



How can variable quality in landings from the Norwegian coastal fleet be explained?

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Based on: Sogn-Grundvåg, G and Henriksen, E..The influence of human rationality and behavior on fish quality, *Ocean & Coastal Management* 87 (2014) 68-74 and publication in process by Henriksen, E.: Is quality of fish efficient?

A social scientist's approach to variable quality of fish landings.

- Observations of landings of fresh fish:
 - Quality of landings vary within and between gear types and vessel sizes
 - Hook caught fish is normally regarded as best, but catches are in decline
 - Catches from gill nets and Danish seine are reported to vary most in quality, but catches for this gear types are increasing.
 - Large catches, and in particular large catches from large vessels are reported to have inferior quality, but both vessel size and catch size are increasing.
- When fishers know how to equip their vessel, handle their fishing gear and handle the fish to preserve fish quality – why does the quality of Norwegian landings vary from excellent to dubious?

Dubious and excellent cod



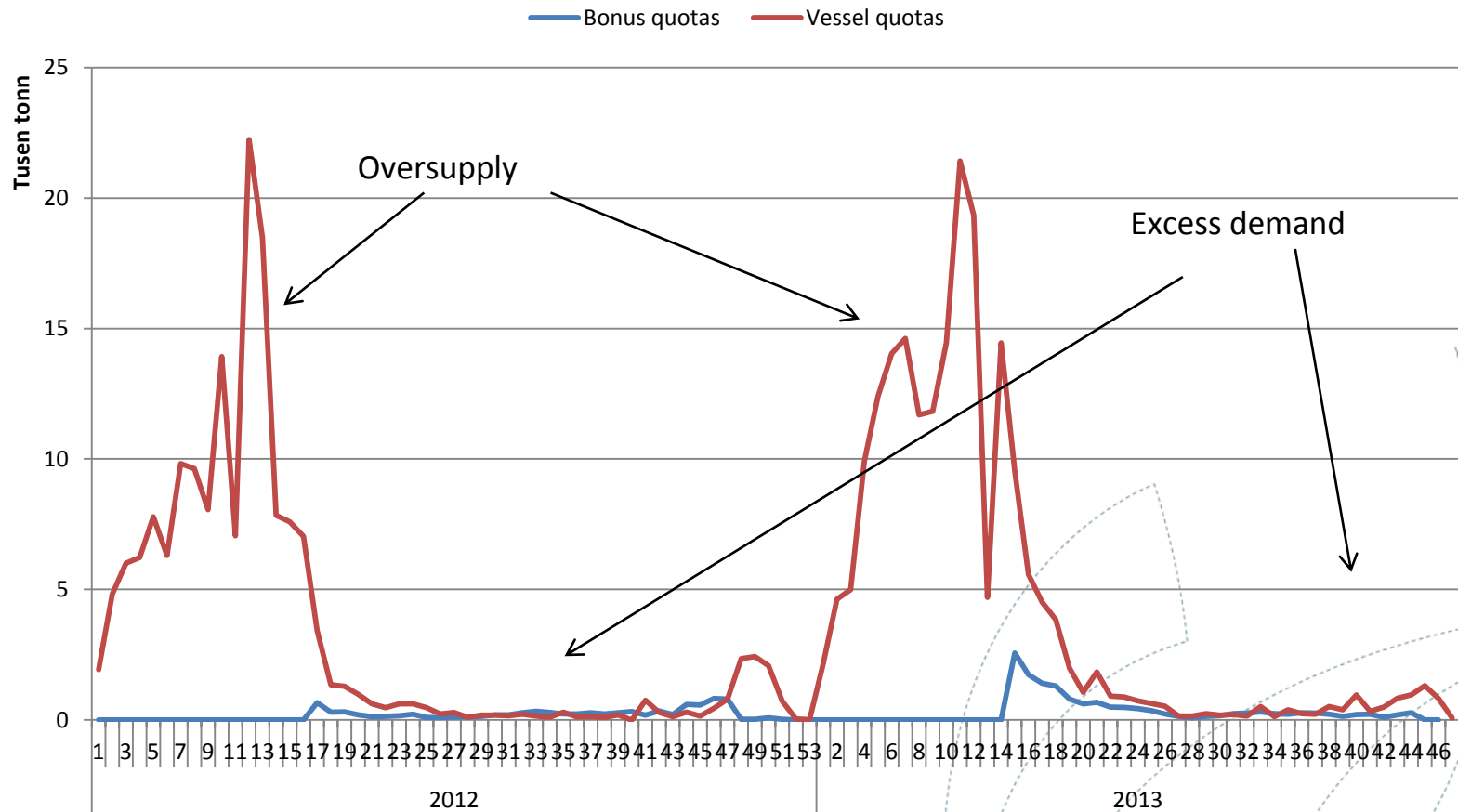
What is the rationality behind seemingly irrational behavior?

- Organization of the first hand market?
 - Minimum price system
 - Free choice of gear (with some exceptions)
 - Seasonal variation
 - The regulatory system is focused on effectiveness not quality
 - Shift in public control from controlling quality of landings to resource control.
- Macroeconomic conditions
 - The Nordic economic model emphasizes labor productivity
 - The fishing industry competes for labor with the extremely profitable off-shore petroleum industry.

Organization of the first hand market

- The Participation Act (deltakerloven).
 - Exclusive rights for active fishers to own fishing vessels
 - Quotas allocated exclusively to registered vessels
 - (Fishers can own fish processing plants, but not visa versa)
- Act on the first hand sale of wild living marine resources (Fish Sales Association Act)
 - Gives the fishers rights to set the market price (minimum price) for a given period
 - Arbitration
 - Possible to negotiate price up in periods with excess demand and reduction limited to 40 % if the quality is poor
 - Determine conditions of sale
 - Resource control

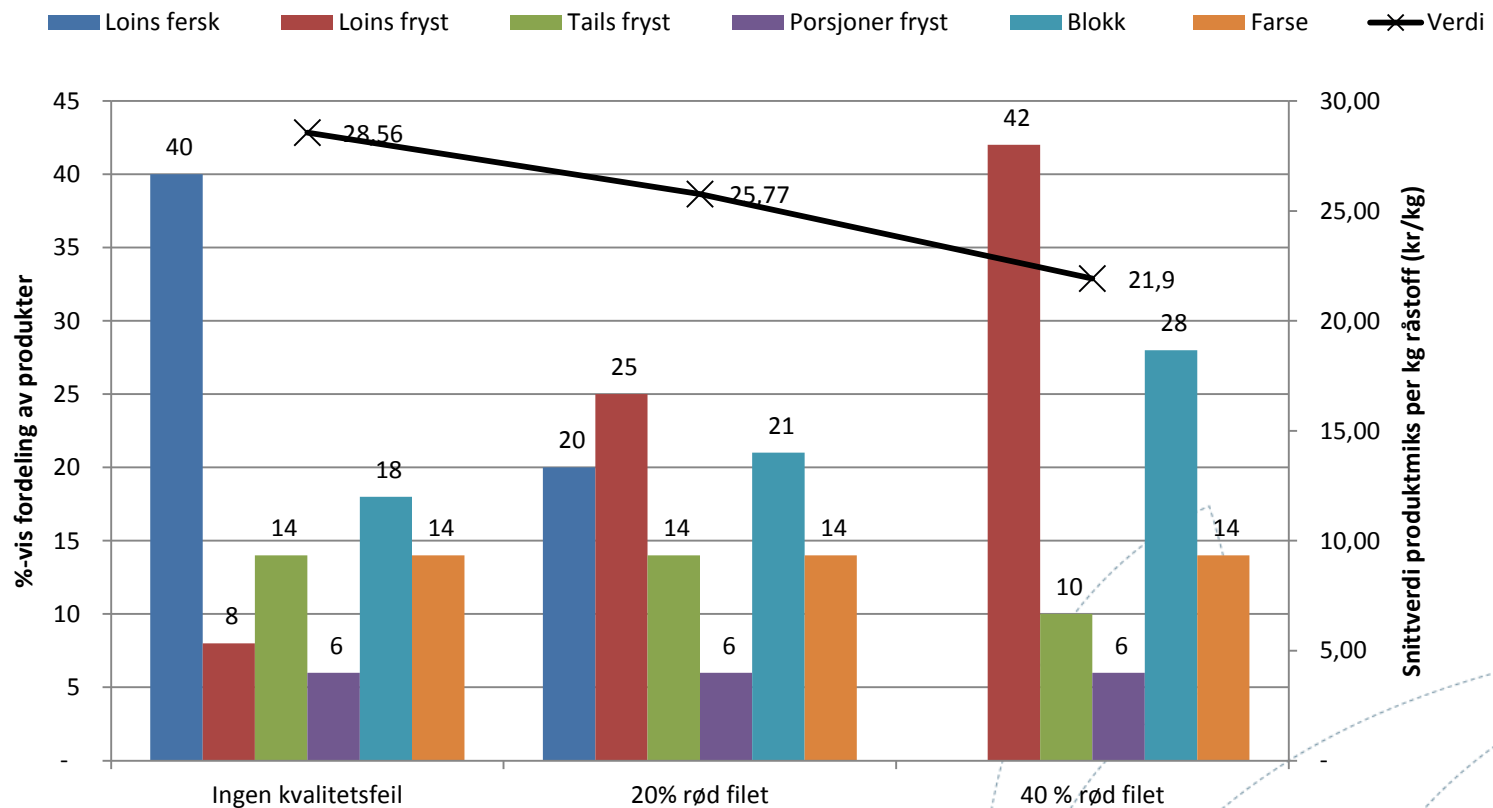
The first hand market: Weekly supply of cod from the coastal fleet.



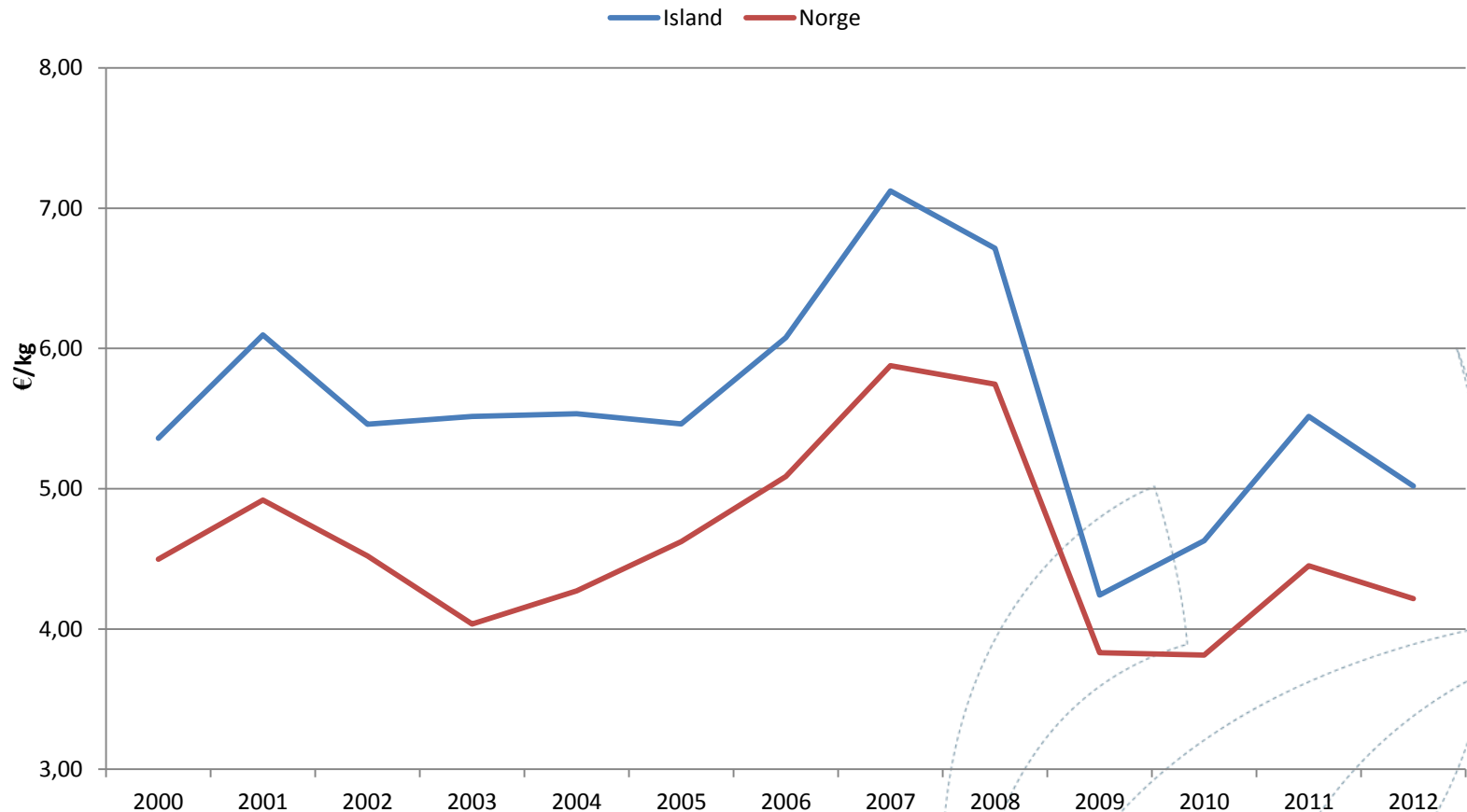
Weak relationship between price and quality

- Efficiency has priority over quality
- Seldom a price premium for high quality hook caught fish
- Seldom a price reduction on poor quality
- Low profit margins in the processing industry when using low quality raw material
 - Reduced yield of high value products and downgrading
 - Higher production costs
- Social dilemma: seemingly rational behavior leads to a situation where everyone is worse off
 - Difficult to solve

Loss of profit in production of fillets



Export prices on Icelandic and Norwegian salted cod to Portugal

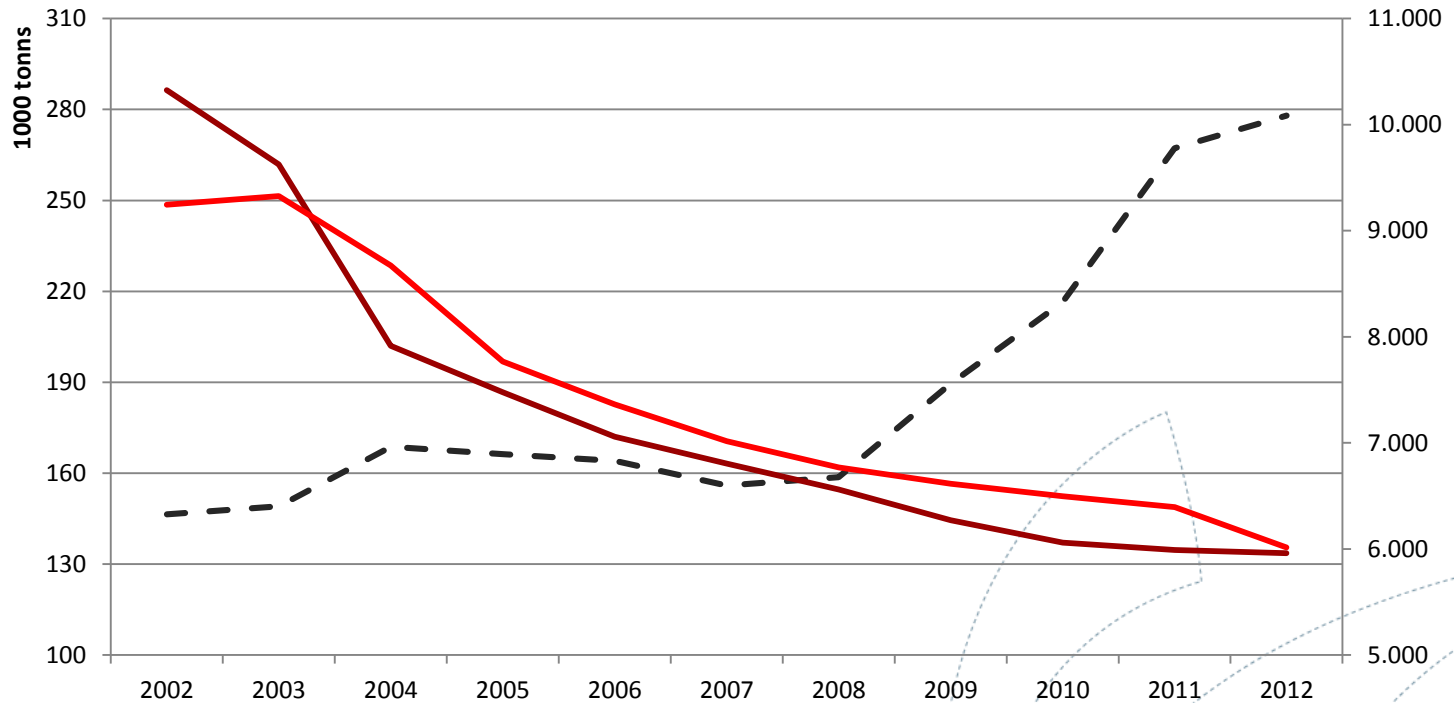


Quadrupling of productivity!

Quotas

--- Allocated quotas — Vessels — Fishers/2

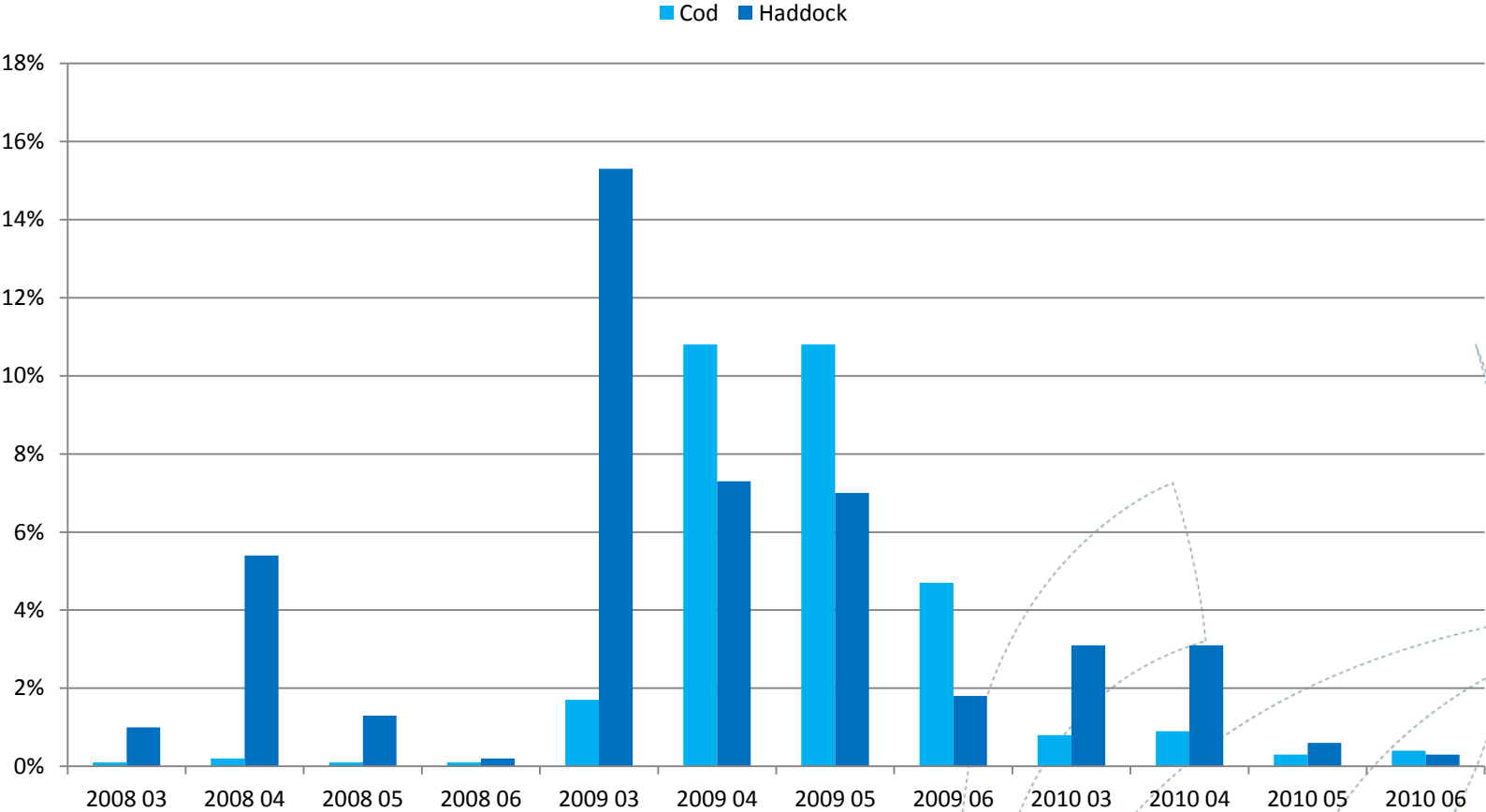
No. Vessels and fishers



Micro economic explanations

- Power and dependence
 - A market situation with seasonal shifts from oversupply to excess demand gives shifts in power
 - Professional jealousy
 - A real fear amongst the fish processors that downgrading of catch in periods with oversupply may lead to a loss of supply in periods with excess demand
 - Loyalty amongst fishers is greater than to buyers
 - Smaller vessels, especially long-liners depend on the fish processor in their home port for facilities.
 - Smaller vessels are weather dependent
- Transaction costs
 - A huge number of transactions in the peak season makes bargaining difficult and costly
 - Little time to utilize market opportunities for high quality fish

Share of downgraded cod and haddock during March – June, 2008 – 2010.



Macroeconomic explanations

- The Norwegian (or Nordic) economic model
 - A very strong cooperation between the political system and the parties in the labor market to ensure that public and private wealth are based upon high labor productivity
 - High wages are expected
 - The response from the fishing fleet is fewer fishers and bigger catches
- Competition for skilled labor force with the extremely profitable oil industry
 - Navigators and engineers
 - Also deckhands

Can the social dilemma be altered?

- Cooperation between fishers and buyers works!
- Regulate seasonal supply?
 - Not a popular measure and will reduce efficiency
- Use the quota system?
 - Allocate quotas to gear types most likely to bring ashore high quality fish.
- Alter the market organization?
 - Price system
 - Make it possible to integrate upstream for the processing industry
 - Re-instate a quality control regime
 - Quota reduction as a punishment for bad quality
- Reinforce neglected technical standards