



UNIVERSITY OF THE FAROE ISLANDS

“User Rights in Pelagic Fishery and Fish-Farming on the Faroe Islands: The Issue of Rent Capture”

“Advantages and Disadvantages of Strong User Rights in Fisheries”, Copenhagen, 5th
and 6th November 2021

Overview

- FO Fish-farming User Rights developments over time
 - From No or Weak user rights to Strong User Rights (Operative challenges)
 - Special Resource Tax since 2014
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- FO – Fishery User Rights developments over time with special focus on Pelagic fleet
 - Auctions 2016-2019
 - Ongoing Resource Fee payments since 2014
 - From “Grandfathering” to Auctions and back to “Grandfathering” again (till 2033)

Pioneering period – No Government Regulations – Weak User right

Period	Industry	Government Regulations	Capital Structure	Resource Fees
1950's	Trout Farming on Land	"Commercial Proof required first"	Equity	
1968	Trout Farming at Sea Júst í Túni (retired F/V skipper)	"Commercial Proof required first"	Equity	
1968-1990s	Wild Salmon Fishing	1981 TAC 1200T 40 FV (30T/FV)	Equity/Debt	Dkr1/kg (1980) Money deposited in Salmon fish-farming Fund
1970	Fiskaaling P/F The Aquaculture Research station of the Faroese Trout Farming on Land	1973 100% Government ownership	1970 50/50 FO Government & Júst í Túni (retired F/V skipper) Right of First Refusal 1973 JIT exits	
1977	200NM Fishing Zone extension, FO fishing possibilities were significantly curbed - Political Authorities start to show interest in Aquaculture			

Pioneering - No User Rights

Period	Industry	Government Regulations	Capital Structure	Resource Fees
1978 & 1979	First Salmon Farming at sea attempt, 7000 smolts 31gr at sea till 100gr (FCR 1,4), May 1979 storm - all salmon escaped			
1979 & 1980	First 6 Salmon-Farming licenses issued (3yrs) 1980 The Faroe Fish Farming Association est.	Permit Committee established 1981 The committed Advisory capacity No Legal Framework for the Industry	10% Equity Industrialization Fund Development Fund	
1982 1984	5 Salmon-Farming Licenses issued (11 all together) 30 Fish-farming licenses all together	No Legal Framework for the Industry	15-25% Equity, 80-100T capped production in order to minimize eventual lossess by Ind. & Dev. Funds	
1984	Left-wing public policy dictated salmon-farming development, i) farms to remain small & subsidises farmers income, ii) Ind. & Dev. Funds only to issue small and short-term loans, iii) FV owners, tradesmen and public employees not be first to get license, iv) no vertical integration allowed and, v) salmon-farming used as instrument to help rural-development			
1985	Aquaculture Counsel established, Permit Committee abolished 197 salmon-farming license applications 73 hatchery license applications			

WEAK USER RIGHTS

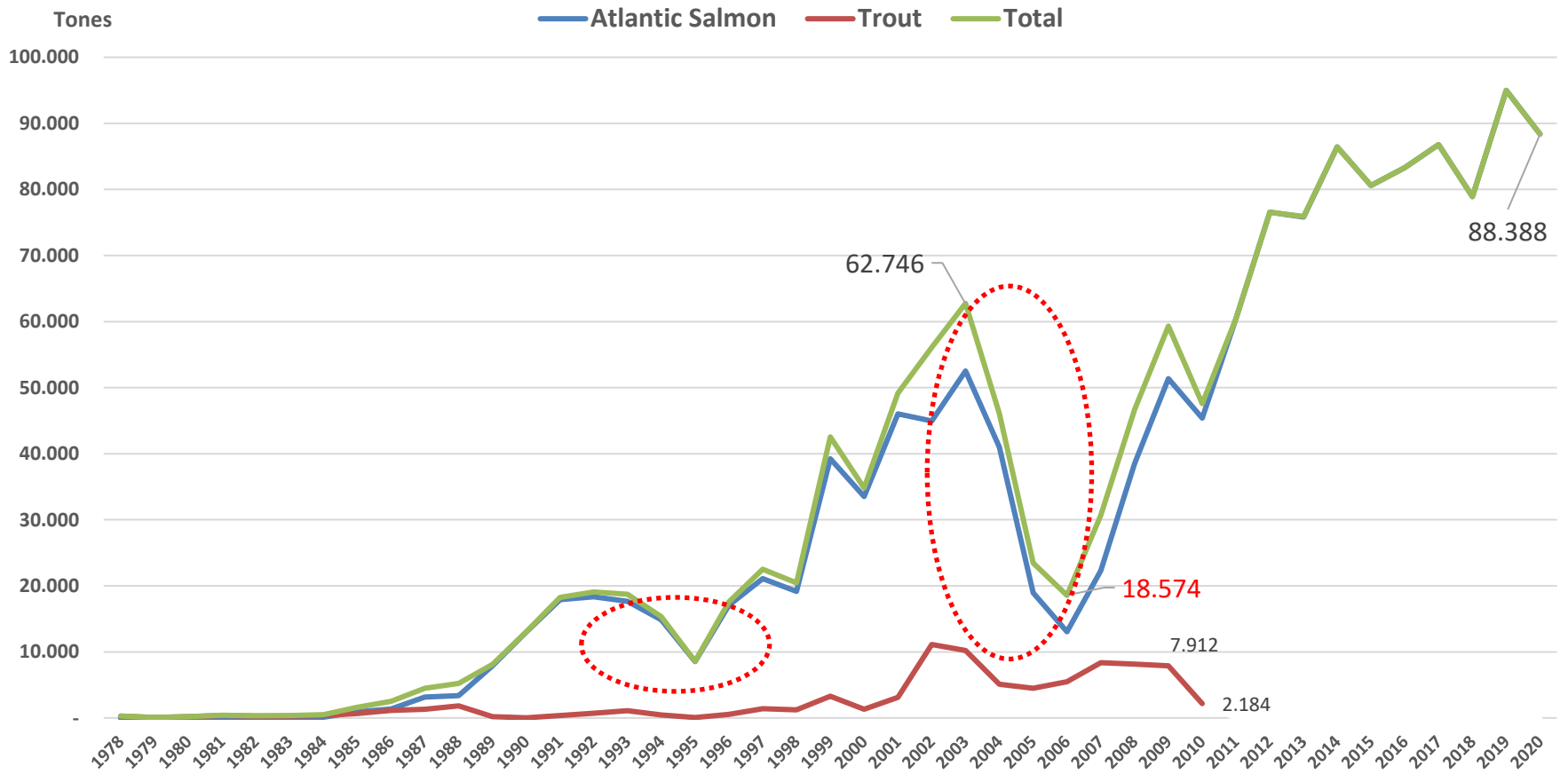
Crisis, Stringent Government Regulations, FDI & Consolidations & Acquisition abroad – Strong User Rights

Period	Industry	Government Regulations	Capital Structure	Resource Fees
1988		First Fish-farming Legislation License Durations 10yrs at sea, 12yrs Hatcheries		
1988	55 Salmon-farming licenses issued all together		Equity/Debt (FO Banks & Foreign financing)	
1989	63 Salmon-farming & 19 hatcheries licenses issued all together		Equity/Debt (FO Banks & Foreign financing)	
1990	71 Fish-farming companies all together		Equity/Debt (FO Banks & Foreign financing)	
1989-1992	Too many players, no proper environmental considerations - minor fish-farms put pressure on narrow fjords First Crisis - Salmon diseases caused financial misfortunes for the industry & both FO State and banks become insolvent			
1990's	Survival of the fittest, 1994 Foreign investment allowed 100% , however following Pan Fish acquisitions in 1997, FO Government allowed FDI 33% Co-operation between the Banks and Public authorities - number of producers decreased to 20			
2000's	Second crisis (ISA) wiped out all industry equity 2003 Vertical integration took place Larger and Fewer but more efficient entities	A set of laws since 2003 - more stringent Environmental regulations Cap on ownership, one company allowed to acquire up to 50% of total FO fish-farming industry	Equity/Debt (FO Banks & Foreign financing) Equity/Debt (FO Banks & Foreign financing) Equity/Debt (FO Banks & Foreign financing)	

LEGALISED USER RIGHTS

Period	Industry	Government Regulations	Capital Structure	Resource Fees	
2010's	Further Domestic M&A Down to three main actors, Bakkafrost, Mowi FO & Luna		Equity/Debt Retained Earnings (High levels of equity) Limited FO Banks financing (Basel regulations) Financial Markets (Bakkafrost & Mowi)		
May 2014	Bakkafrost, Mowi FO & Luna	<p>FARMING AREA MOWI LUNA BAKKAFROST</p>		Revenue Tax (0,5% x Monthly Avg. market price/kg) Special Resource Tax (4,5% of taxable income)	
Dec 2014	Bakkafrost, Mowi FO & Luna			Revenue Tax thresholds 0,5% (< 23 Dkr/kg), 2,5% (23-27 Dkr/kg) 4,5% (>27 Dkr/kg) Special Resource Tax not applicable	
Dec 2018	Bakkafrost, Mowi FO & Luna			Revenue Tax thresholds 0,5% (< 32 Dkr/kg), 2,5% (32-36 Dkr/kg) 4,5% (>36 Dkr/kg) Special Resource Tax not applicable	
2018	Bakkafrost, Mowi FO & Luna		FDI 20%, exception Mowi Faroese Mowi 3 seawater license & smolt license Consequently, Mowi cannot expand its business in the sea, but can apply for licenses on land		
2019/2020	Bakkafrost Acquires the Scottish Salmon Company			Capital Increase & Refinancing of Bank facilities EUR 500m - International Consortium of Banks	

STRONG USER RIGHTS (RESOURCE TAX)



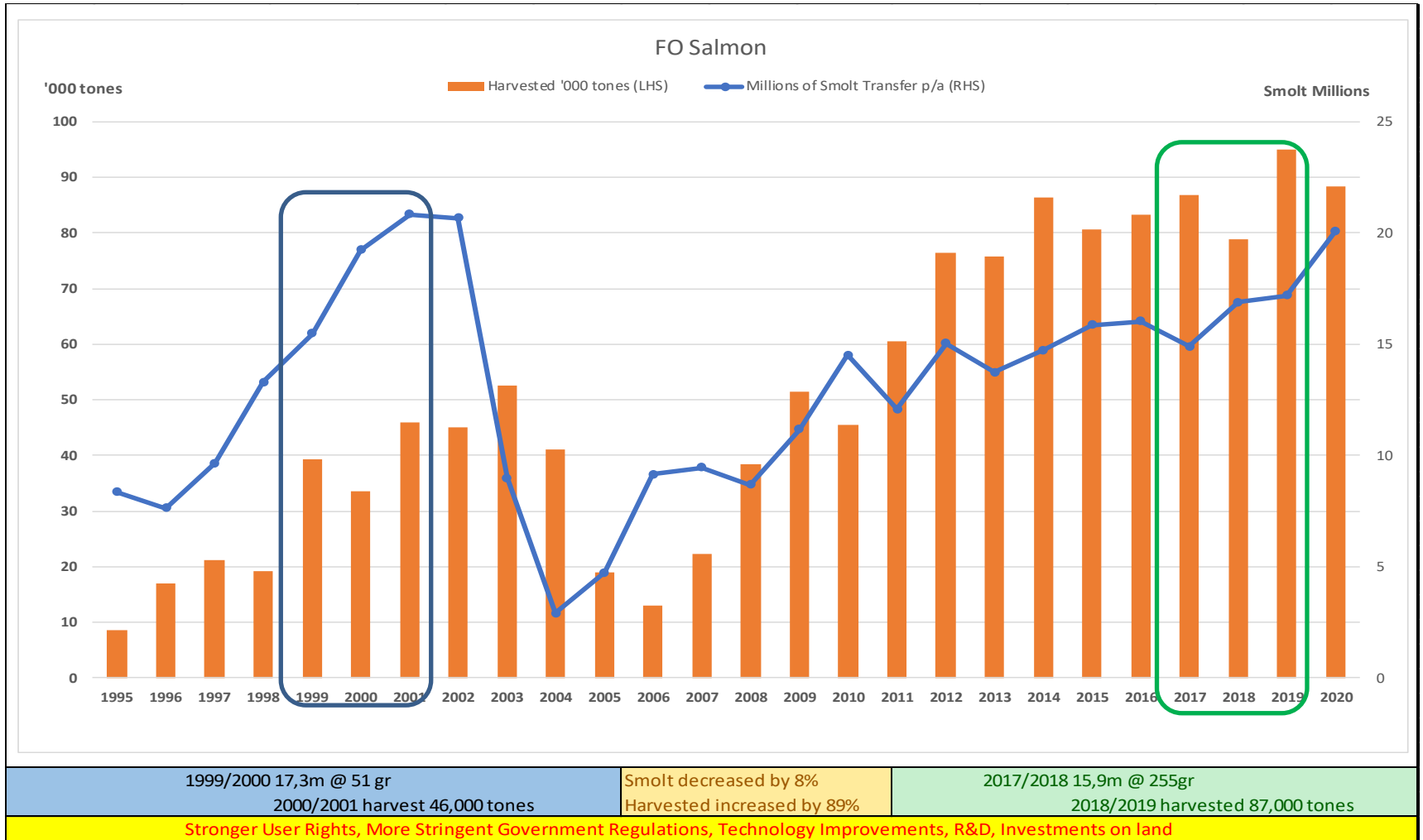
<p>1950-1977</p> <p>Pioneering Period</p> <p>No Gov. Regulations</p> <p>No or Weak User Rights (3yrs)</p>	<p>1978-1987</p> <p>Salmon Fever - Extensive License issuing</p> <p>Fish farm or hatchery in every second village</p> <p>No Govt. Regulations - Weak User rights (5yrs)</p>	<p>1988 - 1999</p> <p>First Crisis - Disease & Bankruptcies</p> <p>followed by First Govt. Regulation & Banking support</p> <p>Emerging Stronger User Rights (10 & 12yrs Duration)</p>
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<p>2000's</p> <p>Second Crisis - FDI & more stringent regulations</p> <p>Cap on ownership, M&A Vertical integration</p> <p>User Rights strenghten by solid Economic performance</p>

<p>2010-present</p> <p>Down to three Large but Efficient Entities</p> <p>Strong User Rights - Govt. introduced RF</p> <p>Cap on User Rights - Expansion Abroad</p>
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Sources: FAO, Various Historical Sources, Journals, Helgi Jacobsen "Ringar á Sjónum", Havbúnaðarfelagið, Havstova, Hagstova

Strong(er) User Rights – Long-term Industry developments

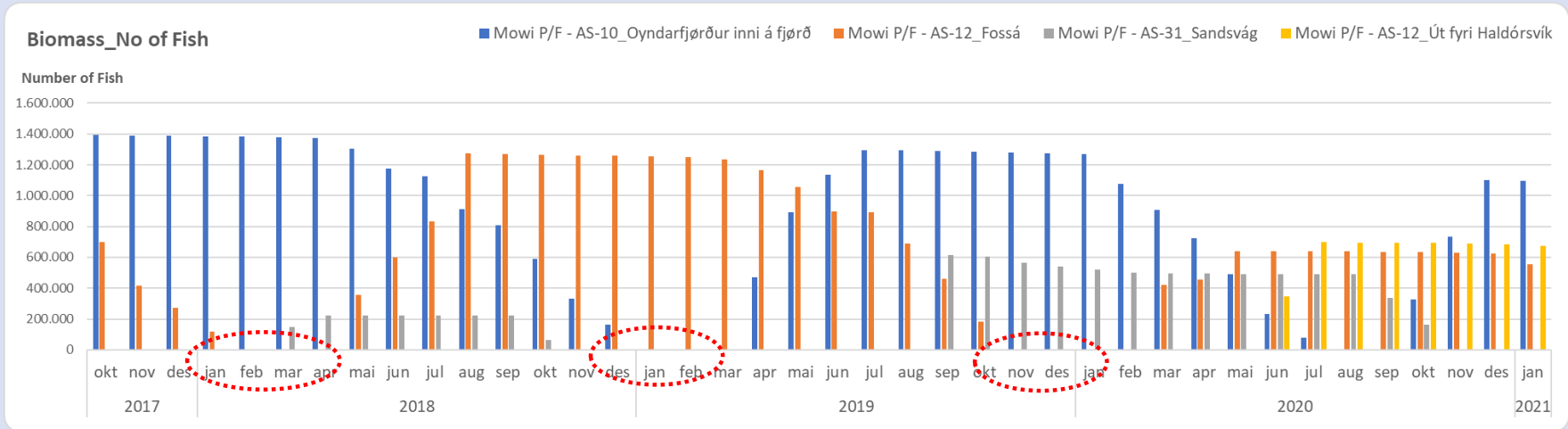
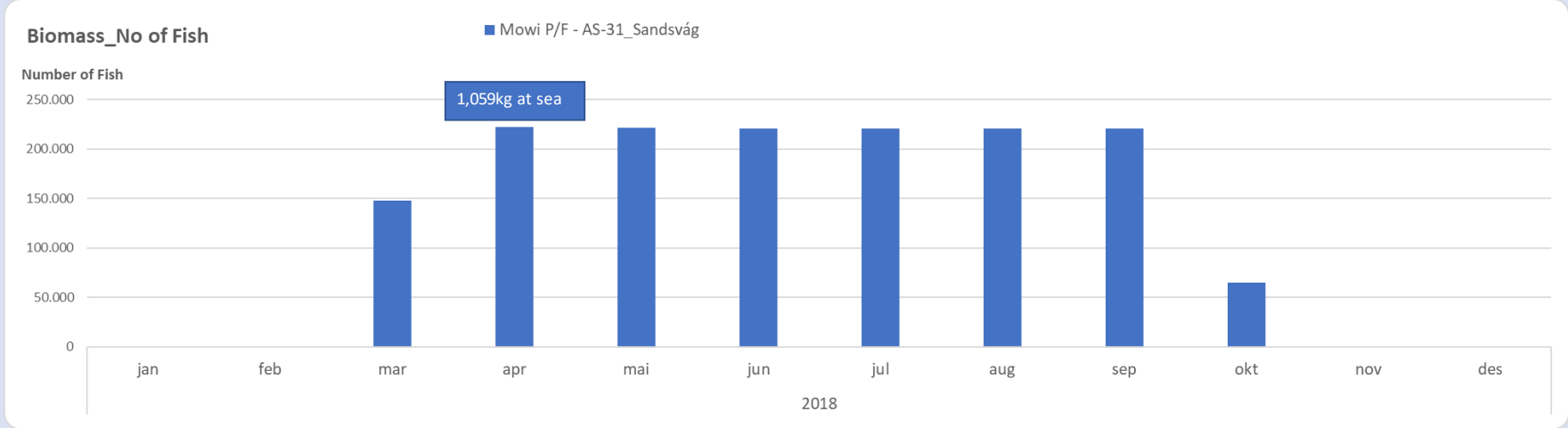


2/3 Sea 1/3 Land

1/3 Land
2/3 Sea

Strong User Rights **BUT** Operative Disadvantage(s)

Rotations & Employment issues – Investments risks (Optimal number of Licenses at Sea?)
 Mowi & Luna 500gr at the present, Bakkafrost 500gr expected 2026



Strong User Rights & Solid Economic Performance = Resource Fee charges

Løgtingsløg No 64 from 23rd May 2014

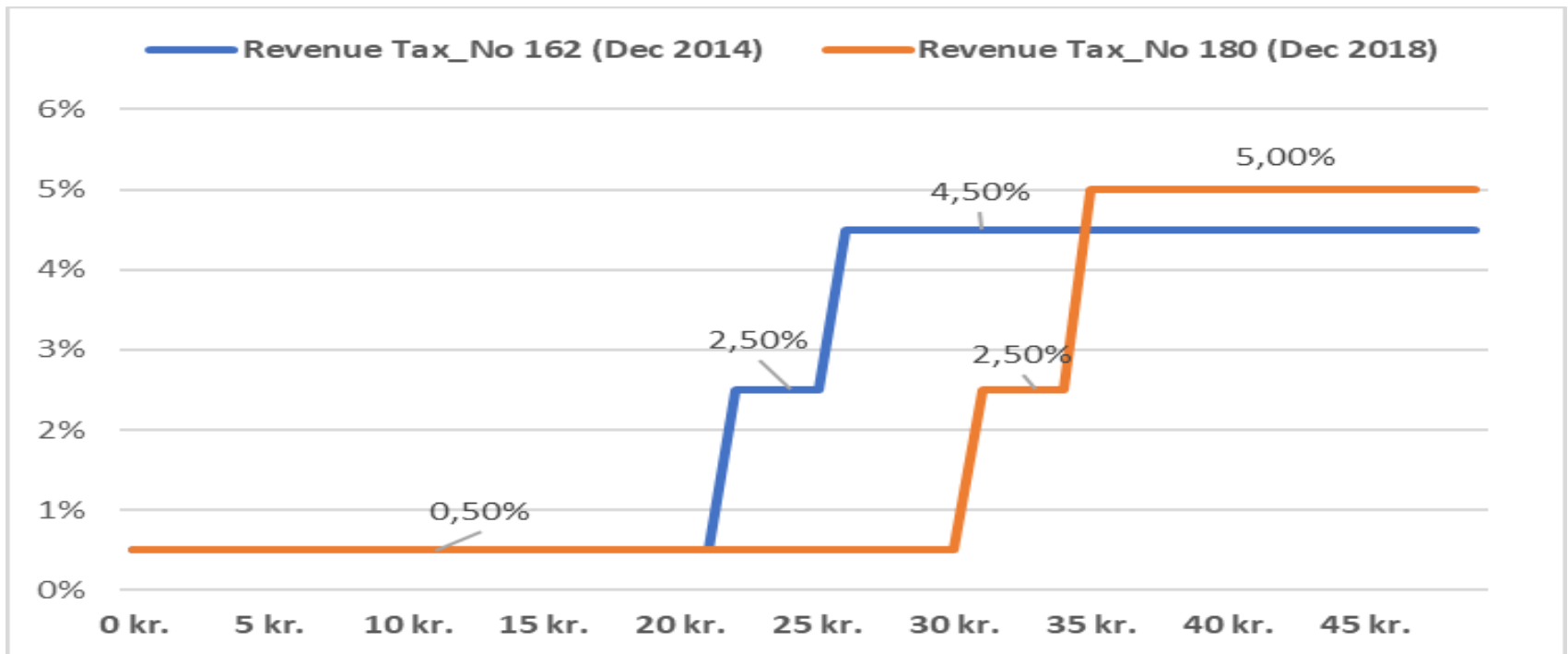
1	Revenue Tax (Tøkugjald)	(Monthly average market price x fish weight)*0,5%
2	Special Resource Tax (Loyvisskattur)	4,5% of taxable income

Løgtingsløg No 162 from 24th Dec 2015

1	Revenue Tax (Tøkugjald)	4,5% (>27kr/kg), 2,5% (27kr/kg-23kr/kg), 0,5% (<23kr/kg)
2	Special Resource Tax (Loyvisskattur)	NA

Løgtingsløg No 180 from 23th Dec 2018

1	Revenue Tax (Tøkugjald)	5% (>36kr/kg), 2,5% (32kr/kg-36kr/kg), 0,5% (<32kr/kg)
2	Special Resource Tax (Loyvisskattur)	NA

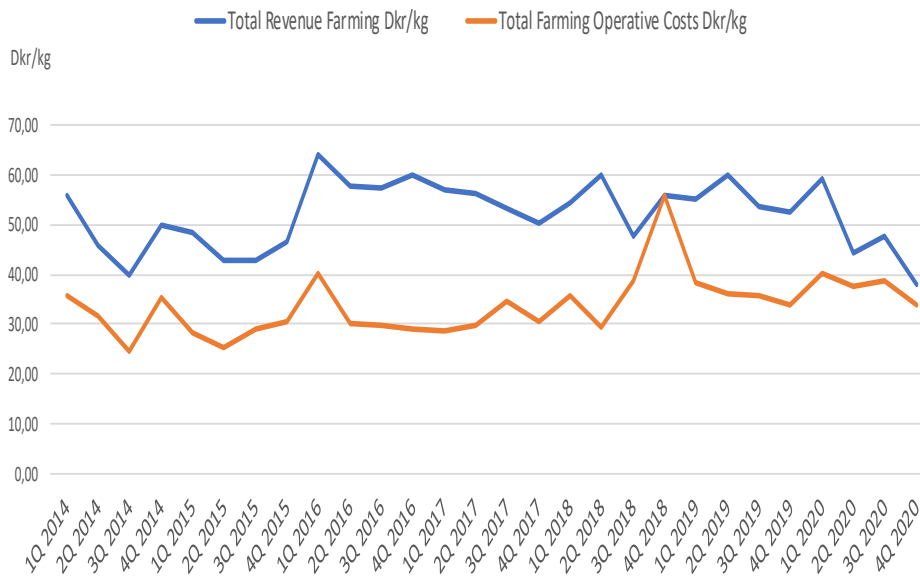


Revenue Tax – Bakkafrost

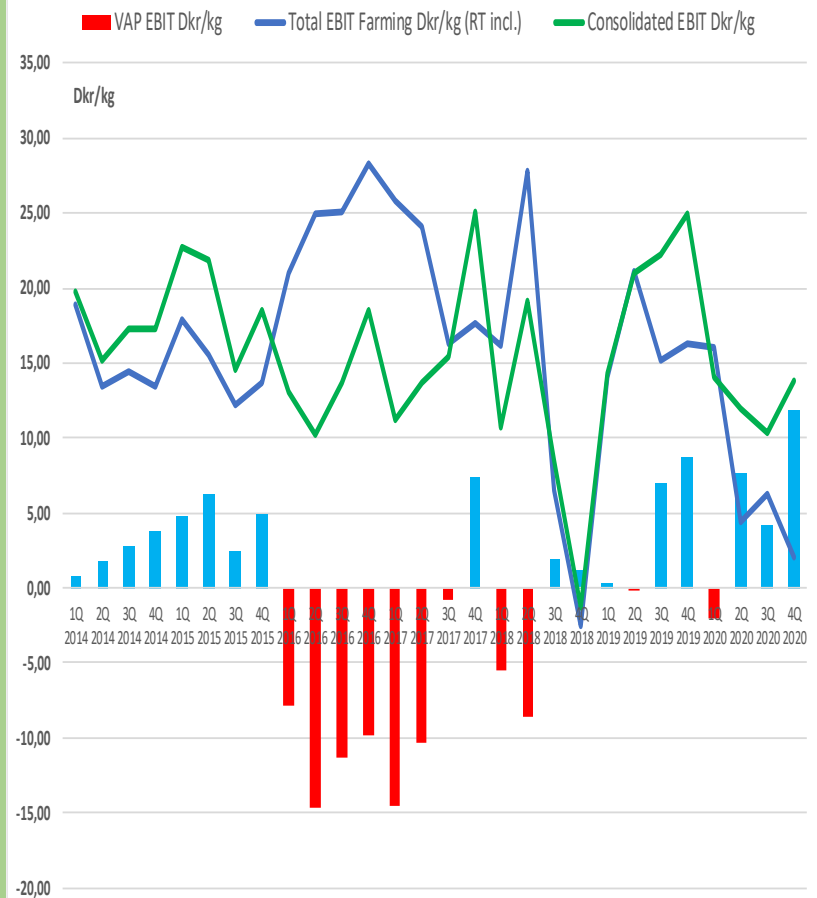
Revenue Tax applied to the Farming segment only, VAP (natural hedge) excluded

Bakkafrost Farming - Average Values	2014	2015	2016	2017	2018	2019	2020	2014-2020	2014-2020
Total Revenue Dkr/kg	47,93	45,21	59,82	54,33	54,47	55,39	47,27	52,06	100%
Total Operative Costs Dkr/kg	31,93	28,37	32,32	30,93	40,01	36,00	37,71	33,89	65%
Revenue Tax_FO Dkr/kg	0,91	2,03	2,69	2,44	2,45	2,77	2,36	2,24	4,3%
Total EBIT Dkr/kg (RT incl.)	15,08	14,81	24,81	20,96	12,01	16,63	7,20	15,93	31%
Total EBIT Dkr/kg (RT excl.)	16,00	16,84	27,50	23,40	14,46	19,40	9,56	18,17	35%

Bakkafrost - Farming



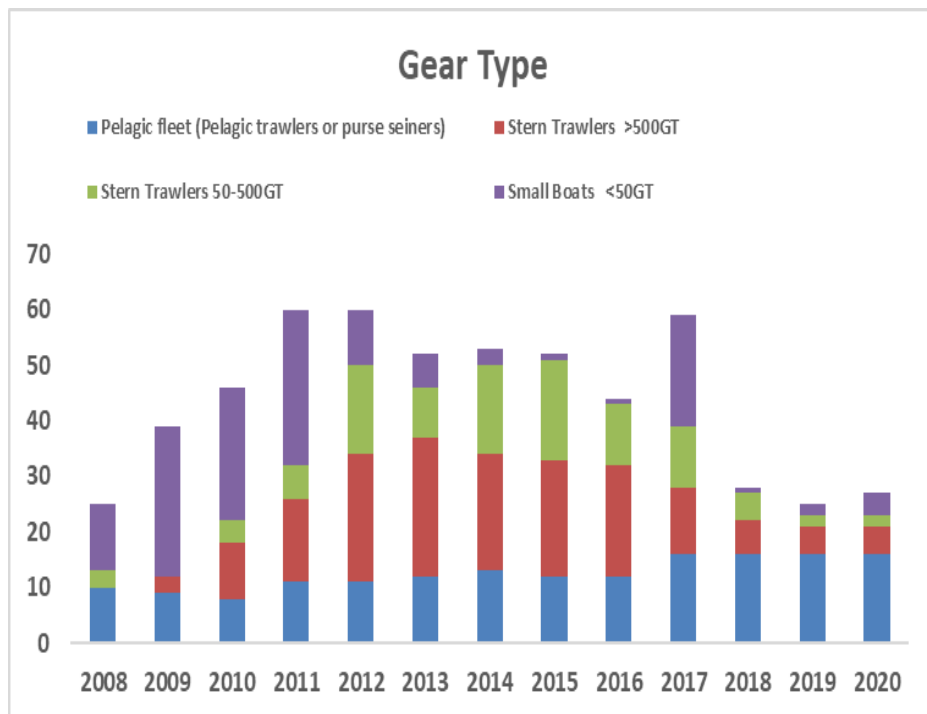
Bakkafrost - Farming & VAP



Fisheries (Pelagic) from “Grandfathering” to Auctions and “Grandfathering” again

Period	Industry	Government Regulations	Resource Fees
Pre - 1977	Predominately distant-waters fishing vessels	Raw-fish Fund (1975)	
1977	Reconfiguration of fleet - emergence of processing (filet) industry on land	Subsidies to industry 5-10% of Government expenses No licensing system	
1987	Growth in total fishing capacity	Licensing scheme introduced Continuing subsidies produced fishing pressure on high valued stocks - Cod and Haddock	
1990	74 deep sea trawlers & 23 processing plants	Raw-fish abolished	
1993	Economic Crisis - Dkr 1,7bn loan from Danish government Vertical Integration - 55 deep sea trawlers & 14 processing plants	ICES recommends closure of all Faroese Fisheries Restructuring the industry - "Structure Committee" established Fleet reduction & adopt ITQ (Icelandic Model) FO Government sets TAC for each fish stock and distributes it among vessels groups	
1994-1996	Cod stock recovery - Industry demands TAC increase	Nr 28 1994 - Fish "Ogn Føroya fólks" - valid til 1st Jan 2018 Fishing Days & TAC replaced ITQ (demersal) Cap on User Rights - 25% Pelagic fishery Pelagic Industry ITQ's increased steadily	
1997-2006	Continuous Pelagic industry consolidations- Large trades of quotas		
2007		Parliament terminated all fishing licenses to take place 1st Jan 2018	
2018	Specific Interest Groups (stern-trawlers & long liners) not suitable to harvest mackerel - provided with Mackerel quotas to be sold to pelagic fleet	Nr 161 2017 - Auction legalised 1yr, 3yr & 8yr license periods Minimum 25% of TAC to be auctioned Cap on User Rights - 35% Pelagic fishery License Holder DO NOT NEED to fish own Quotas	2016-2019 Mackerel, Herring and Blue Whiting Auctioned 2020 Auctions abandoned
2019	Existing Qouta Holders (Pelagic fleet) hostile to Auctions & Quota allocations to newcomers	Nr 152 2019 - Strong User Rights - Licenses valid till 1st Jan 2033 3/4 of Equity must belong to FO resident Cap on User Rights - 25% Pelagic fishery License Holder MUST fish own Quotas	2014-2022 Resource Fee payments for M & H & BW
2021	"GRANDFATHERING" again till 1st Jan 2033		

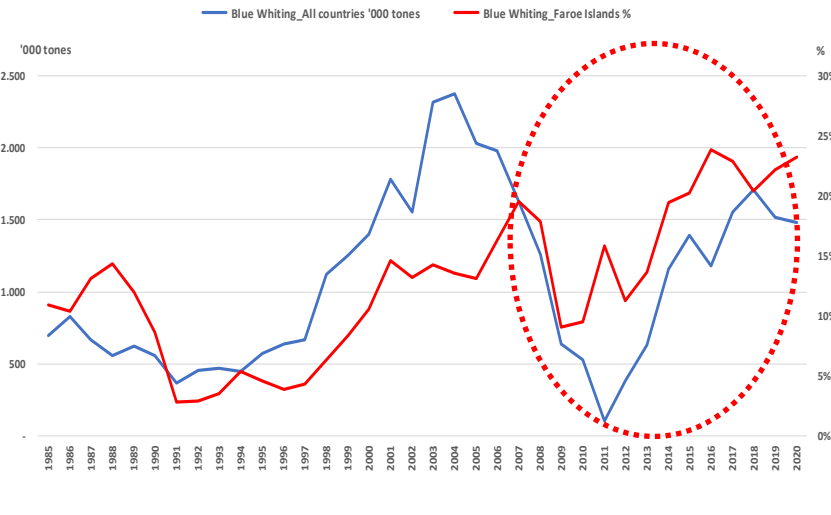
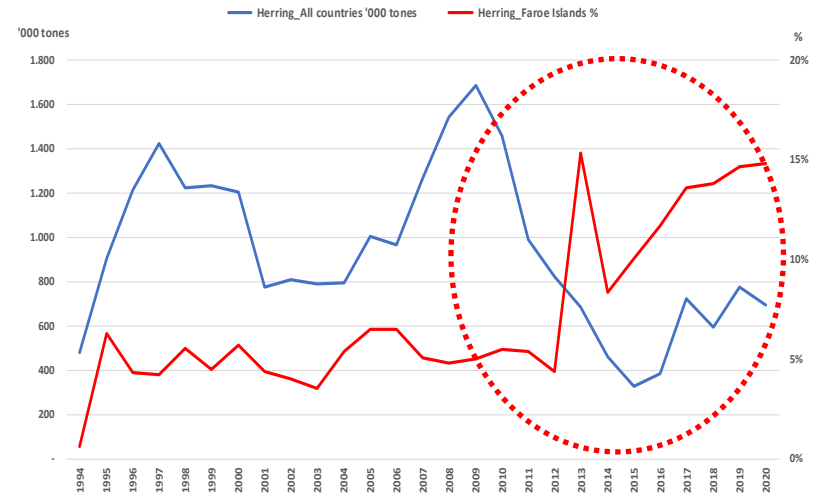
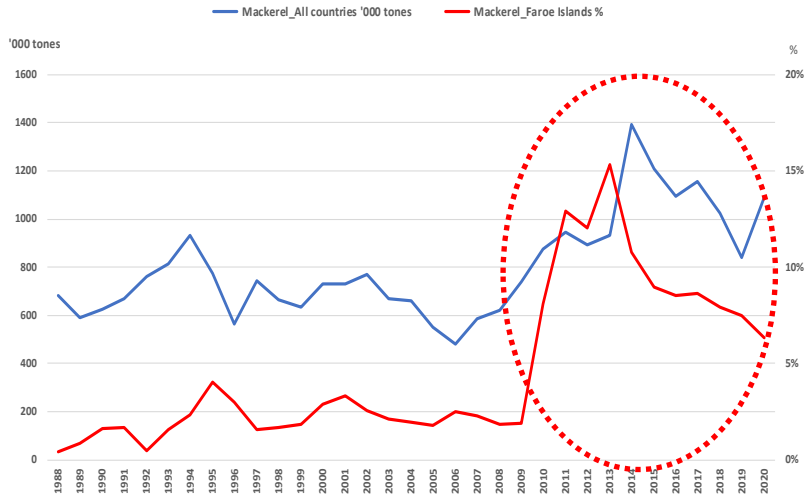
Faroese Catches 2008-2020 - Geographical & Fleet breakdown



'000 Tones	Herring	Mackerel	Blue Whiting
UK EEZ	1,1	164,7	163,2
NO EEZ	203,3	25,8	4,1
FO EEZ	663,3	850,4	1990,8
Rest of NA EEZ	164,0	76,4	464,0
Total	1031,8	1117,3	2622,1

Average 2008-2020 (596 F/V observations)	Ship's Age	Herring kg	Mackerel kg	Blue Whiting kg	Herring Dkr	Mackerel Dkr	Blue Whiting Dkr	Herring Dkr/kg	Mackerel Dkr/kg	Blue Whiting Dkr/kg
Purse Seiners & Pelagic Trawlers	14,5	96,19%	81,06%	99,90%	97,88%	85,98%	99,92%	100,0	100,0	100,0
Stern Trawlers >500GT	21,5	3,07%	13,77%	0,07%	1,79%	10,08%	0,06%	57,4	69,1	88,8
Stern Trawlers 50-500GT	24,5	0,69%	5,12%	0,03%	0,30%	3,89%	0,01%	43,4	71,7	34,1
Small Boats <50GT	20,4	0,05%	0,05%	NA	0,03%	0,05%	NA	53,7	83,2	NA

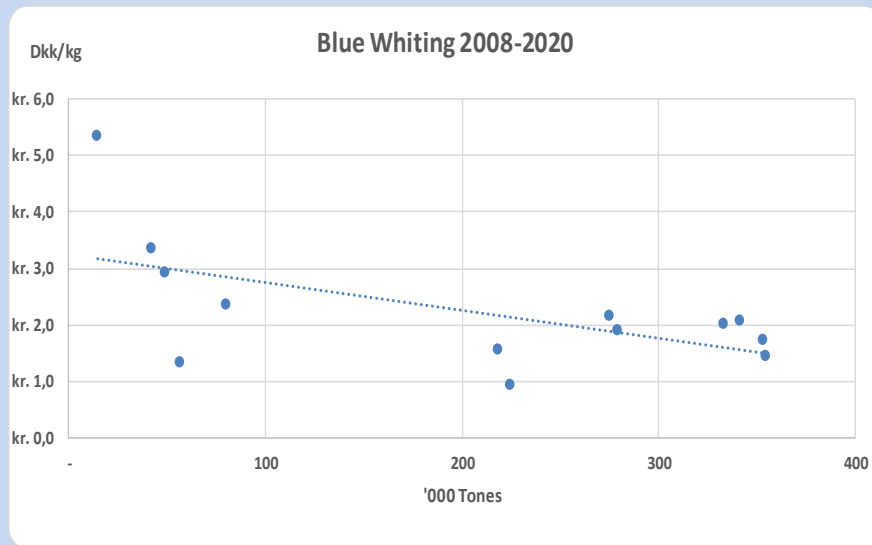
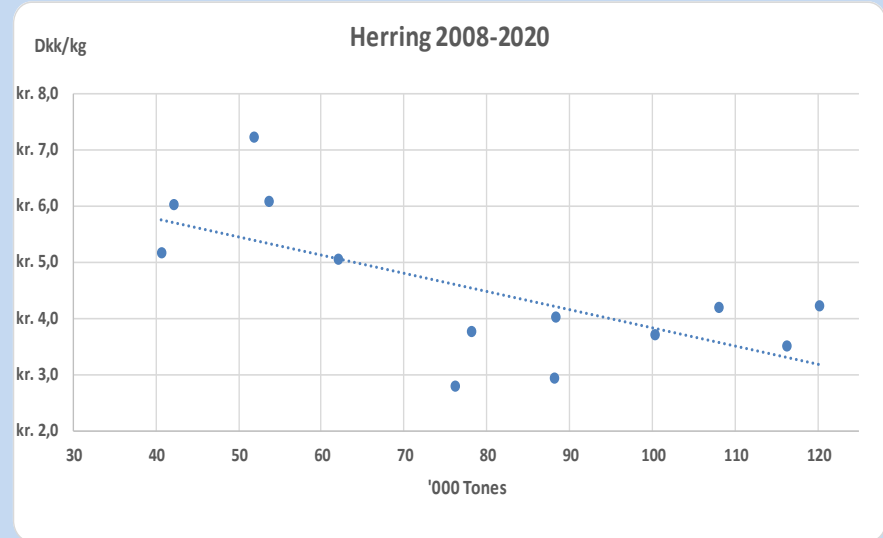
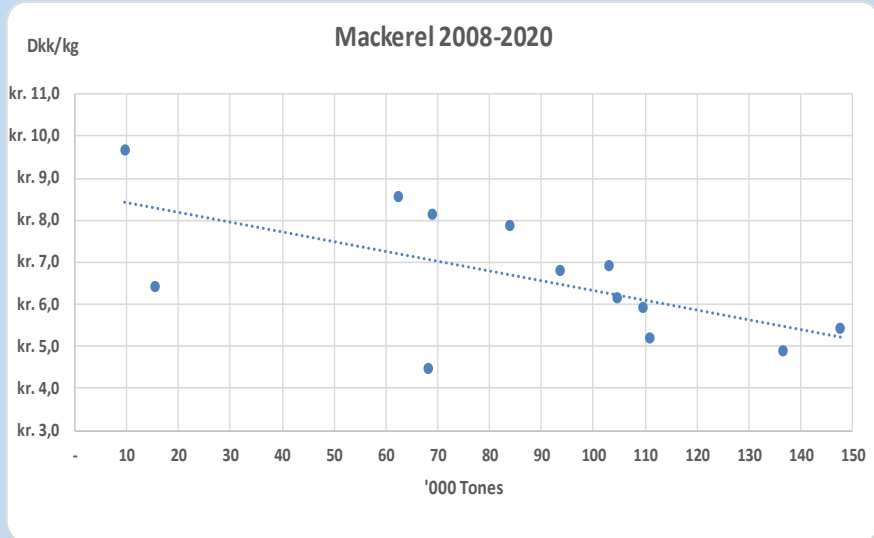
Long-Term catches & Coastal Agreements



Coastal Agreements	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Mackerel	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	No
Herring	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No
Blue Whiting	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No

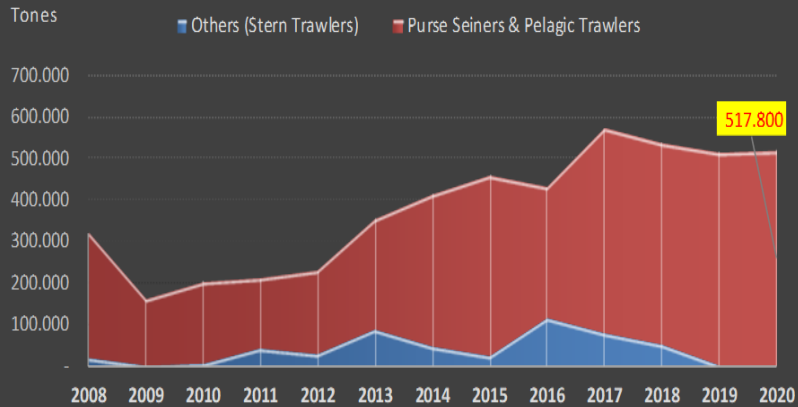
Sources: ICES Advice on fishing opportunities, catch, and Ecoregions in the Northeast Atlantic and the Arctic Region (2020), ICES WGWIDE 2009-2020 Vørn & Teyggjan, FO Ministry of Fisheries

2008-2020 Prices vs. Quantities

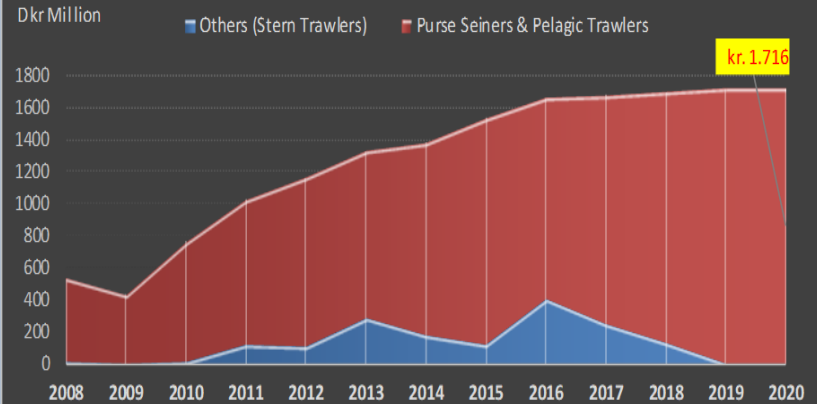


Long-Term Windfall Revenues Sustainability?

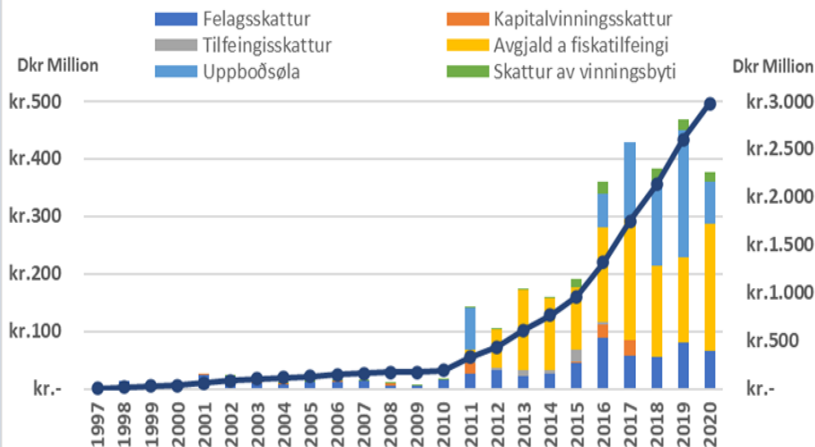
FO - Total Pelagic catches



FO - Total Pelagic Values



FO Government Fishery **only** related income



Inntøka til landskassan frá Fiskivinnu	Dkr Millions	%
Felagsskattur (2008-2020)	kr. 525,69	18%
Kapitalvinningskattur (2008-2020)	kr. 75,81	3%
Tilfeingisskattur (2008-2020)	kr. 51,41	2%
Avgjald a fiskatilfeingi (2008-2020)	kr. 1.358,90	46%
Uppboðsþola (2008-2020)	kr. 704,66	24%
Skattur av vinningsbyti (2008-2020)	kr. 102,70	3%
I alt (2008-2020)	kr. 2.819,17	95%
I alt (1997-2007)	kr. 160,75	5%
I alt (1997-2020)	kr. 2.979,92	100%

Consolidated Pelagic Fleet accounts – Policy Making instrument (Opportunity costs excluded)

Accounting Values	A 2008-2020	B 2008-2013	C 2014-2020	Δ (C-B)
Average Catches '000 tones p/a	324,41	208,23	423,99	▲ 103,6%
Sales (Dkr/kg)	3,39	3,66	3,20	▼ -12,6%
Opex (Dkr/kg)	1,89	2,53	1,60	nm
Resource Fee (Dkr/kg)	0,31	0,00	0,41	nm
Auction (Dkr/kg)	0,21	0,00	0,27	nm
EBITDA (Dkr/kg)	0,98	1,13	0,92	▼ -18,4%
Pre-tax profits (Dkr/kg)	0,56	0,56	0,57	▲ 1,6%
Corporate Tax (Dkr/kg)	0,11	0,11	0,11	▼ -0,1%
Post-tax Profits (Dkr/kg)	0,45	0,45	0,46	▲ 2,0%
Government take (Dkr/kg)	0,63	0,11	0,79	▲ 617,2%
Investor Take (Dkr/kg)	0,45	0,45	0,46	▲ 2,0%
Government Take as % of Revenue	18,6%	3,0%	24,7%	▲ 720,7%
Investor Take as % of Revenue	13,3%	12,2%	14,2%	▲ 16,7%
Cash (Dkr/kg)	1,12	1,03	1,16	▲ 12,6%
Dividend (Dkr/kg)	0,38	0,46	0,34	▼ -25,2%
Equity (Dkr/kg)	1,91	1,36	2,15	▲ 57,4%

Revenue Tax & Resource Fees - Dkr/kg and as % of Total Revenue

Bakkafrost Farming - Average Values	2014	2015	2016	2017	2018	2019	2020	2014-2020
Total Revenue Dkr/kg	kr. 47,93	kr. 45,21	kr. 59,82	kr. 54,33	kr. 54,47	kr. 55,39	kr. 47,27	kr. 52,06
Revenue Tax_FO Dkr/kg	kr. 0,91	kr. 2,03	kr. 2,69	kr. 2,44	kr. 2,45	kr. 2,77	kr. 2,36	kr. 2,24
Revenue Tax as % of Total Revenue	1,91%	4,50%	4,50%	4,50%	4,50%	5,00%	5,00%	4,30%
Mackerel	2014	2015	2016	2017	2018	2019	2020	2014-2020
Total Revenue Dkr/kg*	kr. 5,97	kr. 6,12	kr. 7,25	kr. 7,18	kr. 7,99	kr. 8,64	kr. 8,20	kr. 7,19
Resource Fee_FO Dkr/kg	kr. 1,00	kr. 1,00	kr. 1,00	kr. 1,00	kr. 1,50	kr. 1,50	kr. 1,50	kr. 1,14
Auction_FO Dkr/kg**			kr. 0,37	kr. 0,35	kr. 0,72	kr. 0,99		kr. 0,56
Resource Fee & Auction as % of Total Revenue	16,74%	16,33%	18,83%	18,80%	27,74%	28,84%	18,30%	23,63%
Herring	2014	2015	2016	2017	2018	2019	2020	2014-2020
Total Revenue Dkr/kg	kr. 5,16	kr. 6,04	kr. 7,23	kr. 3,71	kr. 4,02	kr. 4,23	kr. 4,20	kr. 4,59
Resource Fee_FO Dkr/kg	kr. 0,50	kr. 0,50	kr. 0,75	kr. 0,75	kr. 0,60	kr. 0,60	kr. 0,60	kr. 0,53
Auction_FO Dkr/kg**			kr. 0,29	kr. 0,60	kr. 0,48	kr. 1,11		kr. 0,81
Resource Fee & Auction as % of Total Revenue	9,68%	8,28%	14,34%	36,48%	26,72%	40,38%	14,29%	29,34%
Blue Whiting	2014	2015	2016	2017	2018	2019	2020	2014-2020
Total Revenue Dkr/kg	kr. 1,56	kr. 1,91	kr. 2,15	kr. 1,44	kr. 1,74	kr. 2,02	kr. 2,06	kr. 1,84
Resource Fee_FO Dkr/kg	kr. 0,00	kr. 0,20	kr. 0,20	kr. 0,20	kr. 0,25	kr. 0,25	kr. 0,25	kr. 0,19
Auction_FO Dkr/kg**			kr. 0,008	kr. 0,04	kr. 0,11	kr. 0,11		kr. 0,07
Resource Fee & Auction as % of Total Revenue	0,00%	10,48%	9,64%	16,43%	20,85%	17,54%	12,13%	13,88%
Three Pelagic Species	2014	2015	2016	2017	2018	2019	2020	2014-2020
Total Revenue Dkr/kg	kr. 3,24	kr. 3,21	kr. 3,73	kr. 2,69	kr. 3,07	kr. 3,31	kr. 3,30	kr. 3,20
Resource Fee_FO Dkr/kg	kr. 0,34	kr. 0,40	kr. 0,41	kr. 0,36	kr. 0,43	kr. 0,40	kr. 0,49	kr. 0,41
Auction_FO Dkr/kg**			kr. 0,139	kr. 0,20	kr. 0,27	kr. 0,45		kr. 0,27
Resource Fee & Auction as % of Total Revenue	10,66%	12,37%	14,60%	20,70%	22,79%	25,40%	14,69%	21,12%

*Mackerel average price Dkr/kg achieved by solely pelagic fleet (pelagic trawlers and purse seiners), rest of fleet (stern trawlers) excluded since Resource Fee payment was not charged to those segments of fishing industry. Total average ex-vessel price was lower at Dkr6,2/kg

**Adjusted (Marginal) Auction price by allocated (non-auctioned) share of actual catches. The nominal average bidding price for all three species 2016-2019 was Dkr 1,32/kg or 41,25% of the average ex-vessel price (2014-2020).

2008-2020 Resource fees – Regulatory Framework

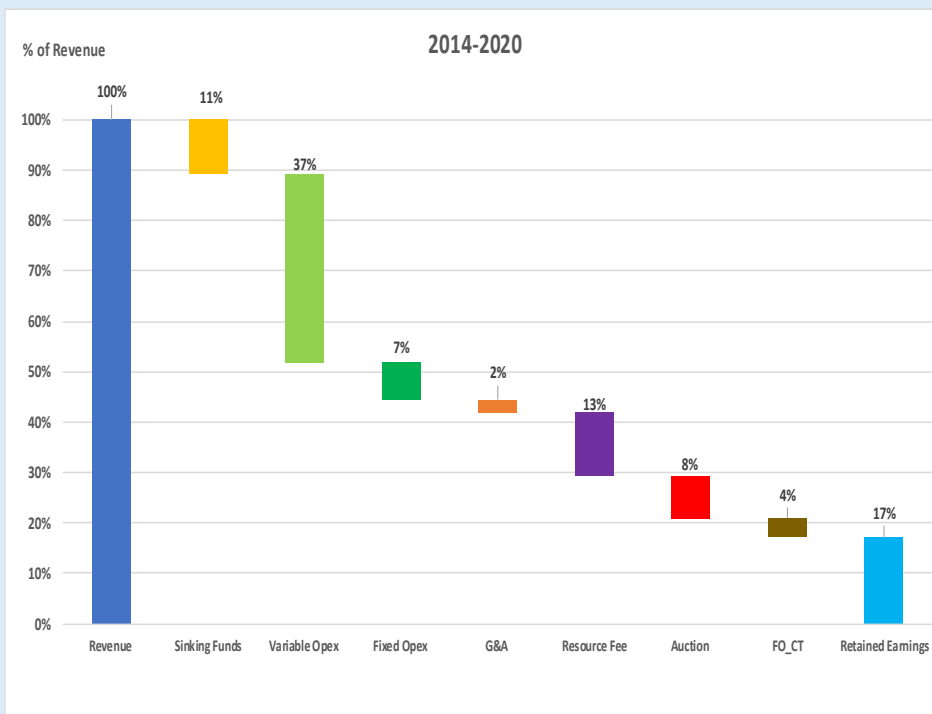
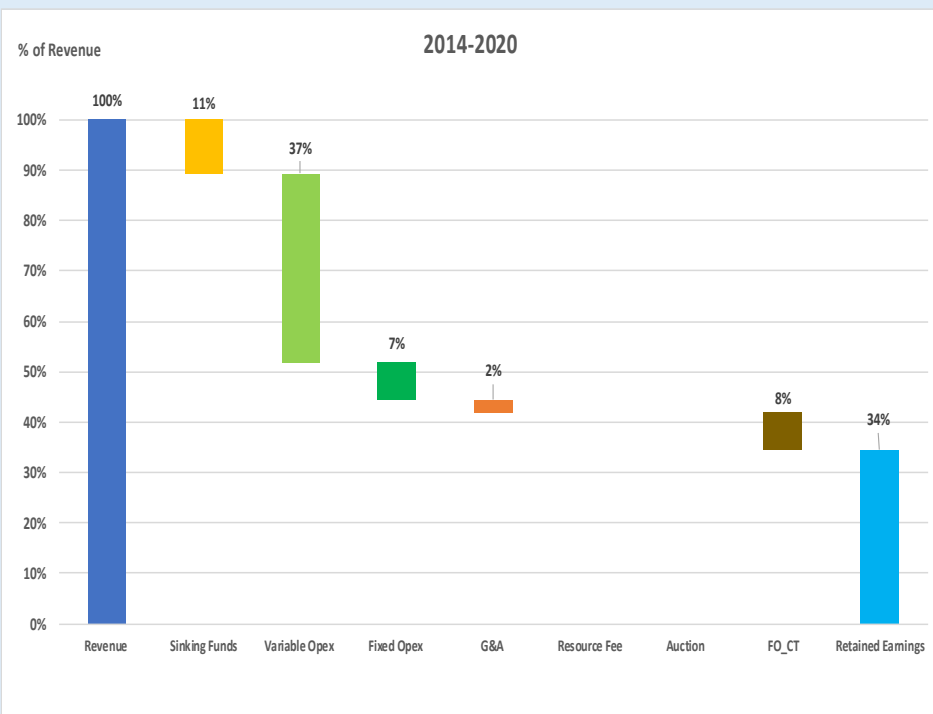
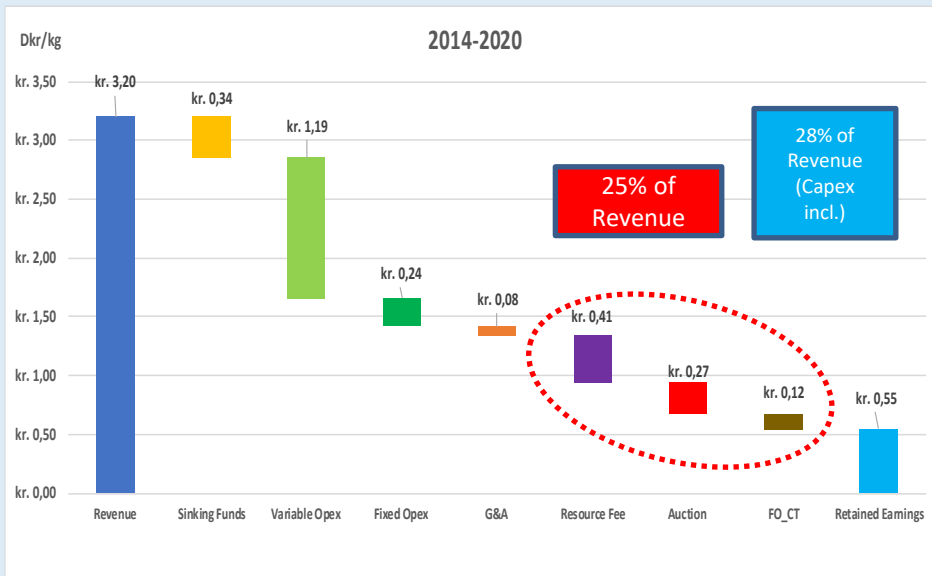
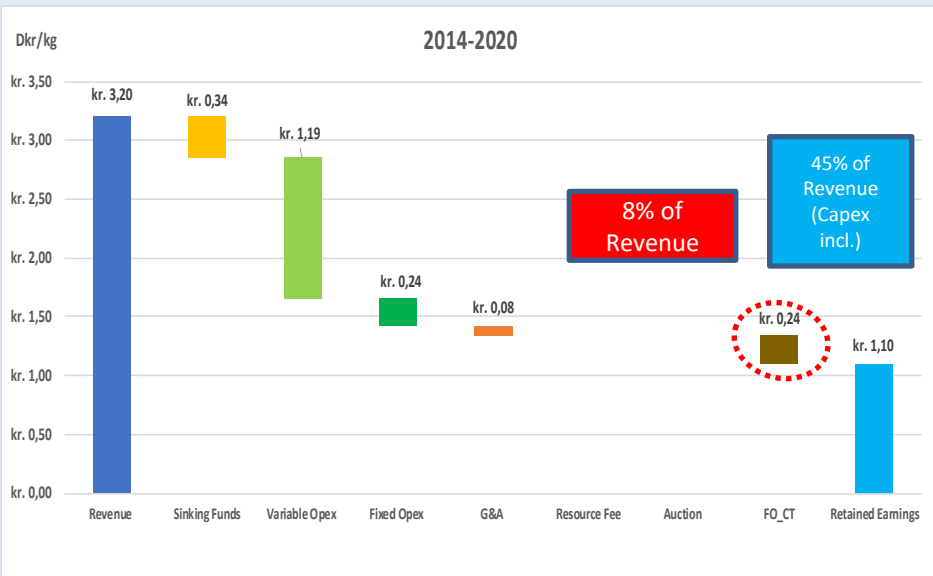
Summary of Fiscal Terms* 2008-2020

	Mackerel	Herring	Blue Whiting	Regulation
Base Case (MM World)	na	na	na	na
FO (DKK/kg)				
2008-2020	1	0,75	0,2	Nr 150/2016 & Nr172/2017
2008-2020	1,5	0,6	0,25	Nr 171/2019
FO (% of revenue)				
2008	0,215	0,160	0,110	Nr 77/2021
2009	0,185	0,160	0,110	Nr 77/2021
2010	0,175	0,165	0,150	Nr 77/2021
2011	0,175	0,180	0,170	Nr 77/2021
2012	0,175	0,185	0,160	Nr 77/2021
2013	0,175	0,160	0,150	Nr 77/2021
2014	0,175	0,180	0,120	Nr 77/2021
2015	0,175	0,190	0,140	Nr 77/2021
2016	0,180	0,195	0,150	Nr 77/2021
2017	0,185	0,165	0,110	Nr 77/2021
2018	0,200	0,165	0,130	Nr 77/2021
2019	0,200	0,170	0,140	Nr 77/2021
2020	0,200	0,170	0,150	Nr 77/2021
FO_36_2017		Not shown here		Nr 36/2017
FO_125_2018 Oil Adj. Incl.		Not shown here		Nr 125/2018
FO_125_2018 Oil Adj. Excl.		Not shown here		Nr 125/2018

* CT excluded here



Government/Investor split (SF 2014-2020)



Non-technical summary

Strong User Rights led to solid economic performance (level of control crucial) and has triggered imposition of Resource Fee&Tax charges (Auctions regarded as experiment)

Public Policy based on accounting results – no ACE available in practice

- Recent Demersal & Pelagic fleet mergers out of necessity not of opportunity
- Demersal segments of FO-fleet subsidized with Mackerel quotas – inefficient but necessary?
- In absence of international fisheries agreements, FO imposed own quotas above ICES TAC advice – regulatory RF levels not related to **Economic Rent** but **Fiscal Needs**
- **At the present 70-80thousands tones of “FO” Mackerel not fished – processors bid higher prices**
- “Grandfathering” justified Resource Fees – Political & Economic Capital (“an old tax is a good tax”)

Technical Conclusions with Recommendation

- **Attempt** to highlight the challenges of engaging in **empirical modelling** and solving real-world problem & understand how Resource Fee might affect Faroese Pelagic industry ability to **re-invest** in new ships/technology?
- Forthcoming **Dkr/kg** as % of revenue charge is **relatively simple administrative** tool that **maximize government revenue** but does **not appropriately target Economic Rent**. It is not flexible enough to accounts for a wide variance in profitability/fishing opportunities across fleet segment & species, with a regard to a long-term perspective.
- Recommend to move away from Accounting terms into stand-alone economic profits (CF) related **Stock Dependent Resource-Fee charges** weighted by 3/6/12yrs profitability terms (increased administrative burden).

Takk Fyri