quota)
- Resource Committee 2000; no consensus but results in fishing tax that starts in 2004
- Government (2009-2013) increases tax significantly; based on bad economics
- Government (2013-2016); minor steps to lower tax

Evolution of taxing the fishery

- Fishing tax first used in 2004-2005 fishing year.
- In 2004–2008 the fishing fee based on cod-equivalent kilo. ISK 1,99 in 2004, ISK 1,53 in 2005, ISK 0,91 in 2006, ISK 1,45 in 2007 and ISK 0,71 in 2008.
- No fishing fees paid on cod catches in 2008.
- In 2009–2011 the fishing fee is increased considerably. From ISK 3,47 per cod-equivalent kilo in 2009, to ISK 6,44 in 2010 and ISK 9,46 in 2011.
- 2012 The special fishing fee is introduced. A fishing fee committee is established. Special fishing fee is set at ISK 27,5 and ISK 23,20 per cod-equivalent kilo for pelagic species and demersal species, respectively.

Evolution of taxing the fishery

- Complex rules are introduced which exempt heavily indebted companies from the special fishing fee. Smaller firms are also shielded from this fee; that is, no special fishing fee on first 30 cod eq. tonnes and half for next 70. All firms pay the regular fishing fee of 9,50 ISK per cod-equivalent kilo.
- The fishing fee committee is unable to set the fishing fee in 2013 in accordance with the 2012 law. The base is changed, that is, calculated on the special cod-equivalent coefficient.
- The special fishing fee for pelagic is ISK 27,50 and demersal species is ISK 7,38 per special cod- eq. kilo. Conventional fishing fee remains the same at ISK 9,50. Indebted and small companies are still shielded from the special fishing fee.

Evolution of taxing the fishery

- In 2014 the special fishing fee for pelagic and demersal species is ISK 38,25 and ISK 7,38 per special cod-equivalent kilo, respectively. The regular fishing fee remains at ISK 9,50. Indebted and small companies are still shielded from the special fishing fee.
- In 2015 the base for the fishing fee is changed. A new coefficient named the 'profit coefficient' (afkomustuðull) based on the gross margin of fishing of individual species.
- New rules that shield smaller companies are set when the special fishing fee is reduced by ISK 250.000. Rules which reduce the fishing fee paid by indebted companies continue to apply.

Evolution of taxing the fishery

- Law changed in 2013, 2014, 2015, 2017, and 2018. The changes always had to do with the calculation (or non-calculation) of the tax or issuing new tax per kg of species.
- And then there was the change in 2015 of collecting the tax after landing (the following month) instead of at the beginning of the fishing year (installments)
- In the period 2012-2017 there were at least 4 different approaches used to calculate the tax.

Evolution of taxing the fishery

- New law in 2018, then changed in 2019, and again in 2022 (which had to do with calculation)
- New way to calculate the tax (33% of tax base +/- 10% revenue adjustment)
- Tax for calendar year, not fishing year. Use tax returns (2018 as base for tax in 2020)
- Basically: Tax base = (catch value – variable cost – fixed costs)

Evolution of taxing the fishery

- Fishing tax 2012 based on the false premise of „resource rent“ and that this can somehow be separated and calculated
- Even if it were so (both false premises), the calculation would be out of date; based on the 2 year old data to be applied 1 year into the future (tax in fishing year 2013/14 would be based on 2011).
- The idea of basing the tax on resource rent has been abandoned, if indeed it was ever really applied.
- Hard or impossible for individual firms to form expectations on the amount of future tax

Nafn		Kennitala
Höfnun	Postnúmer	Svæðisnúmer

	Skip/bátur	Skip/bátur	Skip/bátur	
	Nafn	Nafn	Nafn	Samtals
	Skipaskrárnúmer	Skipaskrárnúmer	Skipaskrárnúmer	
Tekjur				
Aflaverðmæti				
Aðrar tekjur				
Tekjur samtals				

Gjöld				
Laun og launatengd gjöld				
2.1 Laun af afleiðum				
2.2 Önnur laun áhættar				
Launatengd gjöld v. 2.1 og 2.2				
Laun og launatengd gjöld samtals				
Annar kostnaður				
Skattaleg fyrning skips og skópsbúnaðar á árinu				
Orkukostnaður (Eidsneyti)				
Væðingarkostnaður				
Veiðarfararkostnaður				
Frystikostnaður				
Umbúðakostnaður				
Löndunarkostnaður og hatnargjöld				
Plutningskostnaður				
Þyggingar				
Sölukostnaður				
Stjórnunarkostnaður				
Önnur rekstrargjöld				
Samtals annar kostnaður				
Gjöld samtals				

Mismunur (tekjur – gjöld)				
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Tax form to detail revenue and costs of catch

- Use tax returns to shorten the time between the base year for calculating the tax amount (for each species) and the year it applies to.
- Each firm has to fill in for each and every vessel they own.
- Tax base = catch revenue – variable costs – fixed costs

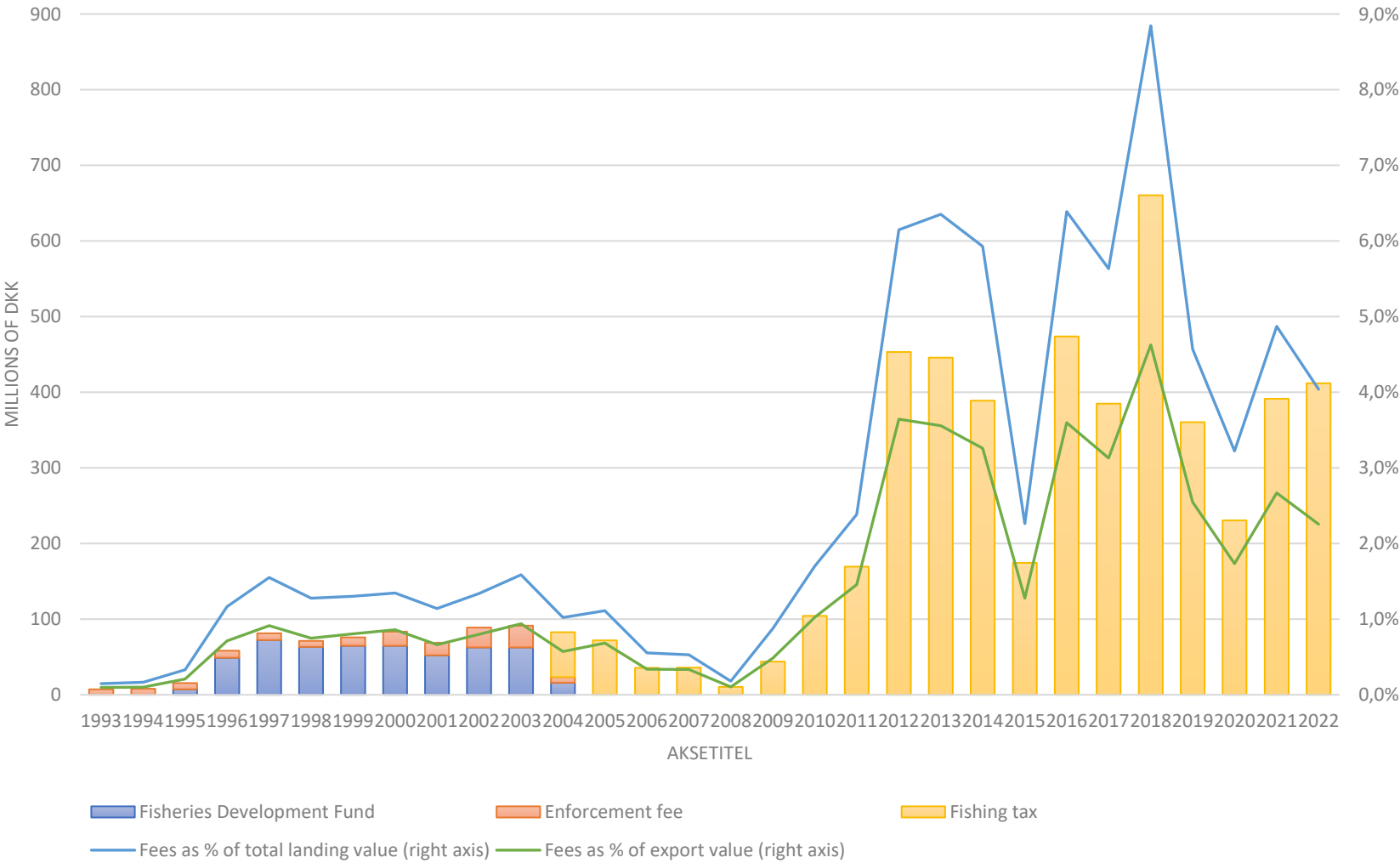
Calculating the tax base

	Totals	% of total expenses
Catch revenue	130.414.351.611	
Other income	3.159.556.959	
Total revenue	133.573.908.570	
Wages/crew share	38.504.910.045	31,94%
Other wages/salary	2.151.837.797	1,78%
Payroll taxes, pension contribution, etc.	8.631.836.232	7,16%
Total wages	49.288.584.074	40,88%
Depreciation vessel and equipment	10.162.334.655	8,43%
Energy cost	13.701.349.937	11,37%
Maintainance	9.461.526.399	7,85%
Fishing gear	5.516.867.321	4,58%
Cooling/freezing cost	142.297.440	0,12%
Packaging cost	1.162.113.135	0,96%
Landing/unloading cost	4.578.364.624	3,80%
Transport cost	1.101.622.829	0,91%
Insurance	1.724.682.255	1,43%
Sales cost	1.359.875.906	1,13%
Management cost	4.697.625.605	3,90%
Other operation expenses	17.657.964.011	14,65%
Total other expenses	71.266.624.117	59,12%
Total expenses	120.555.208.191	100%
Difference between revenue and expenses	13.018.700.379	

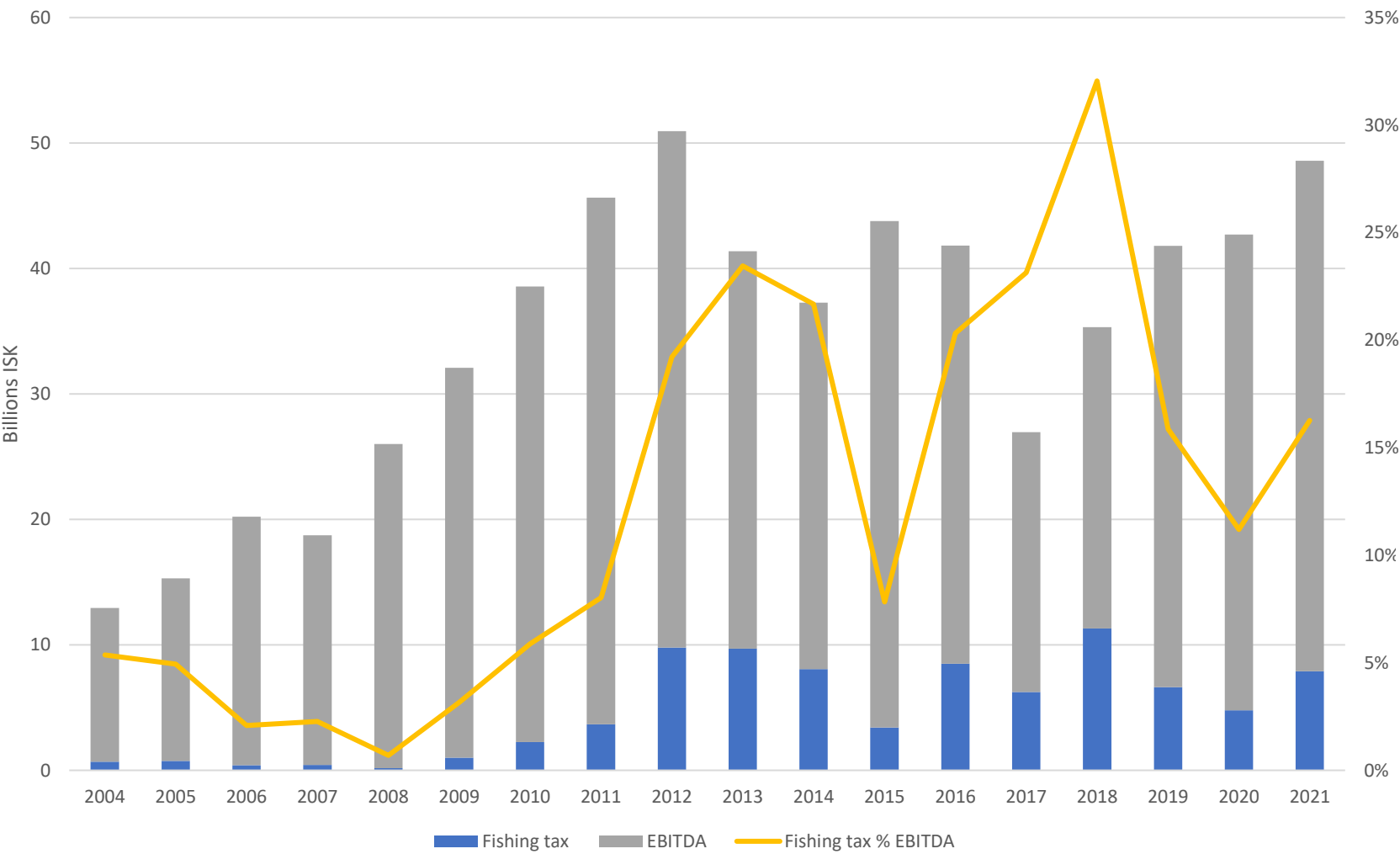
The tax base is 16,3 billion ISK and not the 13 billion ISK in the calculated conclusion in the table here. To find the 16,3 billion we have to:

1. Ignor the „other income“ and the „other operation expenses“.
2. Notice that interest expenses are not in the table, but should equal the „depreciation“ in calculationg the base.
3. Catch revenue for processor vessels should be discounted by 10%, and pelagic vessels increased by 10%.
4. Revenue for catch in distance waters (Barents sea) should not be included in the tax base (as there is no fishing tax for those fisheries).

Fishing fees and taxes in DKK and as % of total landings value and export value 1993-2022



EBITDA in billion ISK (stacked columns) and Tax %EBITDA (before Fishing tax)

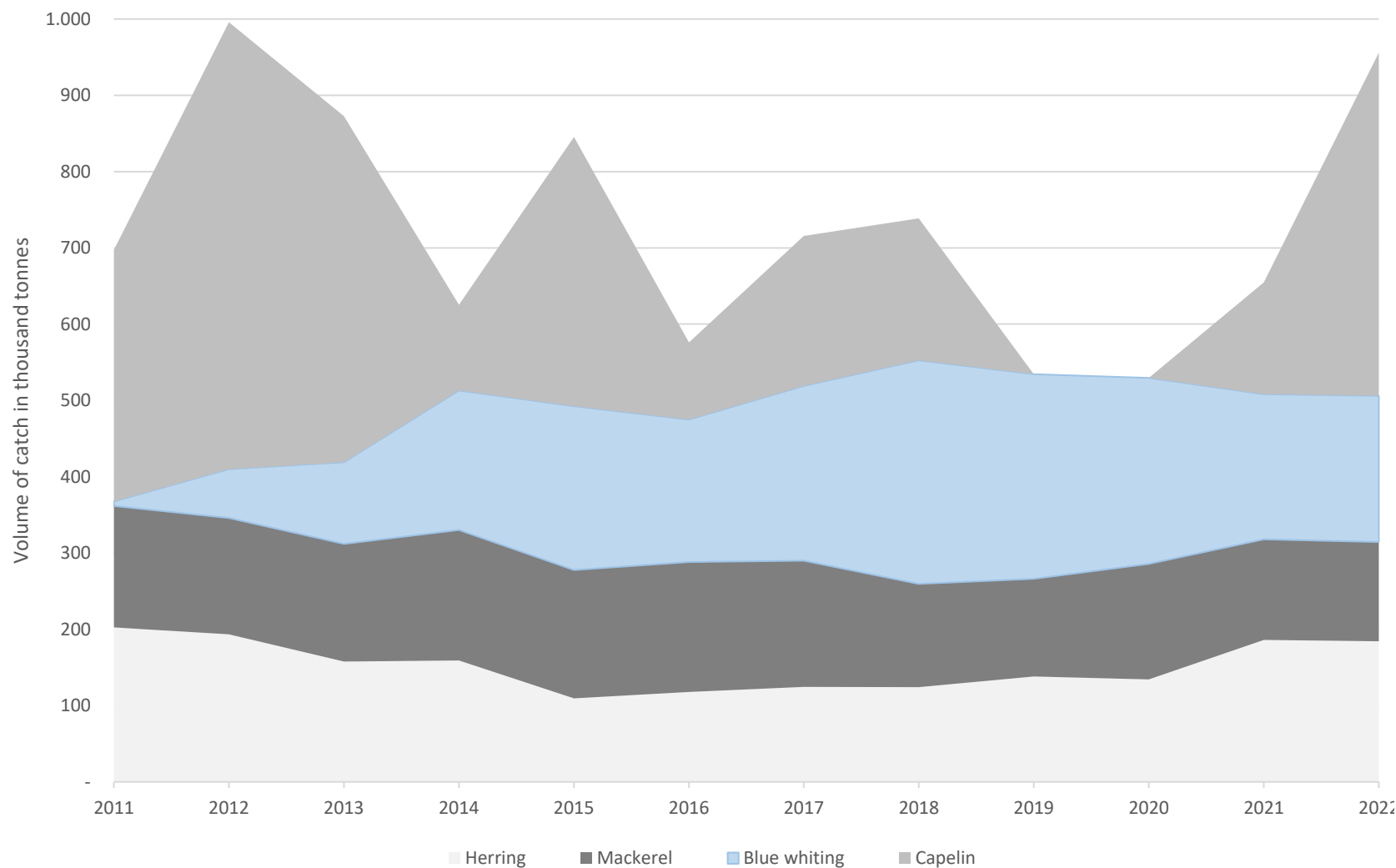


Fishing tax by species 2011-2023 in DKK

	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2017/2018	2019	2020	2021	2022	2023
Demersal													
Cod	0,44	1,51	0,78	0,64	0,71	0,62	1,42	1,27	0,75	0,51	0,82	0,93	0,93
Haddock	0,39	1,39	0,91	0,88	0,94	0,64	1,62	1,47	0,88	0,72	0,81	0,89	0,96
Saithe	0,28	1,11	0,51	0,42	0,46	0,40	0,72	0,77	0,42	0,16	0,50	0,46	0,37
Ocean Perch	0,00	1,24	0,61	0,49	0,56	0,42	0,72	0,77	0,44	0,18	0,59	0,50	0,46
Plaice	0,00	1,12	0,55	0,49	0,60	0,46	0,92	1,00	0,56	0,80	1,24	1,53	1,59
Pelagic													
Herring	0,06	0,39	0,46	0,39	0,40	0,14	0,20	0,19	0,12	0,08	0,13	0,25	0,16
Capelin	0,04	0,14	0,29	0,19	0,18	0,10	0,11	0,11	0,12	0,02	0,00	0,00	0,27
Blue whiting	0,06	0,17	0,22	0,11	0,08	0,06	0,08	0,07	0,03	0,00	0,05	0,11	0,12
Mackerel	0,10	0,62	0,50	0,30	0,43	0,15	0,20	0,20	0,19	0,08	0,18	0,28	0,17

This is just a sample. There are currently txprices for 29 species.

Pelagic fisheries, catch 2011-2022



Pelagic species are important but even more variable catches.

A Regressive Fishing Tax for Pelagics

- As the pelagic fisheries are deemed more profitable than other fisheries, there is a special rule to adjust the value of the pelagic catch upwards by 10%. Only then is the tax calculated.
- This results in a regressive tax, the rate declines with a higher profit margin (and rises with a lower profit margin).

Profit margin	0%	10%	20%	30%
Revenue	100	100	100	100
Cost	-100	-90	-80	-70
Tax base	0	10	20	30
Revenue x 10%	110	110	110	110
Tax base with surcharge	10	20	30	40
Fishing tax 33%	3,3	6,6	9,9	13,2
Fishing tax as % tax base	∞	66%	50%	44%

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!

Fishing fees and taxes in DKK and as % of total landings value 1993-2022

