

Fishmeal and oil: Why bother? Opportunities and challenges

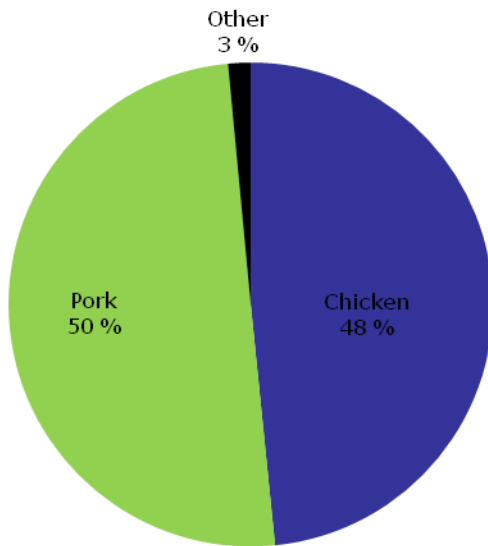
Frank Asche

Hirtshals, August 29, 2016

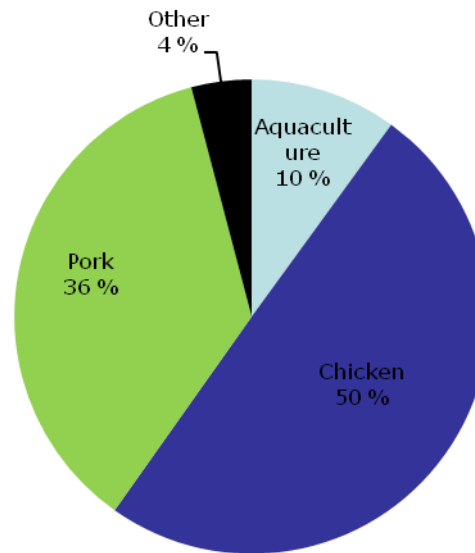


The Fishmeal and Oil markets have changed dramatically and responded to new opportunities

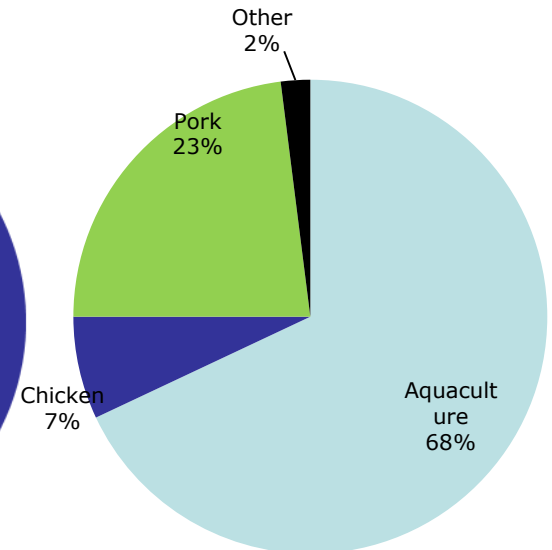
1960



1980

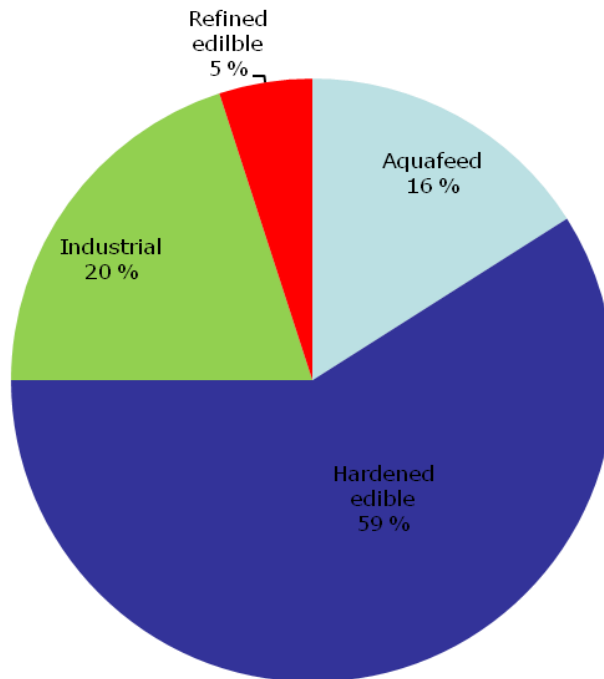


2012

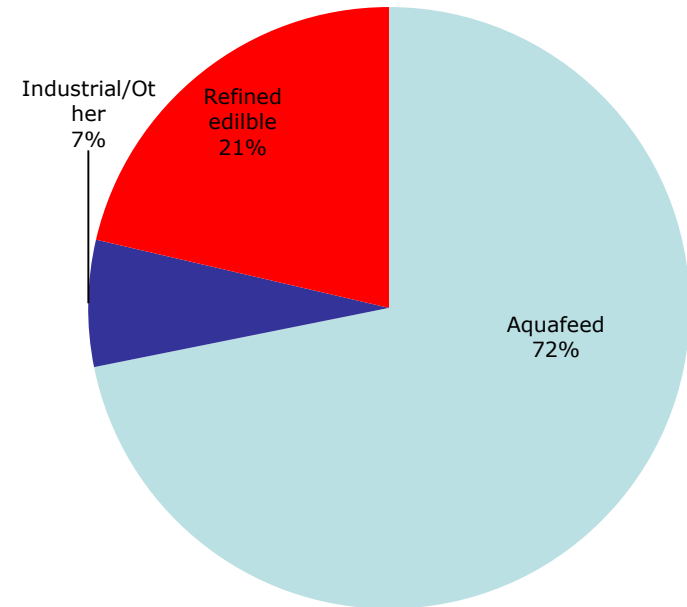


The Fishmeal and Oil markets have changed dramatically and responded to new opportunities

1990

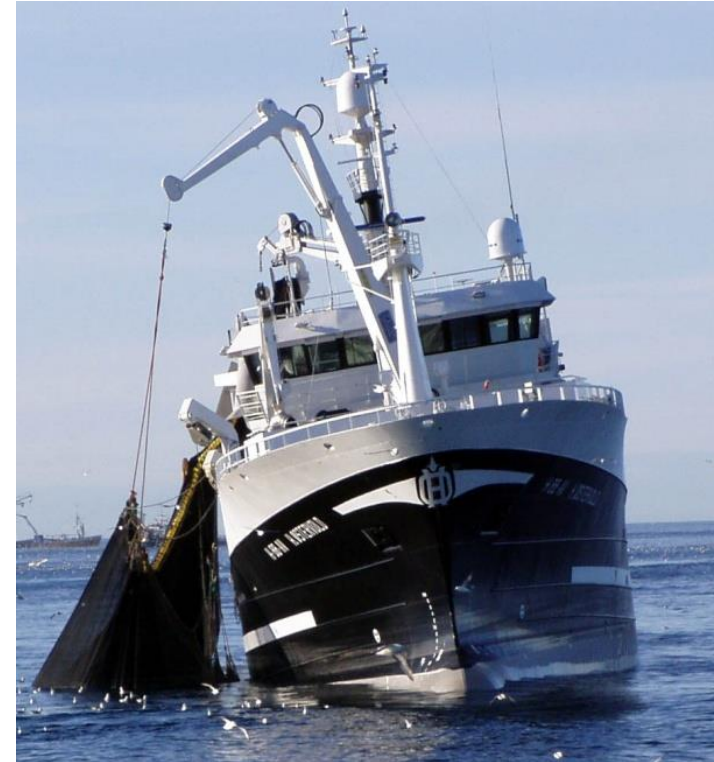


2012



Introduction

- Production of fishmeal and fishoil commenced as a part of a larger trend with increased production of bone-, feather- and vegetable meals and oils in mid 20th century
- This development was an economic opportunity caused by more efficient food production technologies and agriculture



Introduction

- Initially, fishmeal and oil were highly integrated into the larger meal and oil markets
 - Poor fisheries management, often the tragedy of the commons playing out, facilitated the production of cheap protein from the oceans

- Advances in other areas such as aquaculture and functional foods have created new opportunities as marine meals and oils have unique characteristics that can segment them from other meals

For potential consumers of small pelagics, it increasingly comes down to what you want to eat



This fish ...



...or have it converted to this one

or maybe consume no fish at all

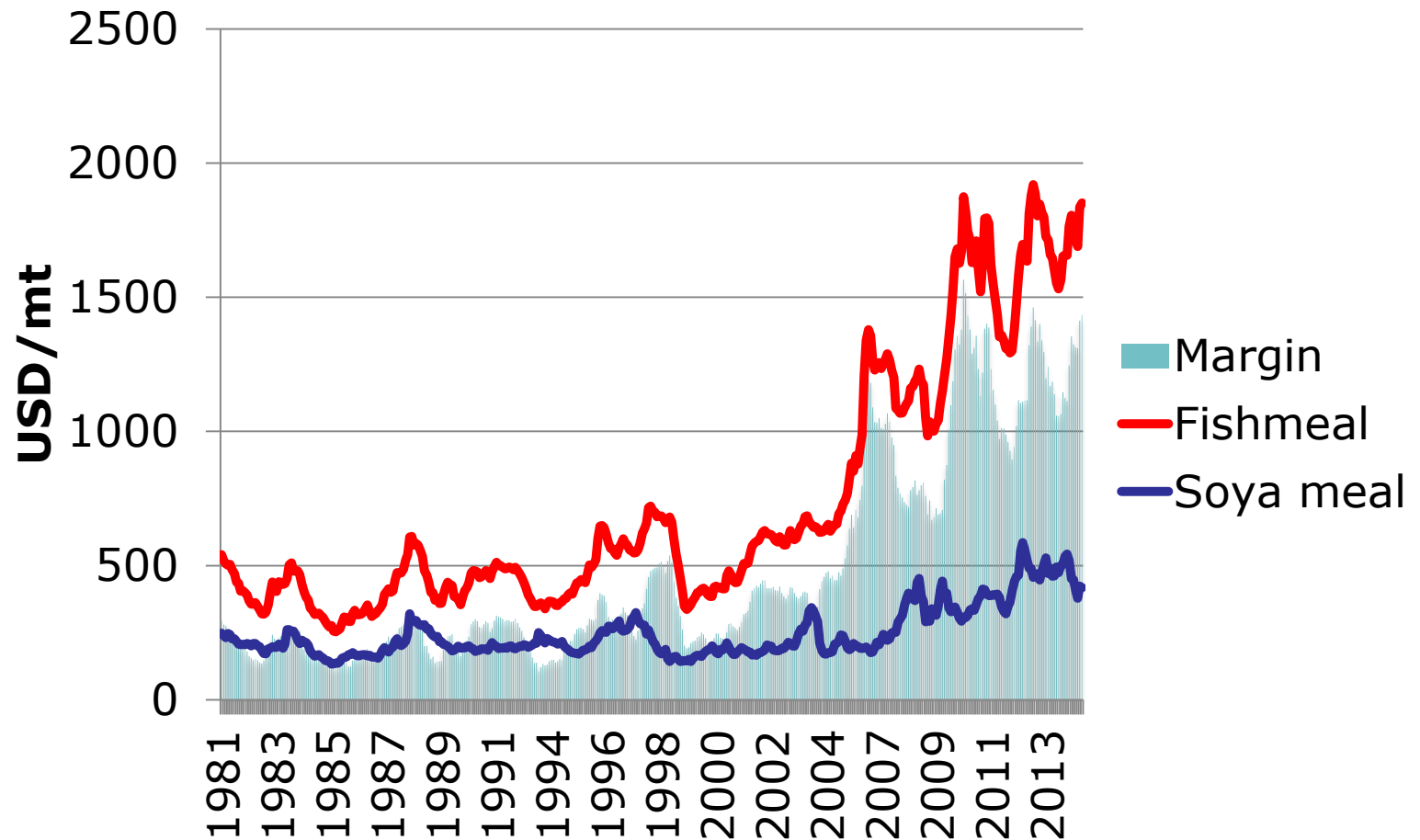


Opportunities and challenges

- The increased recognition of the beneficial effects of marine ingredients has created a tremendous opportunity
 - Economic activity and better human health
- There are, however, also several challenges, such as
 - Poor fisheries management which increase volatility and reduce biomass
 - But better fisheries management also increase competition as better quality makes more fish suitable for direct human consumption
 - And an increasing number of environmental NGOs questions the ethics of reducing fish to meal and oil

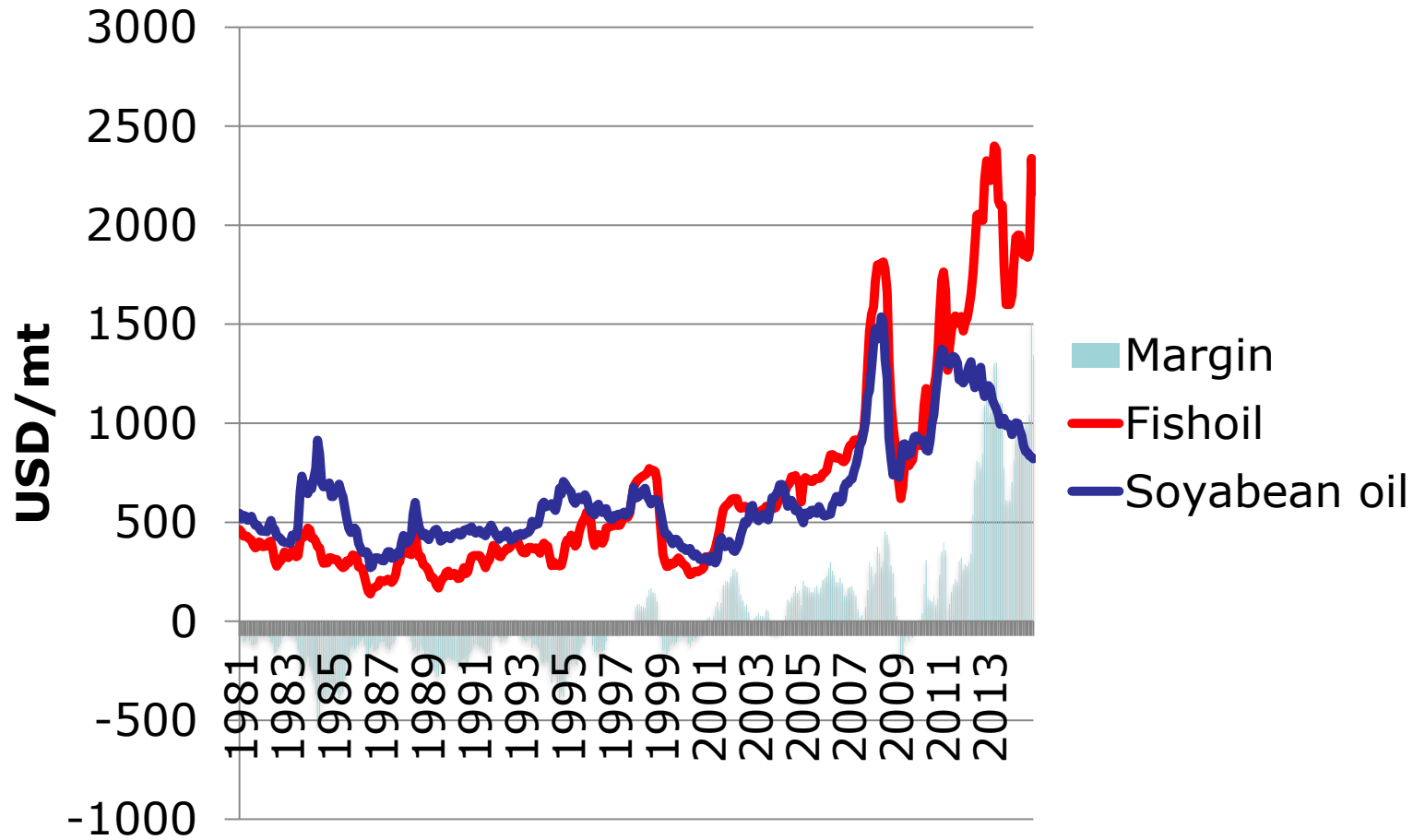
The opportunity: Fish meal and soybean meal prices

Higher prices reflect increasingly tight markets

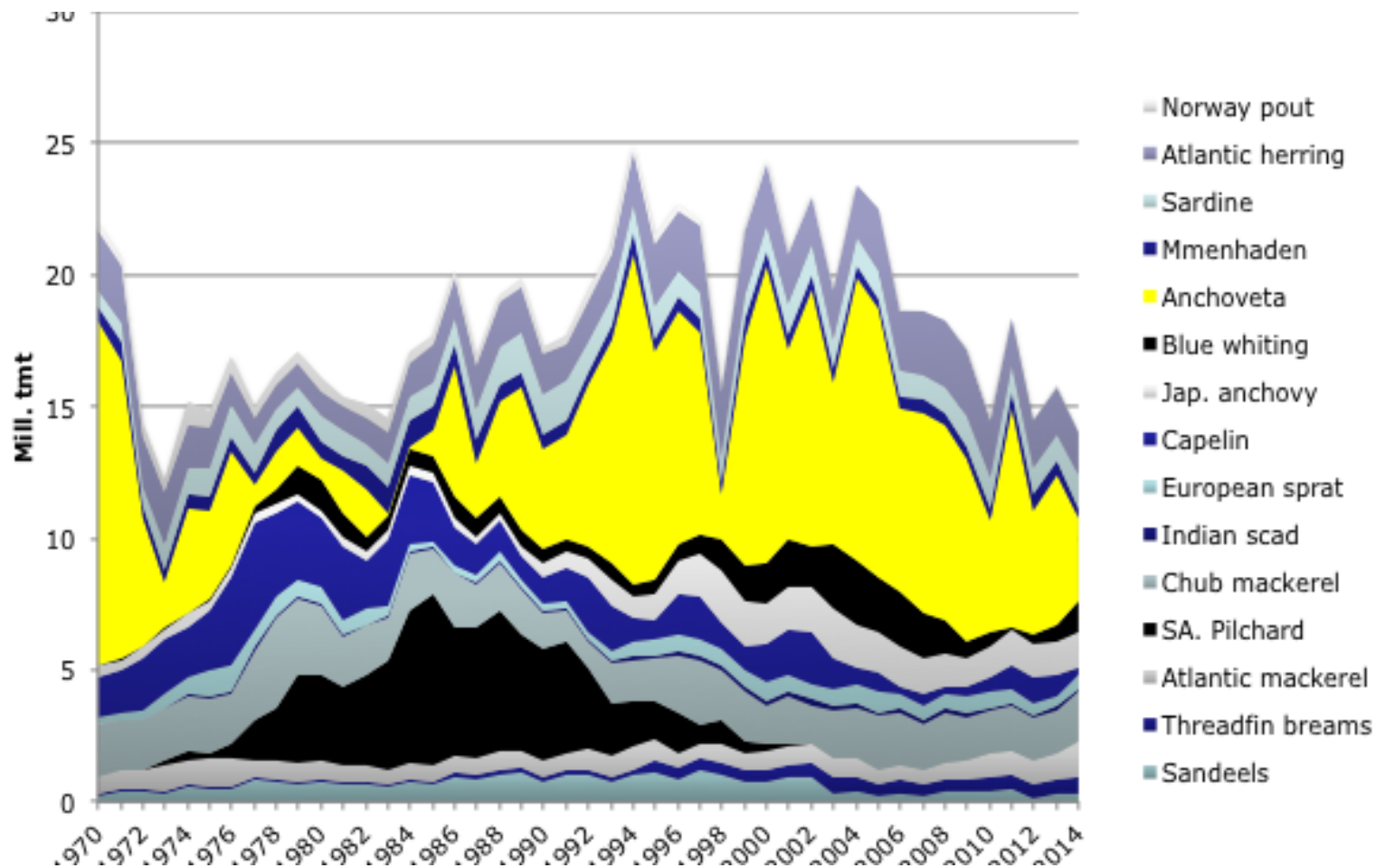


The opportunity: Fishoil and soybean oil prices

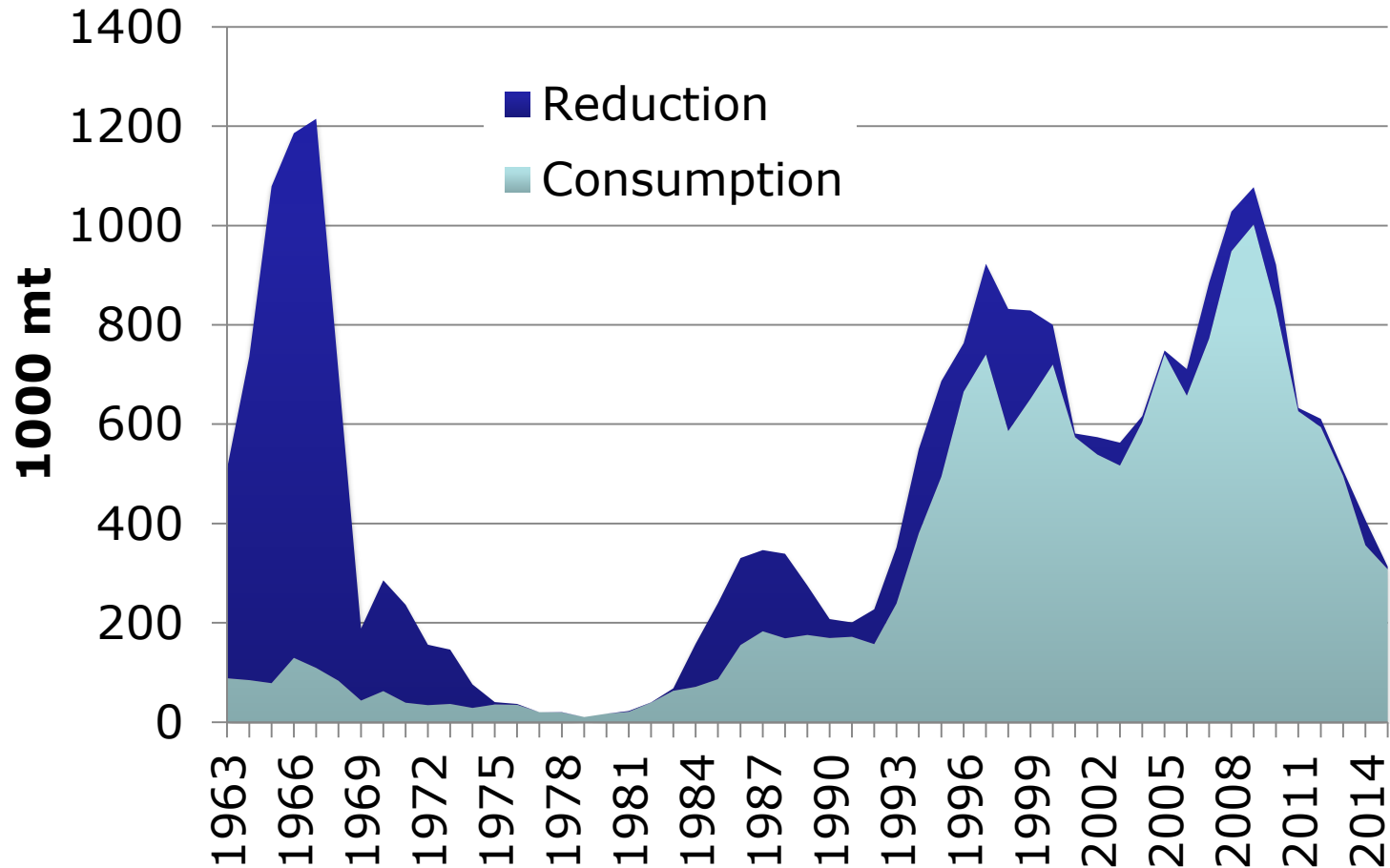
Higher prices reflect increasingly tight markets



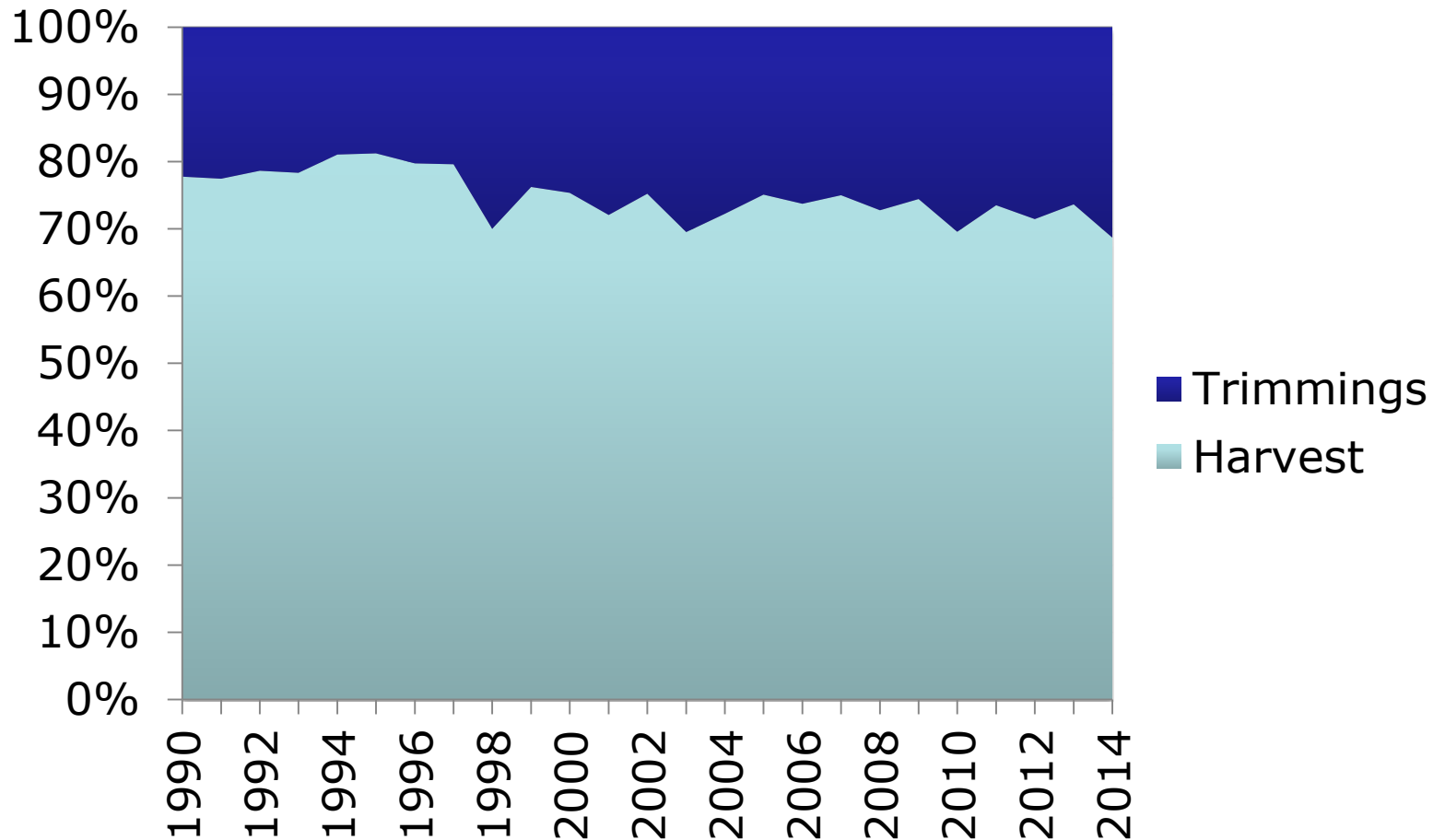
True, landings has been reduced: Main species landed for reduction



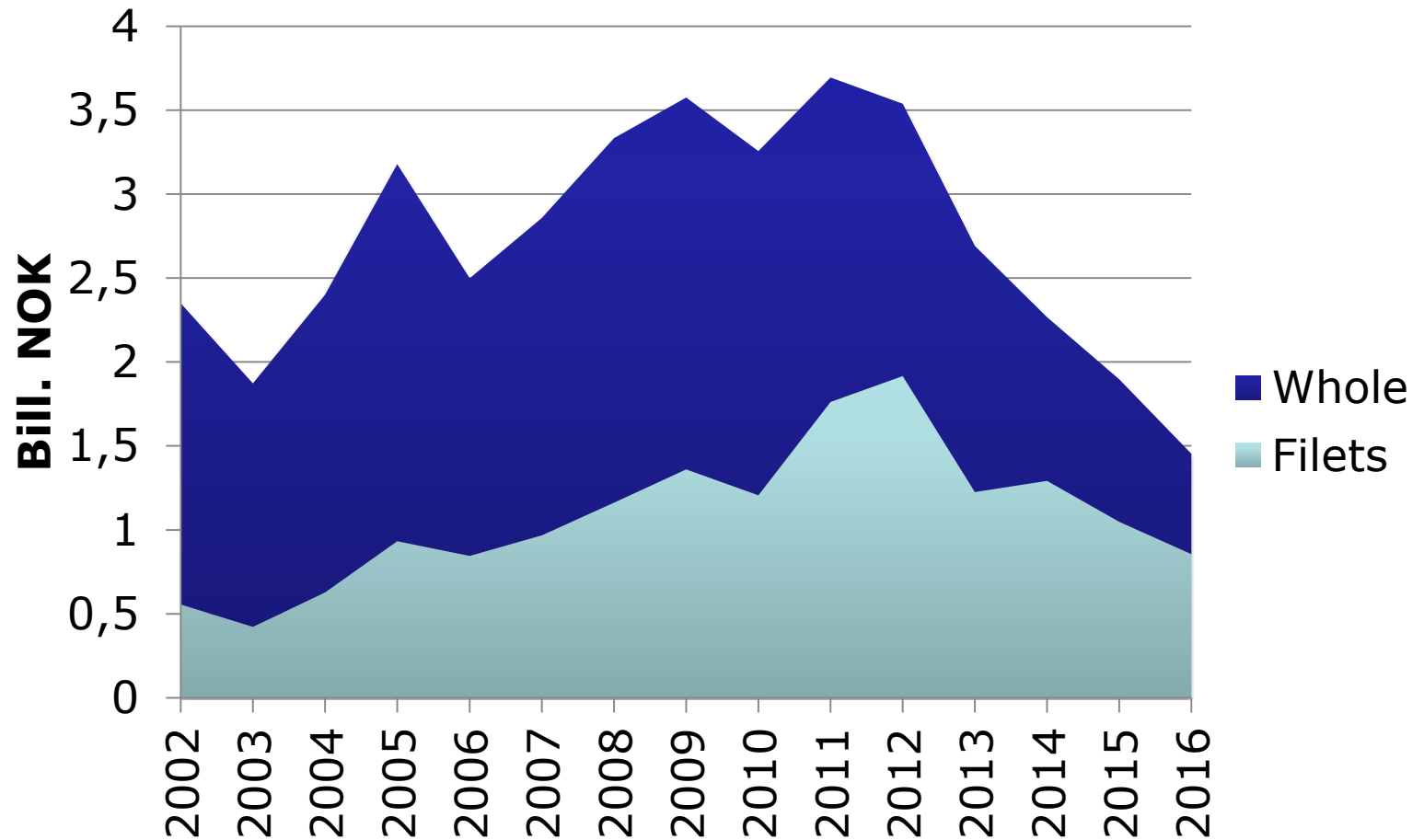
Better fisheries management can further reduce landings for reduction: Norwegian landings of herring by product



Other sources of raw materials than reduction fisheries are becoming more available



But better supply chains can enhance raw material availability: Norwegian herring exports
With 60% fillets, substantial quantities of trimmings is used rather than becoming food waste



And can aquaculture become the most important source for raw materials?

- In animal production all parts of the animal is used, giving rise to a substantial production of blood and feather meals
- With larger plants or better logistics, there is no reason why aquaculture should not be similar



Barriers towards use of trimmings

- Fisheries management
 - Volatility
 - Garbage handling

- Logistics
 - Good logistics tend to require scale
 - Alaska, and Norway provide examples that collection systems are possible, but silage has the lowest value

Omega-3 and food capsules

- Fastest growing segment of the fish oil market
- Driven by the fast-growing market for omega 3s consists of a range of products
 - Supplements (capsules)
 - Functional foods
 - Infant and clinical nutrition
 - Animal feed
 - Pharmaceuticals
- Market drivers
 - A growing demand for healthy products
 - Science supports omega-3's health benefits
- Fish oil makes up a small part of total cost, and demand is relatively insensitive to the fish oil price



But increased demand is also an opportunity for other sectors.
Will the price become so high that the "marine ingredients"
will come from here?



An increasing number of people question the ethics of using fish for food

- Fréon et al (2014) Harvesting for foods versus feed. *Reviews in Fish Biology and Fisheries*.
- This is a topic that is not likely to go away
 - The challenge is similar to what one can observe in a number of other food chains
- Proactive defense can help
- Wealth creation in a country is largest when producers are allowed to produce the most profitable product form

Conclusions

- Prices for fishmeal and fishoil has increased substantially as they increasingly are demanded for their unique properties, and supply is declining
- This creates a major opportunity, that the industry is already partly exploiting
 - But one can do better, particularly with better fisheries management and better supply chains



Conclusions

- Alternative raw material sources can increase production
 - Will have a negative effect on price
 - But will limit the potential competition from agriculture
- Alternative raw materials for fishmeal seem to be easier to get hold of than for fish oil, while demand seems to be strongest for fish oil
 - That implies that the price potential for fish oil is the largest
- As far as I can see, the opportunities are tremendous, while the challenges are addressable
- But one must be able to and get better to exploit the unique properties of the marine meals and oils

