The Norwegian Flatfish value chain

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Flatfish fisheries in Norway

- Dominated by Greenland halibut (78 % of flatfish catch volume 2000-2018)
  - One of two flatfish with quota (set in the joint Norwegian Russian Fisheries Commission) – Norway 51 %, Russia 45 %. Norw. quota 2019: 14,000 tons
  - Norw. quota divided between cod trawlers and autoliners (40 % - vessel quotas) and coastal vessels below 28 meters (60% - open (olympic) fishery, in two summer periods)
  - Third land agreement gives Norway fishing rights in Greenland waters (2019: 2,450 tons)
  - Some landings from foreign (Russian) vessels in Norway – 1,000-5,000 tons annually

- Halibut second largest flatfish species (9 % - 2000-2018)
  - Open fisheries, regulated with input regulations (season protection, mesh & min. size)
  - Caught with gill nets mainly, or as by-catch in other fisheries

- Plaice (10 % of 2000-2018 catch – diminishing)
  - Quota in North Sea and Skagerak respectively (8,500 & 636 tons respectively in 2019)
    - Caught by trawl and gill nets – decreasing in later years
  - Open fishery in the north (62°N), increasing and dominated by Danish seine*

*) Or Scottish seine/«flyshooter» as it should be called.

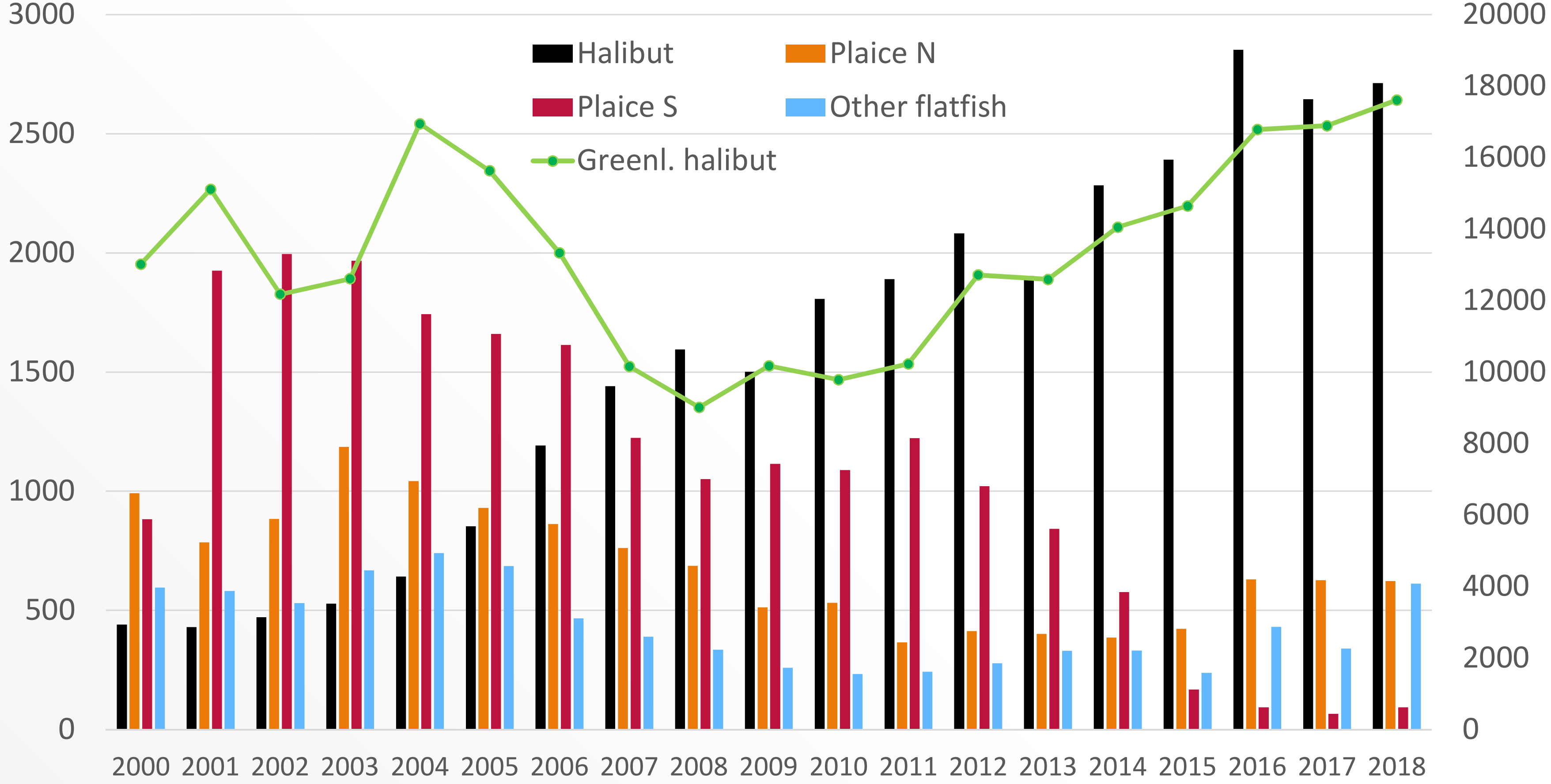
Flatfish catches – 2018: volume and value

Dominated by Greenland halibut

Species	Volume (tons)	Value (kEUR)	Value (EUR) per kg
Greenland halibut	17,771	66,509	3.74
Atl. halibut	2,713	12,247	4.51
Plaice	718	708	0.99
Turbot	28.8	214	7.43
Witch	276.5	166	0.60
Lemon sole	47.8	111	2.32
Saltfluke	35.5	83	4.61
Brill	10.4	48	9.00
Other flounder & sole*	210	117	0.33
Total	**21,816**	**80,202**	

*) Long rough dab constitues 85 % of the quantity and 30 % of ex-vessel value. Dab, flounder and other are the other items.

Norwegian Flatfish catch 2000 – 2018 (tons)



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Ecosystem based fisheries management

Most flatfish species are data poor stocks

Mai 2018 Bestand		Kunnskaps grunnlag 1-3	Nøkkel rolle 1-2	Tilstand 0-6	Fiskedødelig het 0-5	Rødliste Fremmede arter 0-6	Forurensning 0-2	Fangst verdi 1-5	Rekreasjon 1-3	Fritidsandel 1-4	Delt bestand 1-4	Forvaltnings mål 0-4	Tiltak iverksatt 1-3	Nye tiltak 1-3
Blåkveite	Greenl. halibut	2		3	4	1	2	2	3	4	2	2	1	1
Kveite Nord	Halibut North	2		3	3	1	2	3	2	2	3	2	1	3
Kveite Sør	Halibut South	3		5	5	1	2	4	2	2	3	3	1	3
Rødspette Nord	Plaice North	3		3	3	1	0	4	2	4	3	3	3	1
Rødspette Nordsjøen/Skagerrak		1		1	2	1	1	4	3	4	1	1	1	1
Annen flatfisk	Other flatfish	3		3	3	1	0	4	2	3	3	3	3	1

- Limited knowledge about most flatfish species – data poor species
- None have a key role ecologically, plaice (S) is in good cond., while others are assumed good or a limited spawning stock (halibut S). None on the Red list, OK fishing mortality.
- Some problems with contamination (mercury, kadmium). Mostly limited value (<m€ 1.5)
- Little or medium recreational value, mostly Norw. stocks, except Gr. halibut and plaice S.
- Management measures implemented for most, but more needed for halibut

Stock status

- **Greenland halibut** – relatively high biomass with full reproductive capacity. Catchable biomass (>45cm; 700 000 t) increased from 2008-2014. Decreasing trend but well above Bpa.

- **Halibut** – assumed OK in the north (limited knowledge). In the south: Bad stock condition, with unknown trend. SSB<Blim

- **Plaice** – North; little knowledge, assumed OK. South (North Sea/Skagerak): SSB well above MSY $B_{trigger}$, increasing since 2008 with reduced fishing mortality. Full reproductive capacity and sustainably harvested.

- Others: Not enough knowledge to carry out an analytic stock assessment.

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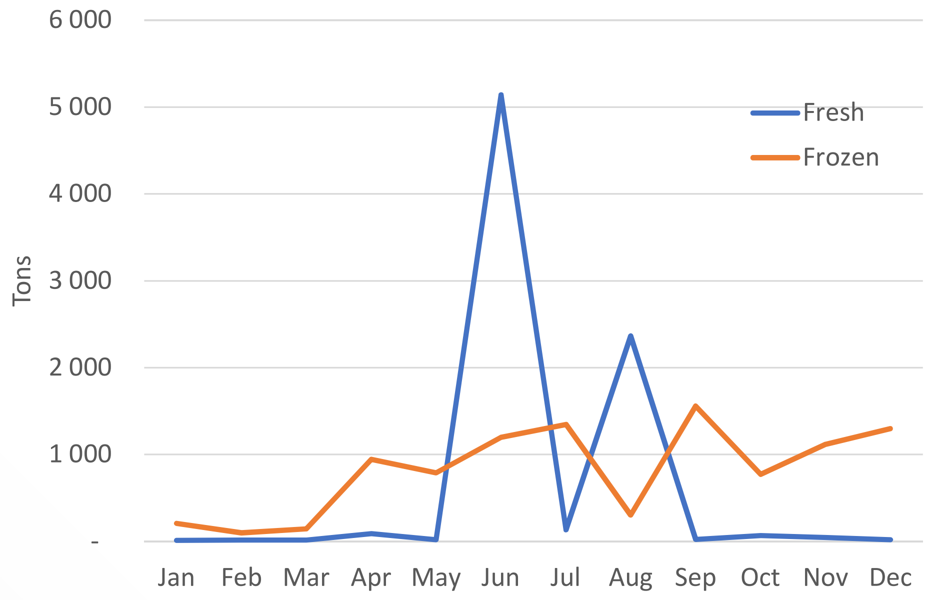
Greenland halibut – fresh versus frozen – seasonal supply

2018: 17 770 tons. Ex-vessel value: mNOK 638 (mEUR 66,5)

- Coastal fleet's (max.) quota allocated to two periods:
- 2019: Total Norw. quota 13 700 (60 %)
  1st period: from May 20th (stop Jun. 11th)
  2nd period: from Aug. 5th (stop Aug. 20th)
- Off-shore vessels: Vessel quota 83 t
- 2,475 tonn in Greenland waters
  - Enrolment and drawing
  - 3 cod trawlers and 2 autoliners
- Frozen paid 30-100 % better than fresh
  - NOK 22-29 vs. NOK 30-44



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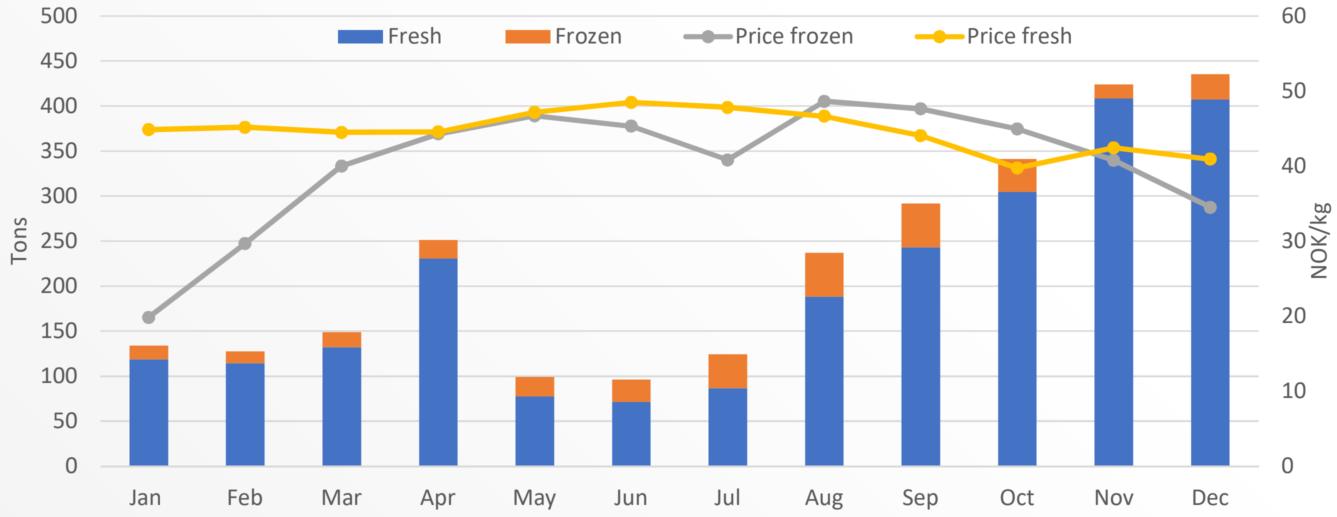
Halibut

Catch volume 2018: 2,713 tons   Ex vessel value: mNOK 117,5 (mEUR 12,2)

- Mostly landed fresh (90 %) in the north (90 %) by smaller vessels (<15m; 90 %)
- Caught by gill nets (55 %) and lines (36 %)
- Minimum size: 80 cm. Mesh size: 47 cm
- Closure season: Dec. 20th – March 31st (except for hook&lines)



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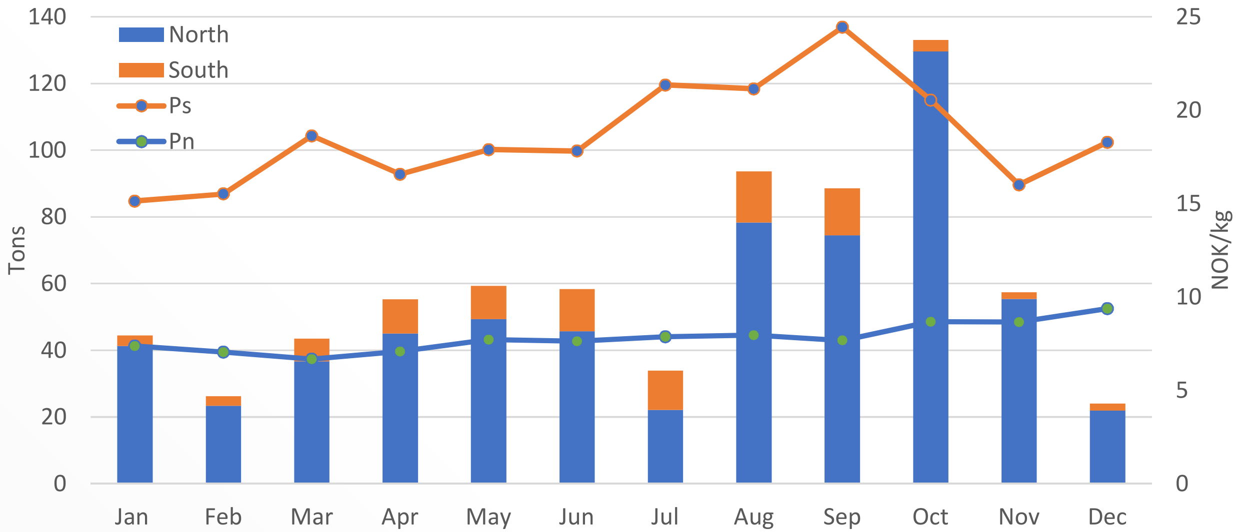
Plaice – a northern and a southern fishery

Volume: 94 tons in south, 624 tons in the north. Value: mNOK 6,8 (kEUR 708)

- A trawl fishery in the south (decreasing) and a Danish seine coastal fishery in the north
- Much better paid in the south
- Seasonal: April to Sept. (80 %) in the South, Aug. to Nov. (55 %) in the North



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The largest buyers of flatfish

Greenland halibut:

- 56 buyers of fresh, 35 buyers of frozen (many shipowners)
- Frozen gutted and headed, caught by autoline and bottom trawl, sold on auctions, to both processors or traders – for frozen export ($CR4_{2018}$=63%)
- Fresh halibut is sold round to buyers in proximity to fishing areas (Tromsøflaket, Jennegga,…). Gutted and frozen (95 %) by processors and sold for export. (CR4=29%)

Halibut:

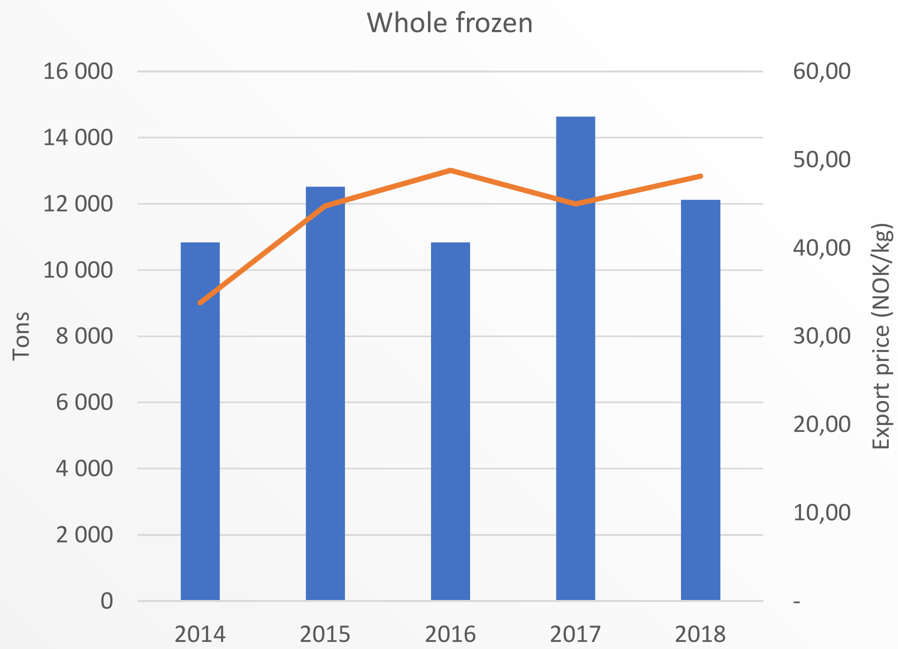
- 81 buyers of fresh halibut, 19 buyers of frozen (CR4; 24 and 56 % respectively)
- To a large degee sold fresh to the domestic market, but export when catch is high

Plaice:

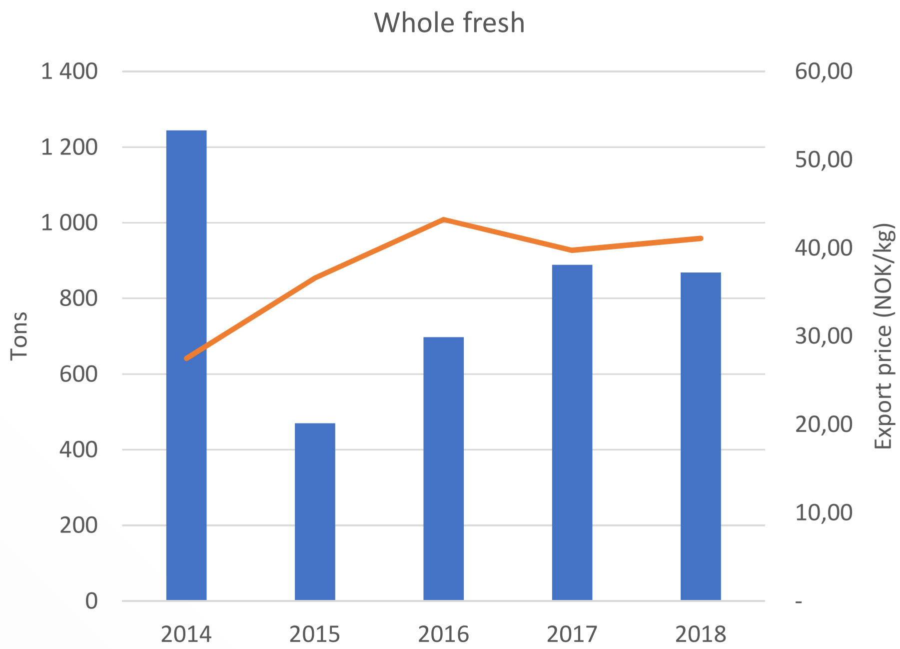
- 76 buyers of fresh plaice. The largest takes 43%. Most exported – processed abroad

Exports – Greenland halibut

Frozen: 2018: 12,127 tons, m€ 110.1, €5.02/kg
China 63 %, Viet Nam 9 %, DK, SWE, NL



Fresh: 2018: 869 tons, m€ 3.7, €4.28/kg
DK 63 %, POL 28 %, FRA, NL



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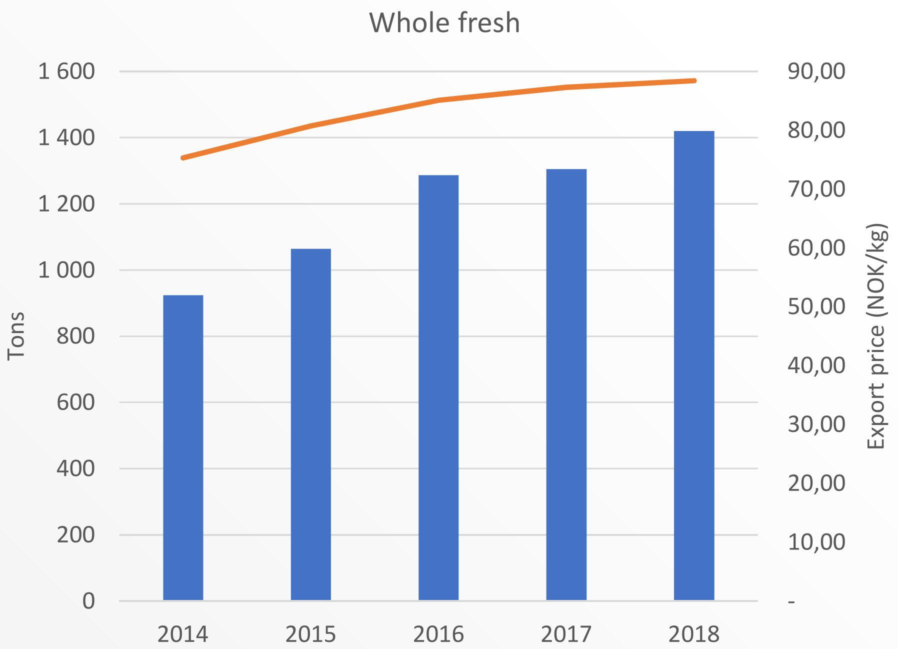
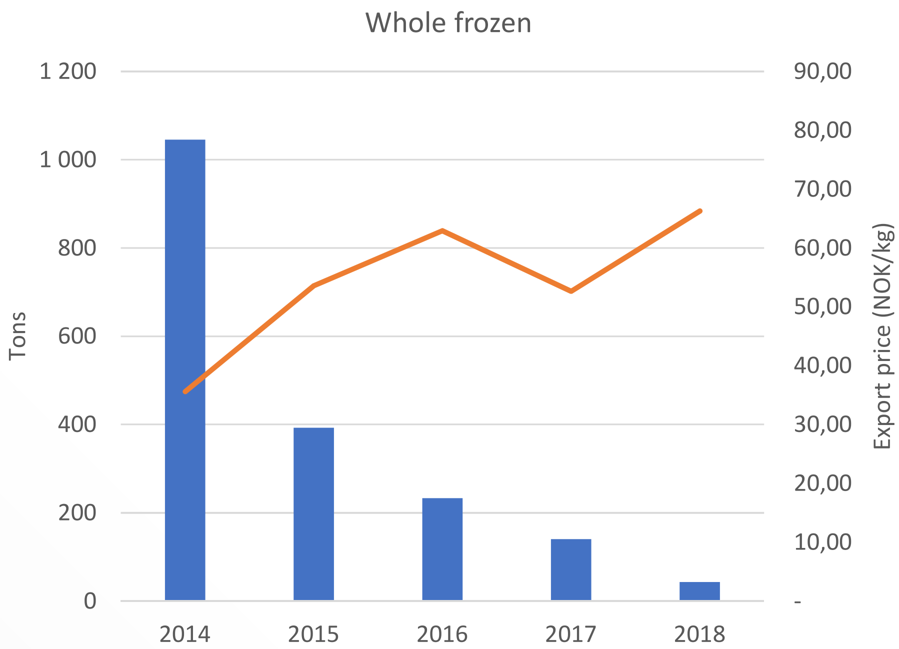
Exports – halibut

Fresh: 2018: 681 tons, m€ 13.1, €9.22/kg
DK 65 %, SWE 14 %, USA 7 %

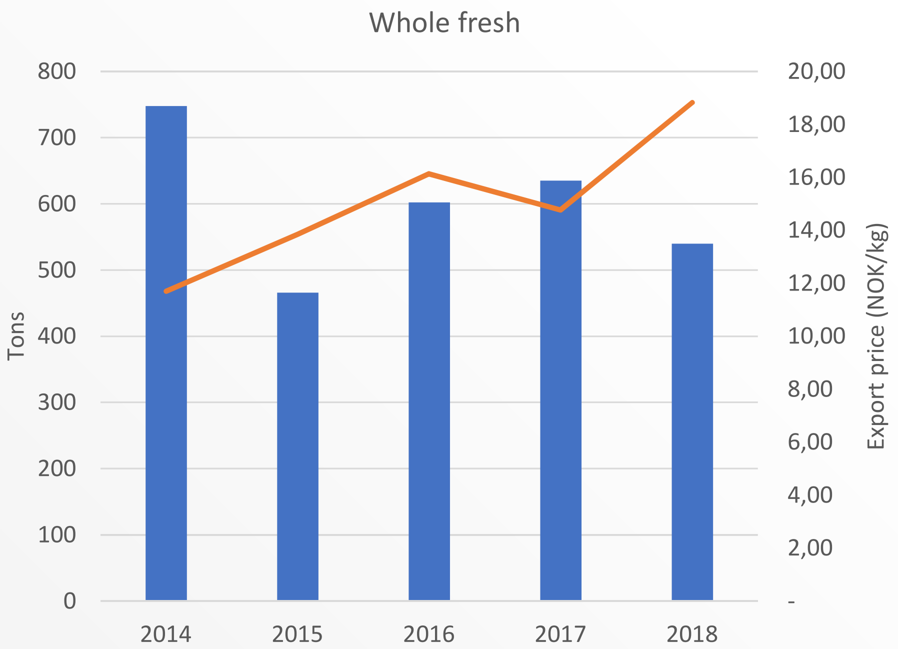


Frozen: 2018: 43 tons, k€ 297, €6.91/kg
NL 23 %, Far. Isl. 21 %, UK 16%, SWE 15%

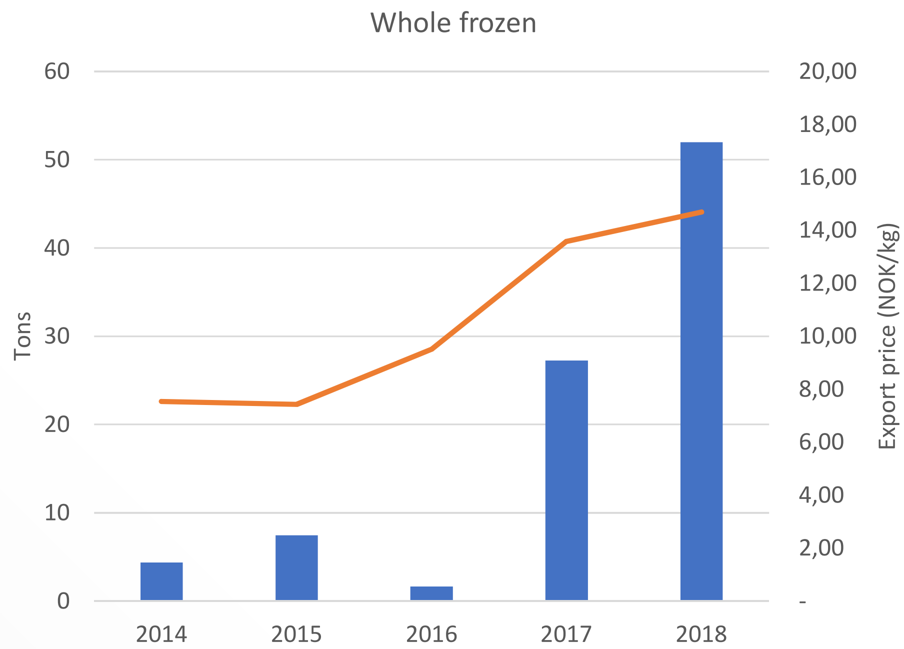


Export – European plaice

Fresh: 2018: 540 tons, m€1.1, €1.96/kg
DK 87 %, SWE 7 %, UK 3 %



Frozen: 2018: 52 tons, k€ 80, €1.53/kg
MOL 38 %, LIT 31 %, NL 29 %



Outlook & conclusion

Internally

- Norw. flatfish stocks are underresearched – data poor stocks
- Seems to be in good condition
  - Except halibut (and plaice) in the south. Underutilized? For economic reasons?
- Increased stocks – the effect of effective regulation? Still open fisheries
  - Mesh size, minimum size
  - Low price species – underutilized

Externally

- Limited domestic processing/value added – as in the rest of the sector
  - Seasonal fisheries – difficult to obtain profitable processing in a high cost nation?
- Low price species (plaice) – fear of even less attention, as industry structuring and concentration (in the fleet) increases.
- Brexit – will affect both marketing and fisheries
  - But to what degree? General precautions to market, little flatfish fishery in EU/UK-zones