

# Price and quality, Norway vs Denmark



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# Overview

- Quality assessment using the Catch Damage Index (CDI)
- Quality-based pricing fresh cod, direct sales
- Quality-based pricing frozen cod, auction
- Norway vs Denmark case



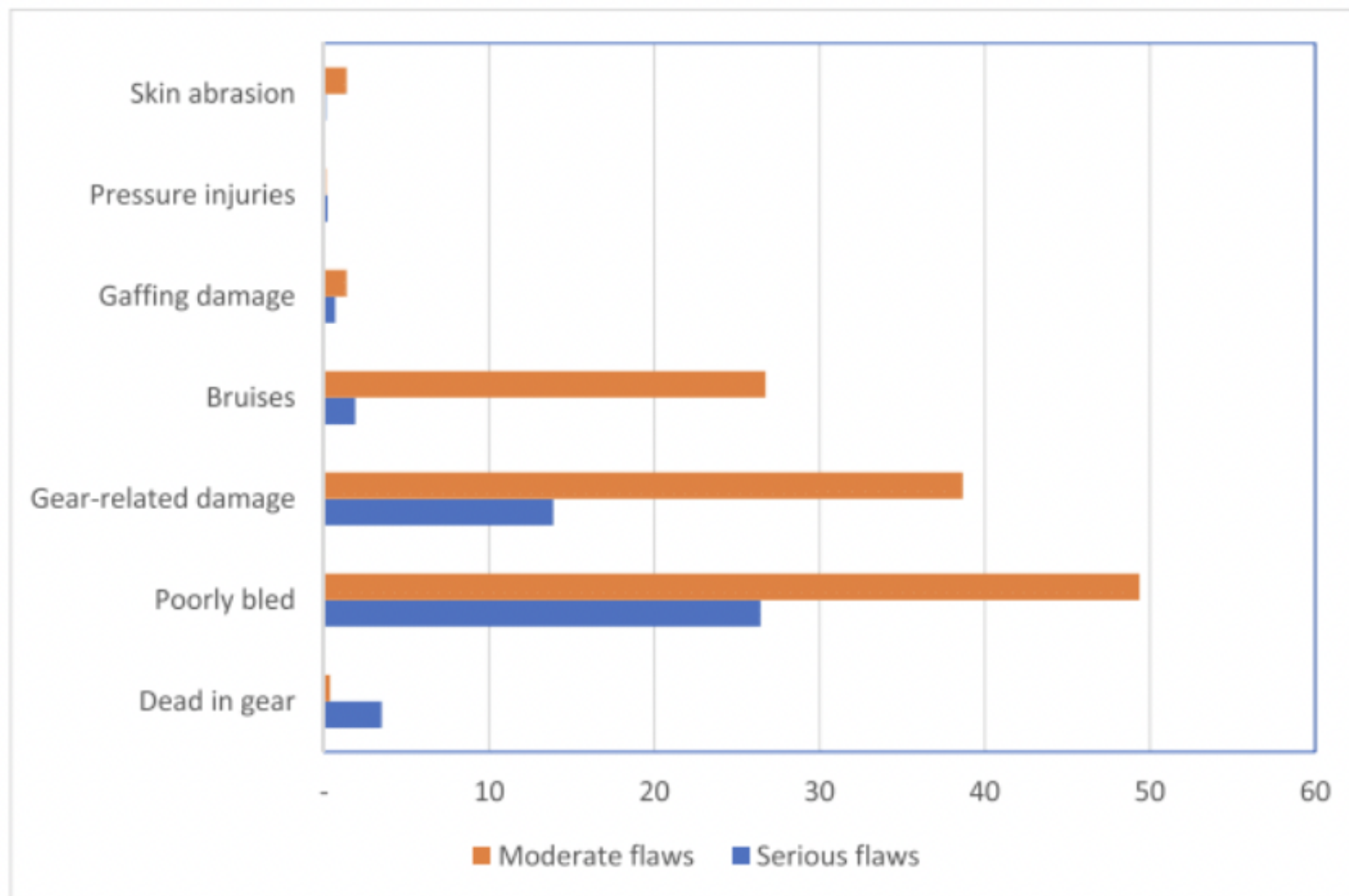
# The CDI

- A random sample of 50 fresh headed and gutted cod from each catch
- Only assess the exterior
- Four gears
- Yearly since 2004
- Will include gaping and soft flesh in 2025
- A serious flaw (2) means reduced value in onshore processing

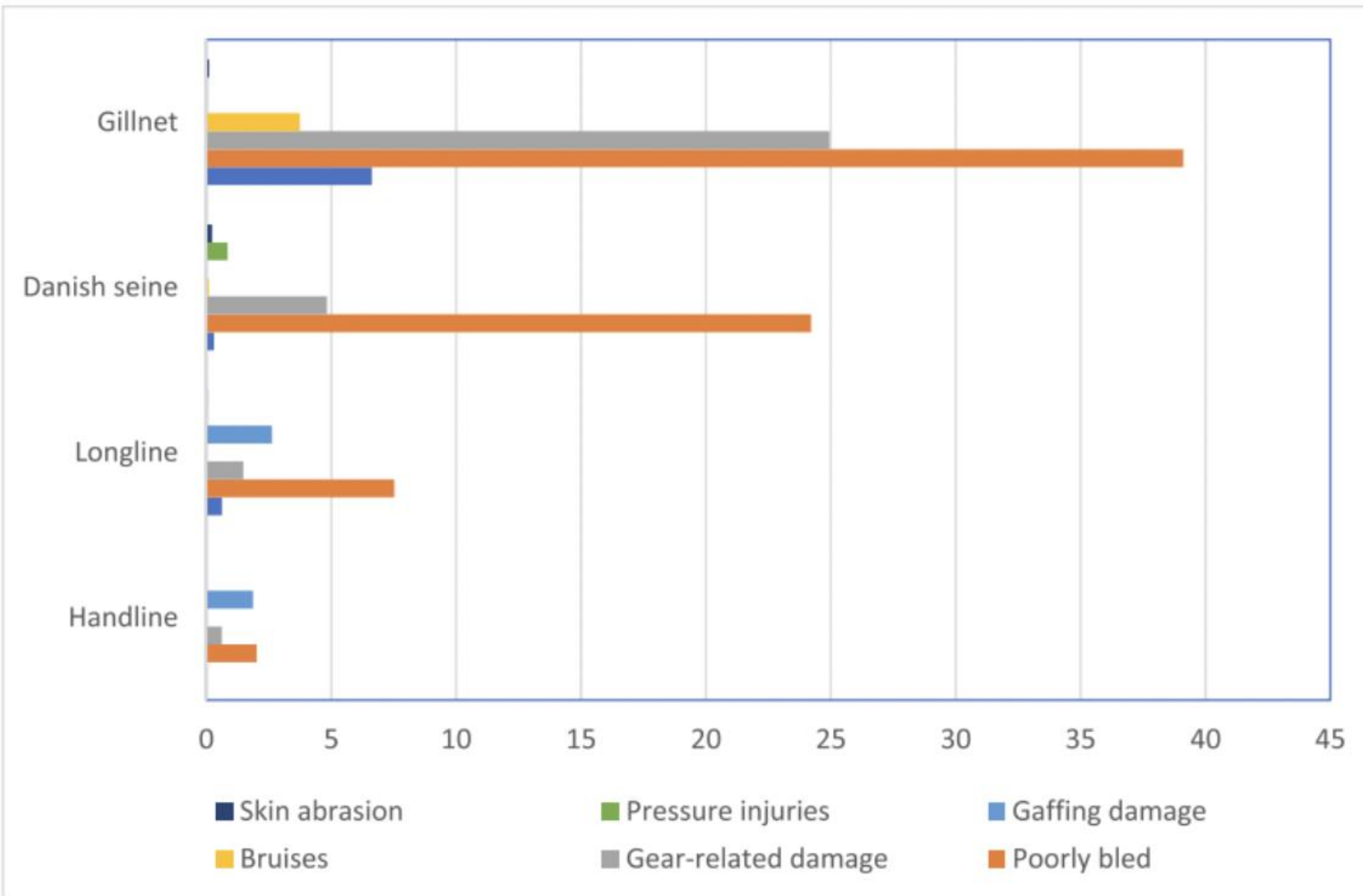
**Table 1**

Catch-damage-index\* for Atlantic cod ([Esaassen et al., 2013](#)).

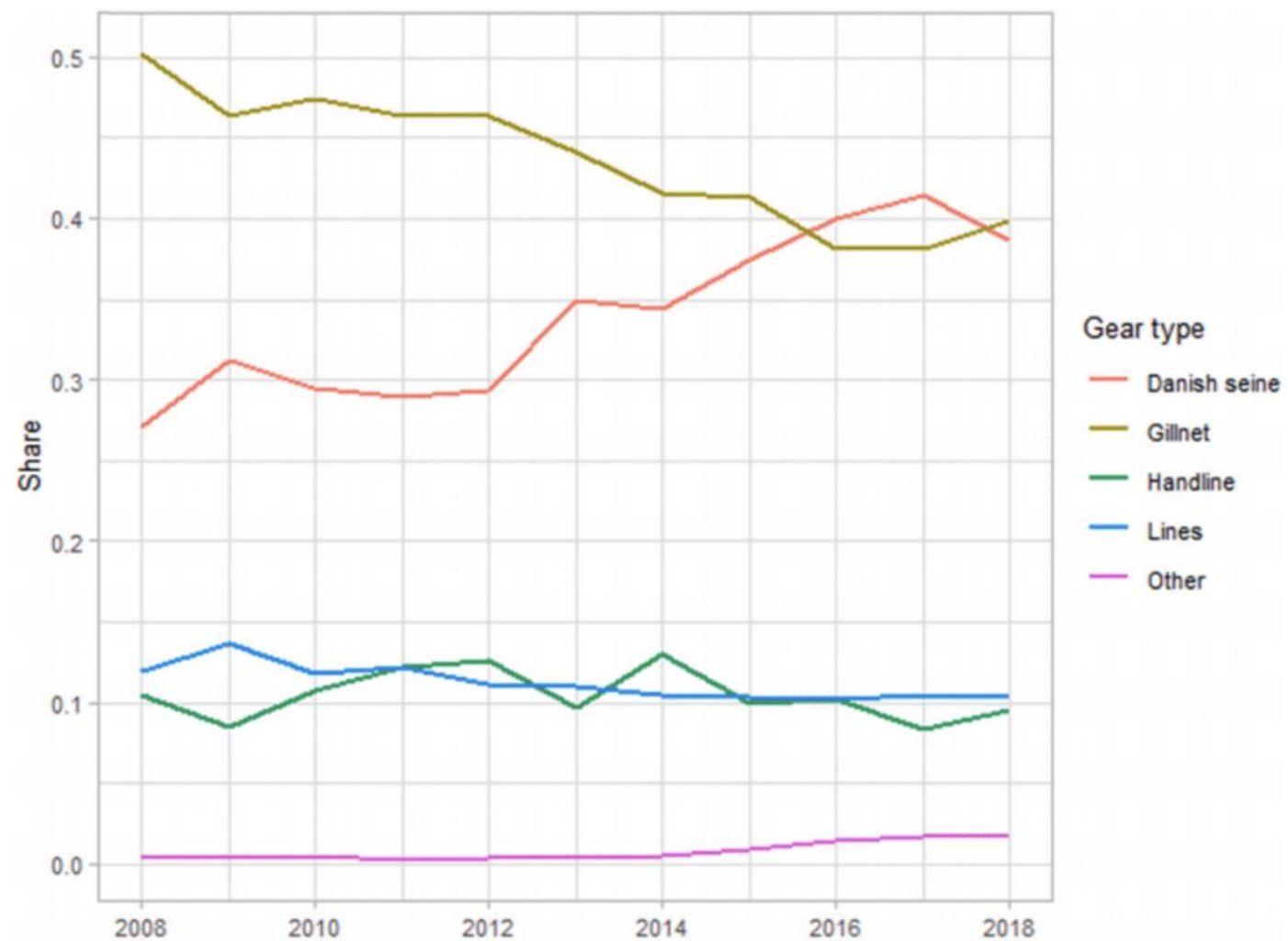
Damage	Description	Score	
Dead in gear	Flawless	Live when brought on board	0
	Serious	Distinct dead fish character	2
Gear-related damage	Flawless	No skin marks from gear	0
	Moderate	Stripes in the skin, fin damage	1
	Serious	Deep marks in skin/muscle causing blood extravasation and/or crushing	2
Bruises	Flawless	No red discoloration on skin	0
	Moderate	Red discoloration located below the pectoral fin or close to the tail fin	1
	Serious	Red discoloration located above the pectoral fin or in the tail and mid-part	2
Gaffing damage	Flawless	No incision other than in the head	0
	Moderate	Incision in belly/tail	1
	Serious	Incision in loin/back	2
Poorly bled	Flawless	Empty blood vessels, white neck/belly	0
	Moderate	Some blood remaining in belly vessels	1
	Serious	Blood in vessels, blood in neck/belly	2
Skin abrasion	Flawless	Undamaged, glossy skin, no descaling	0
	Moderate	Minor descaling	1
	Serious	Severe descaling, perforated skin	2
Pressure injuries	Flawless	No injuries	0
	Moderate	Squeezed in tail part	1
	Serious	Broken back, squeezed in loin part	2



**Fig. 4.** The average share (%) of cod in catches with serious and moderate flaws by damage category for the whole sample and period (2014–2018).



The average share of cod in catches with one or more serious flaws by damage category by fishing methods



**Fig. 1.** The share of cod landings (by quantity) by the main fishing methods in the coastal fleet for 2008–2018. Source: Elaborated from public data available from the Directorate of Fisheries ([www.fiskeridir.no](http://www.fiskeridir.no)).

# Quality-based pricing for fresh cod?

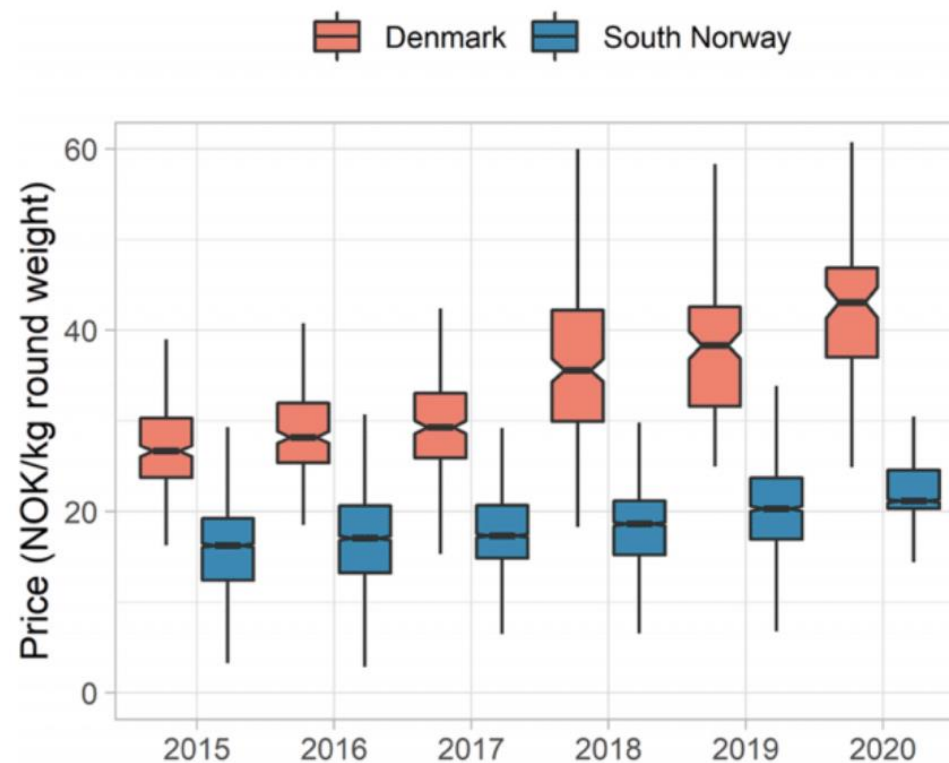
- A 3,3% increase in downgraded (serious damage, CDI) leads to a 1,24% reduction in price
- Compared to gillnets:
  - 6,88% higher price for handline
  - 7,63% higher price for longline
  - 8,8% higher price for demersal seine (snurrevad)
- Catch size did not affect prices
- 5,3% price premium for the largest cod (6 kg+)

# Quality-based pricing for frozen cod and haddock, auction

- For cod:
  - Longline 15% price premium compared to trawl
  - And a 12,6% price premium compared to demersal seine
- For haddock:
  - Longline obtains a 13,3% price premium compared to trawl
  - And a 20% price premium compared to demersal seine
- Auction with a 2,6% price premium compared to direct sales, controlled for fish size, gear, season ect.



# Fresh cod, Norway vs Denmark



**Fig. 4.** Price comparison for cod (gutted, head on, 2–4 kg) between the Danish auction and direct sales in the south of Norway (sales organizations are Fiskehav SA, Rogaland Fiskesalgslag SL, Vest-Norges Fiskesalgslag). Outliers omitted.

# Conclusion

- Quality-based pricing is largely absent for direct sales of fresh cod in Norway
  - Vessels with substantial bargaining power
  - Buyers very reluctant to reduce the price for low quality
- Quality-based pricing is present for frozen cod and haddock at auction
  - Gear is the main quality indicator
- Much higher prices for fresh cod at auctions in Denmark
  - Caught with gillnets (!)
  - But require different fishing practices for much better quality

# Literature

- Sogn-Grundvåg et al. (2022) Fishing tactics and fish quality: The case of the coastal fishery for Atlantic cod in Norway, *Fisheries Research*, 246, 106167.
- Esaiassen et al. (2013) Development of a Catch-damage-index to assess the quality of cod at landing. *Food Control*, 29, 231-235.
- Sogn-Grundvåg and Hermansen (2022) Quality-enhancing fishing in the coastal fishery for Atlantic cod in Norway, *Marine Policy*, 143, 105191.
- Sogn-Grundvåg et al. (2020) Fishing methods for Atlantic cod and haddock: Quality and price versus costs, *Fisheries Research*, 230, 105672
- Sogn-Grundvåg and Zhang (2023) Auction versus direct sale: The effect of buyers and sellers on prices, *European Review of Agricultural Economics*, 50(1), 84-114.
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