

Price Transmission and Market Growth in Different Supply Chains

Frank Asche

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Introduction

- Demand growth
 - A main driver for increased production of some products
 - The main driver for bringing some species to the brink of extinction

- Price transmission and organization of supply chains

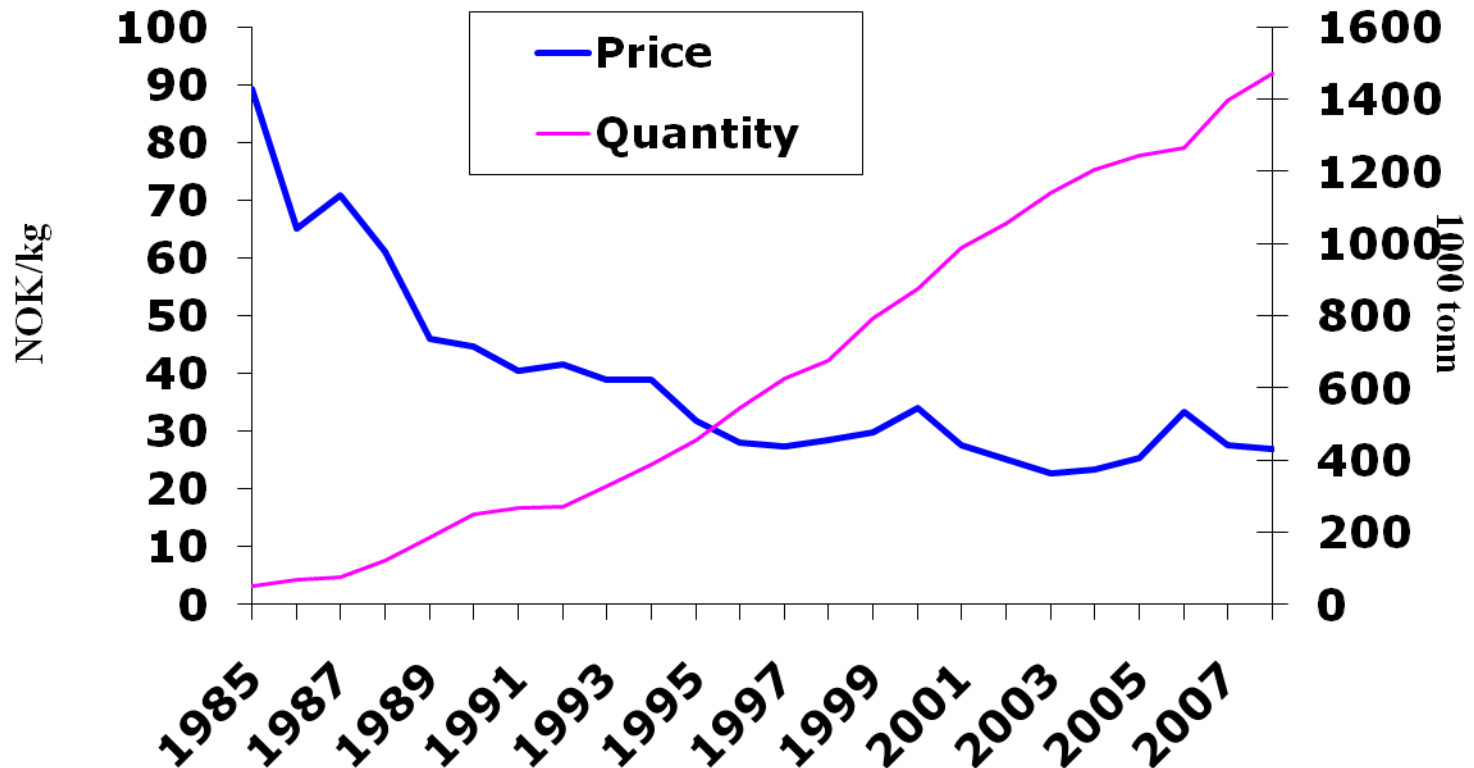
Why is aquaculture production increasing?



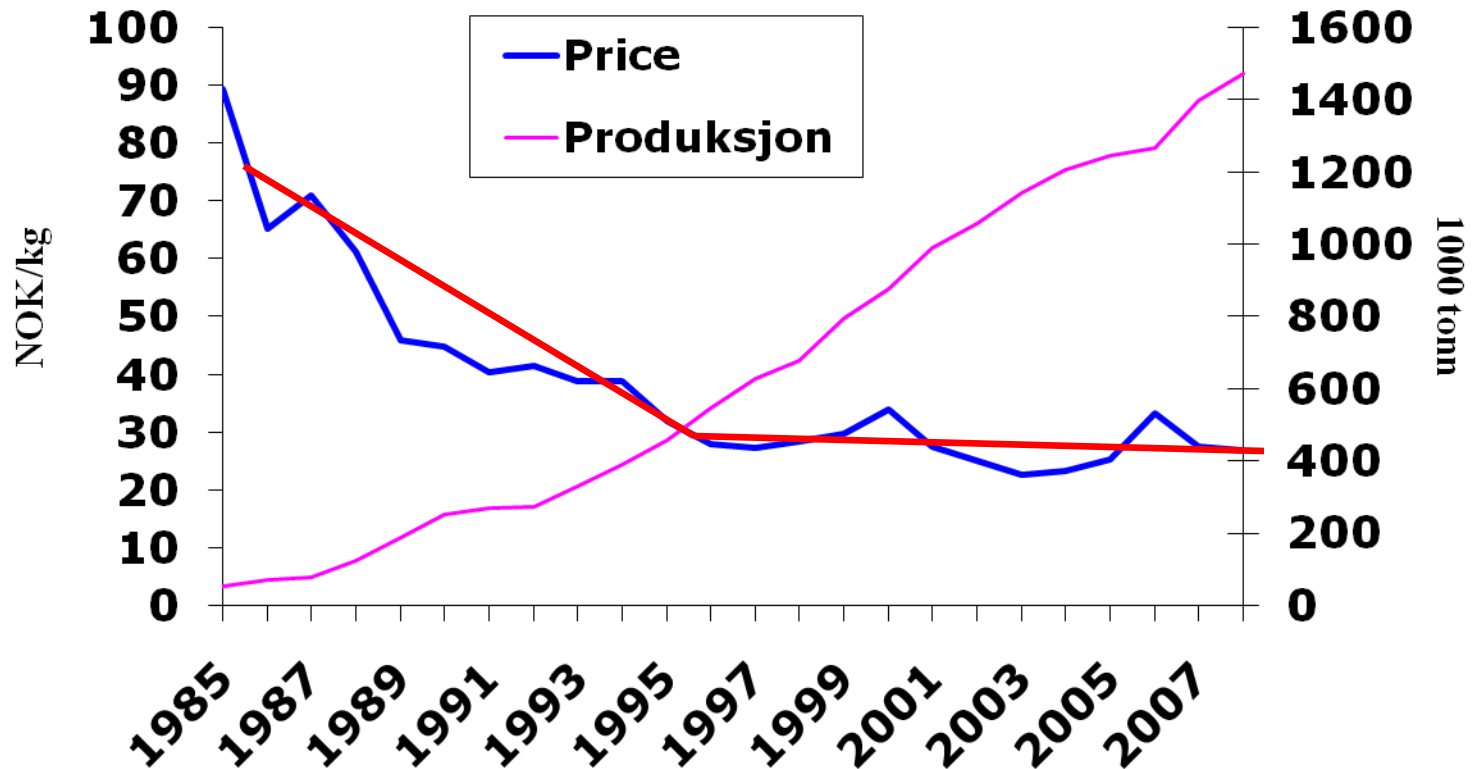
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- Two main explanations
 - 1. Lower production cost makes it profitable to sell the product at lower prices
 - 2. Increased demand because of changed consumer preferences makes the consumers willing to buy more at the same price
- Until the mid 1990s productivity growth was the main engine in the growth of salmon aquaculture
- After this, demand growth has taken over as the main engine, as productivity growth has slowed

Norwegian export price and global production of Atlantic salmon: Demand growth is becoming more important



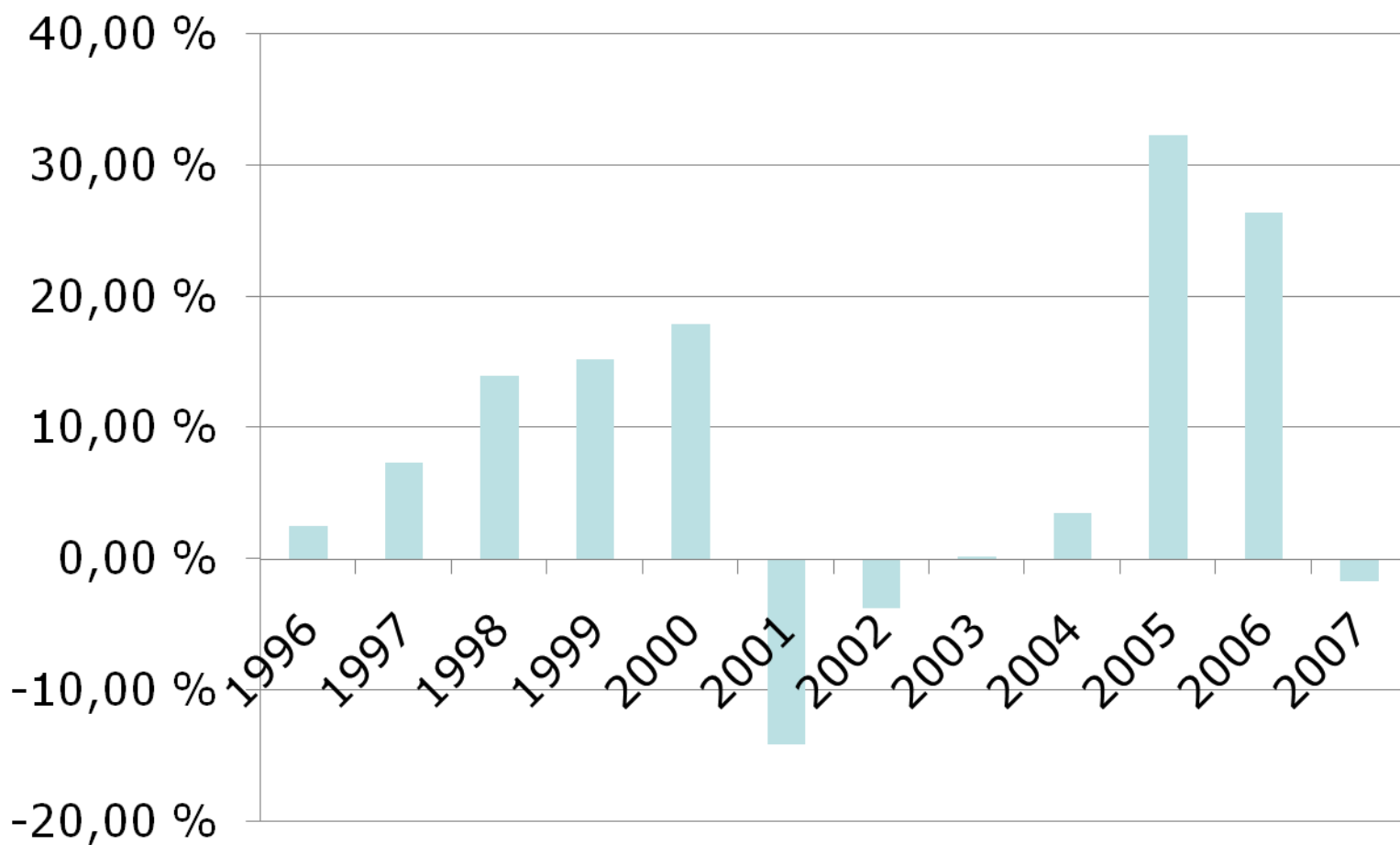
Norwegian export price and global production of Atlantic salmon: Demand growth is becoming more important



Demand growth is becoming more important

- Profitable growth during the last decade has been possible because of demand growth
 - Demand growth is primarily due to product development and new market channels
 - For many new products, there is a large degree of capital binding in the production
- Traditionally measured with trends and indicator variables
 - DEA and other nonparametric approaches

Demand growth, EU



Other species

- Shrimp
- Pangasius and tilapia
- Sea bass and sea bream
- Bluefin tuna
- Cod

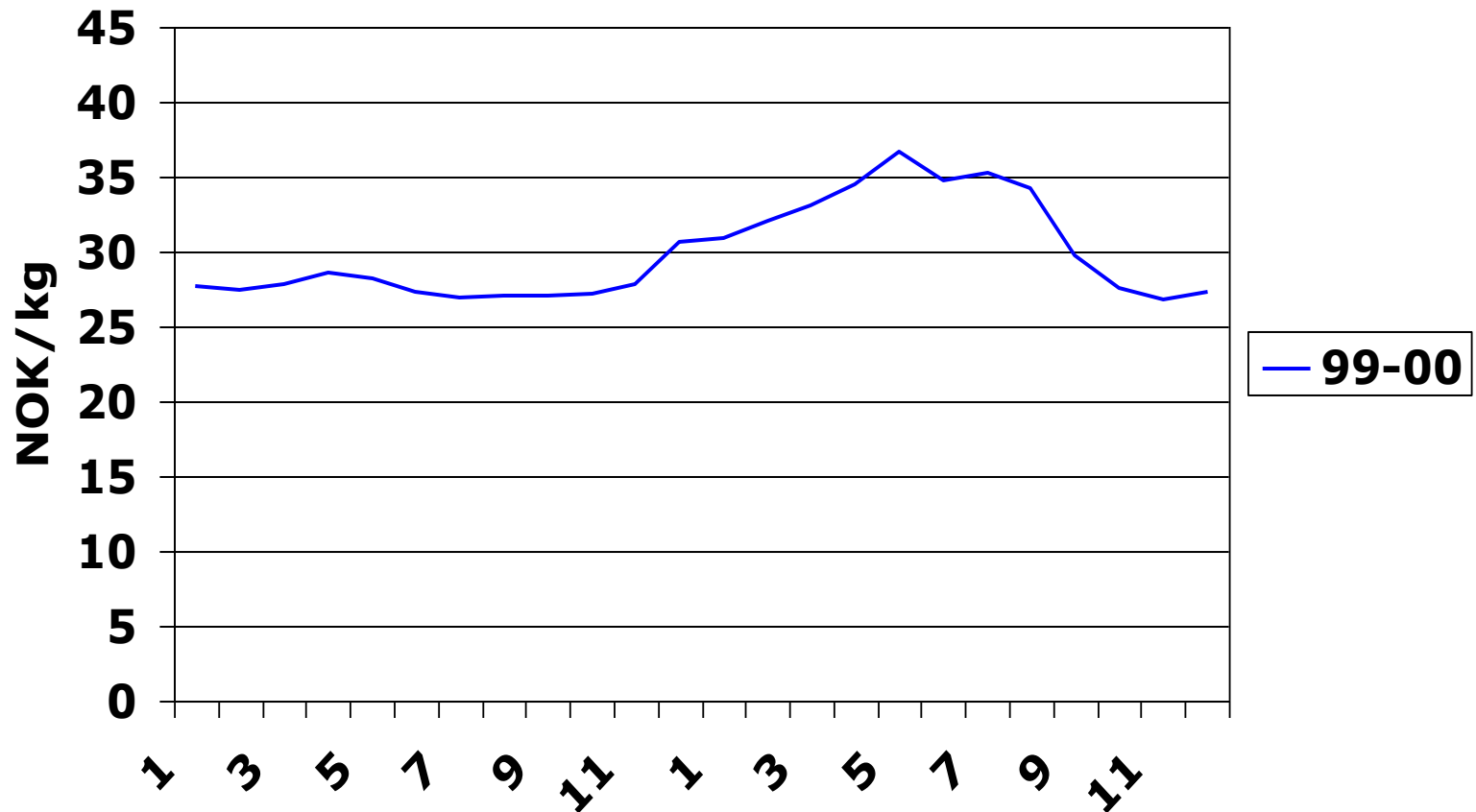
- Interaction

Price cycles are unavoidable

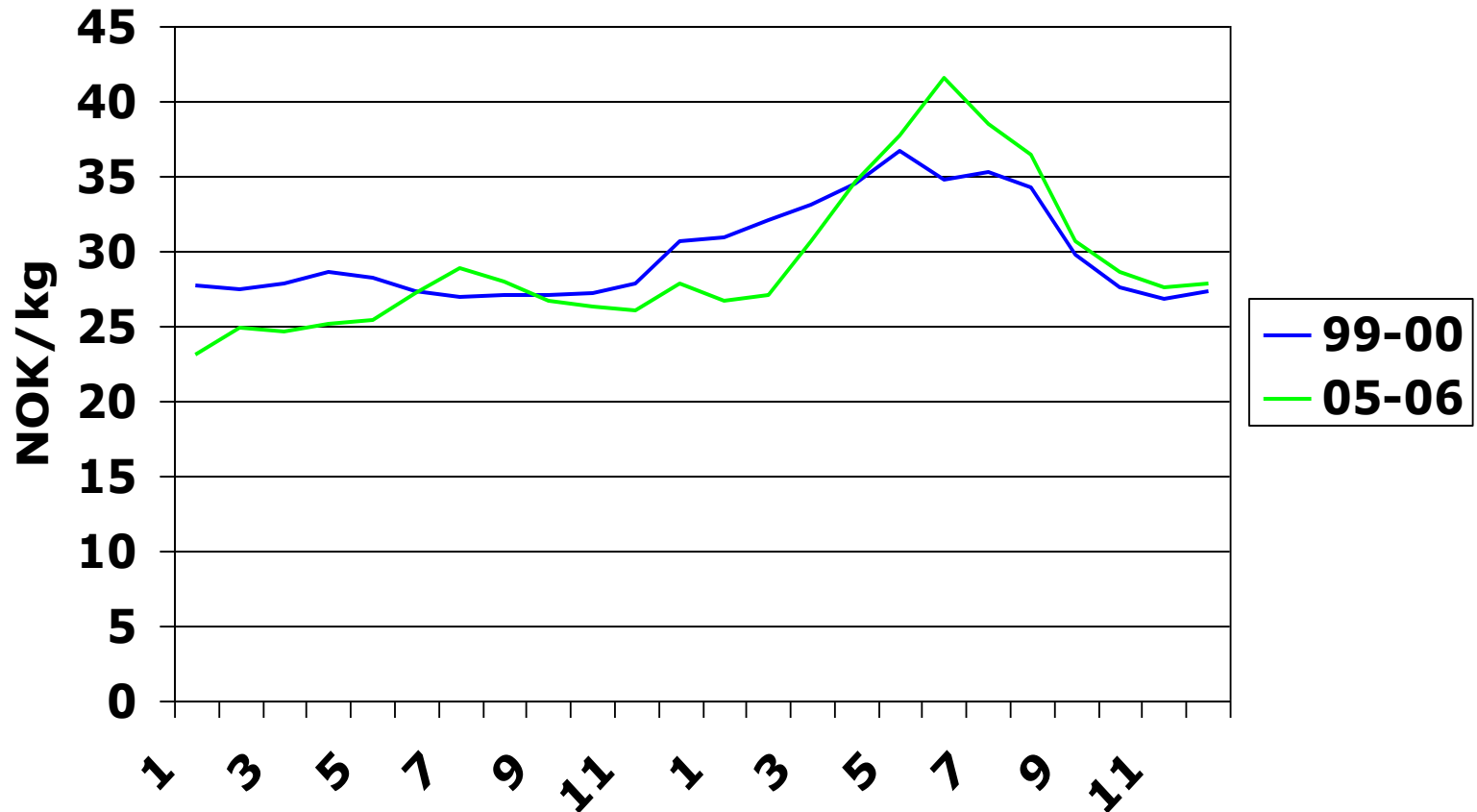
- Seafood supply chains have changed from traditional spot oriented chain to chains with a significant number of new transaction forms,
 - Salmon most advanced
 - Mainly after the salmon has left Norway and the UK
 - Also gives a number of new types of risks in the supply chain
- As long as nobody can predict productivity and demand growth with sufficient precision, there will be price cycles
 - Chile and exchange rates seems to be most important for the current salmon cycle
 - Pangasius is hit by the financial crises
 - Sea Bream
- Is present in all commodity markets
 - The largest commodity market in the world, crude oil is as exposed as any other market

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- The price is the most important mechanism to ration any product
 - Still, one may wonder if salmon prices above 40NOK/kg is necessary in short period when there at any point is significant quantities available in the pens and production cost is around 20 NOK/kg.

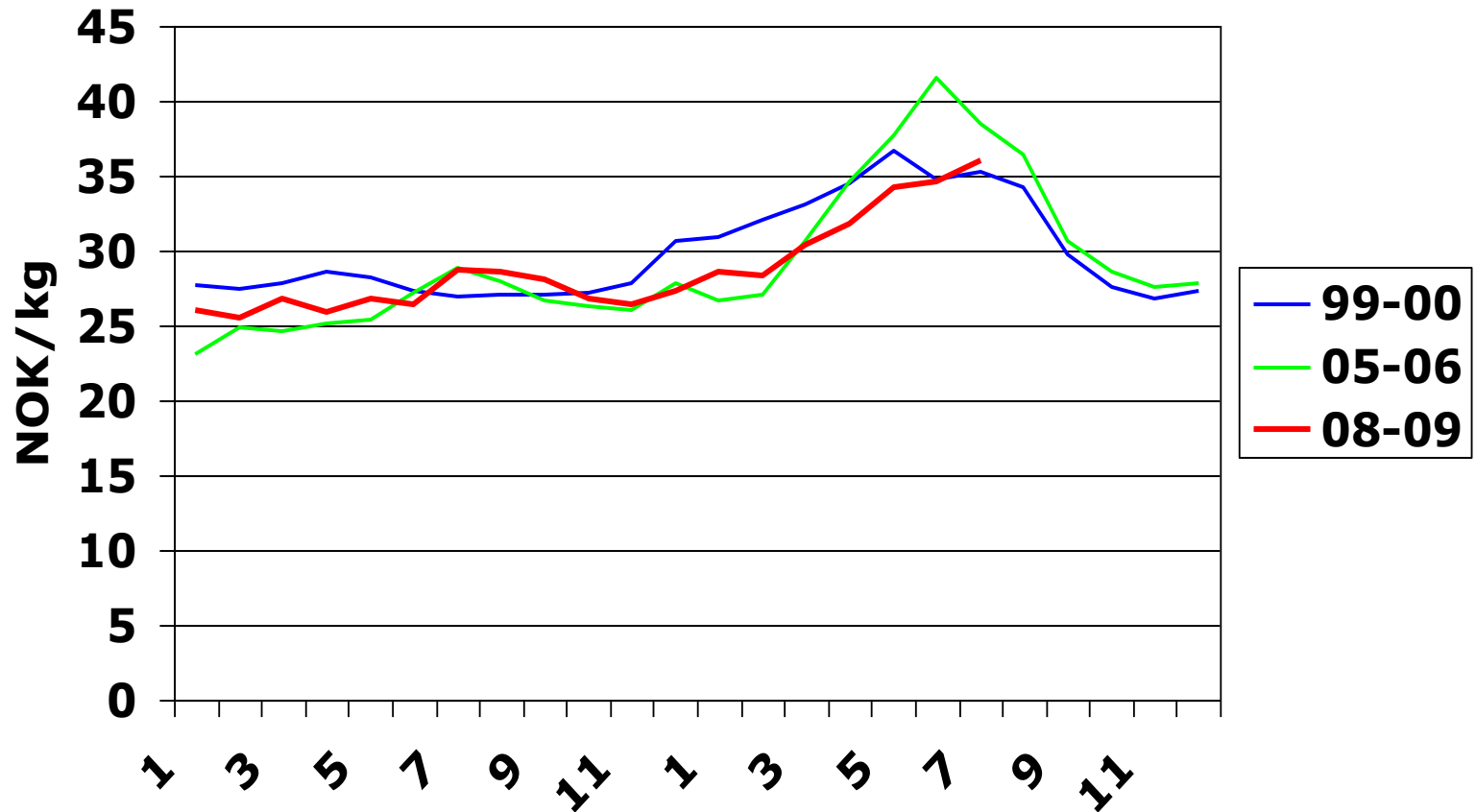
Salmon price during "bubbles"



Salmon price during "bubbles"

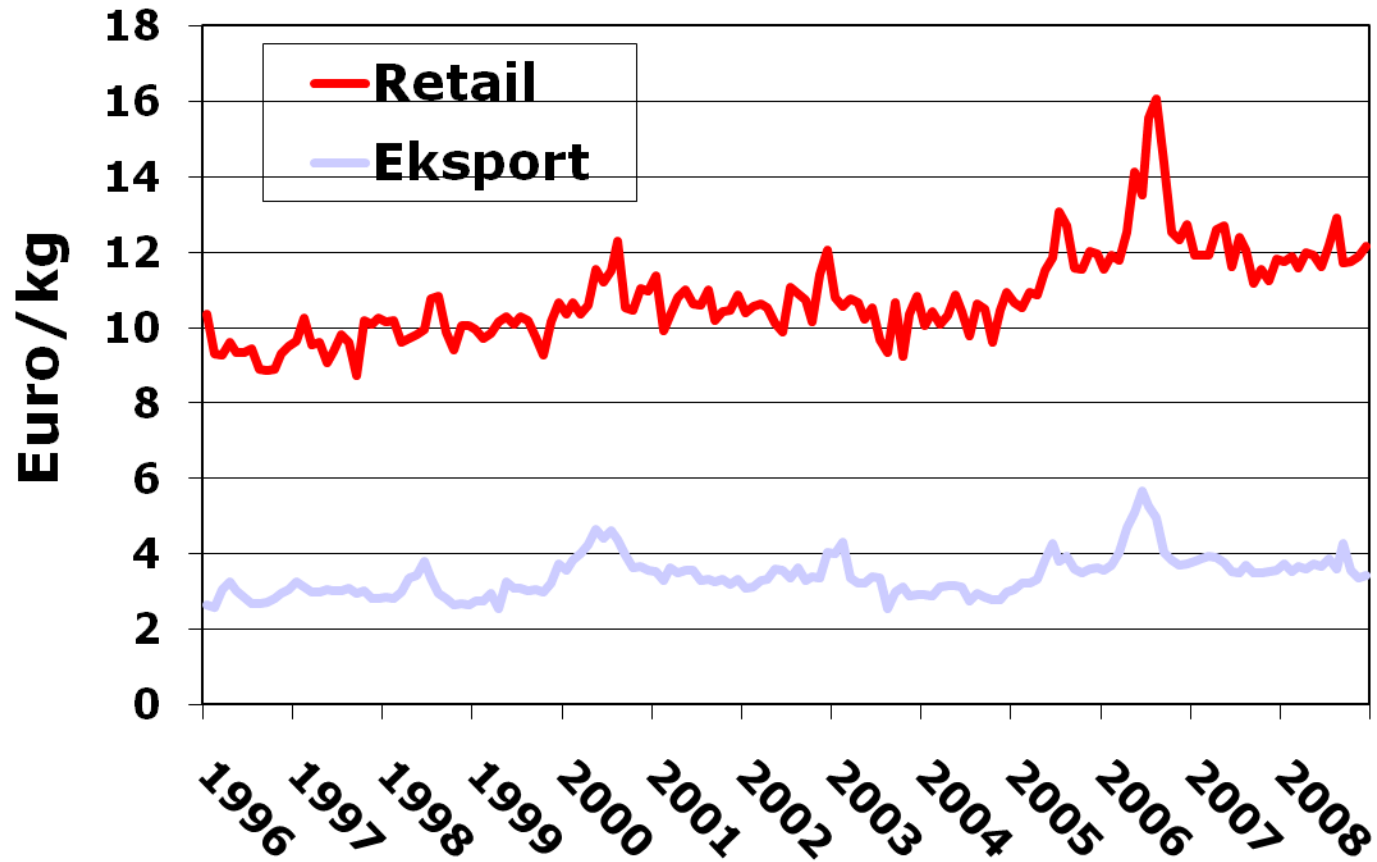


Salmon price during "bubbles"

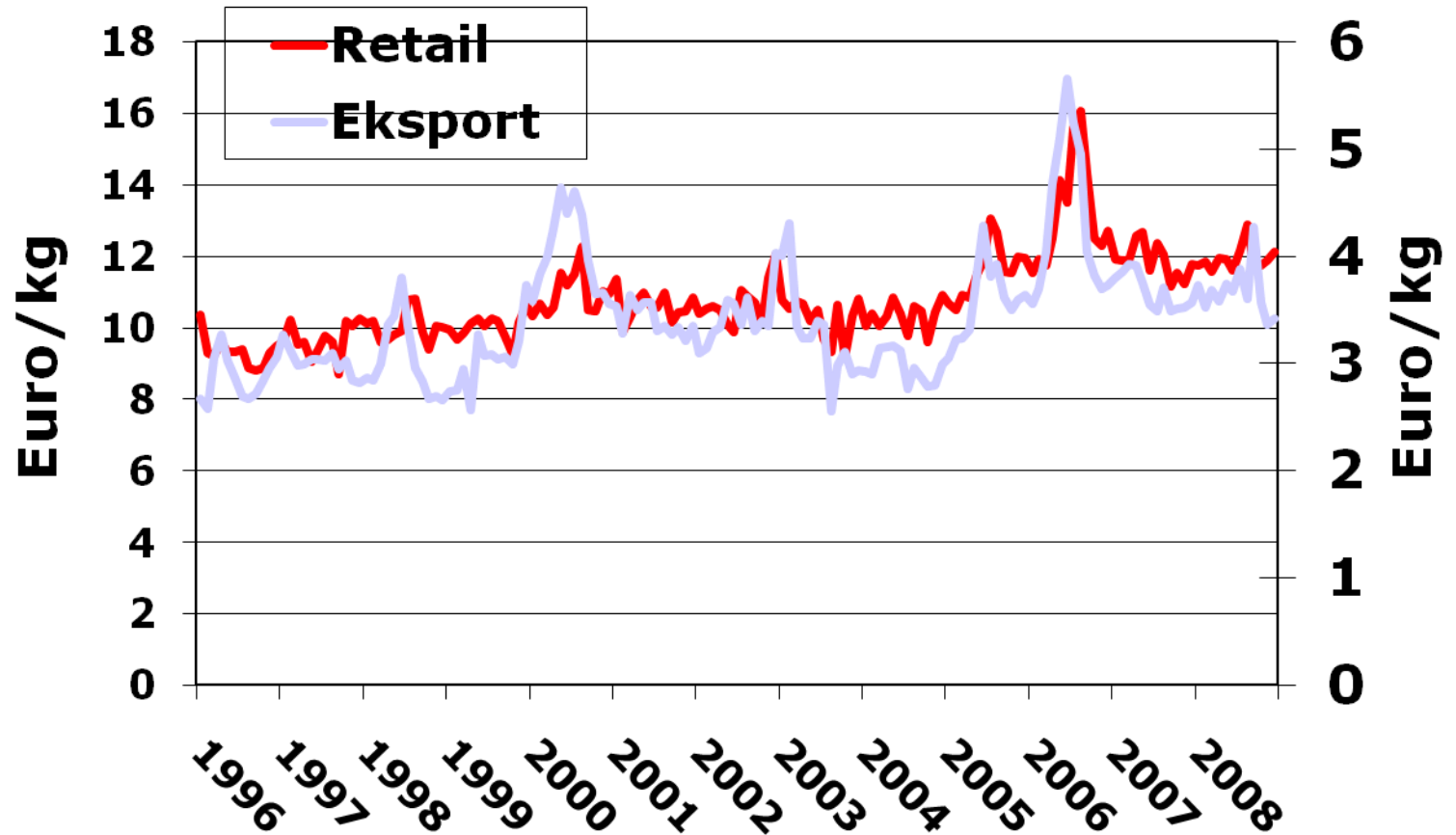


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- It is a limited supply together with the fact that some buyers must have salmon that create these bubbles
 - Is there some particular factors during some summers that creates these bubbles in the years 2000, 2006 and 2009?
 - A tight market seems to be a necessary but not sufficient condition

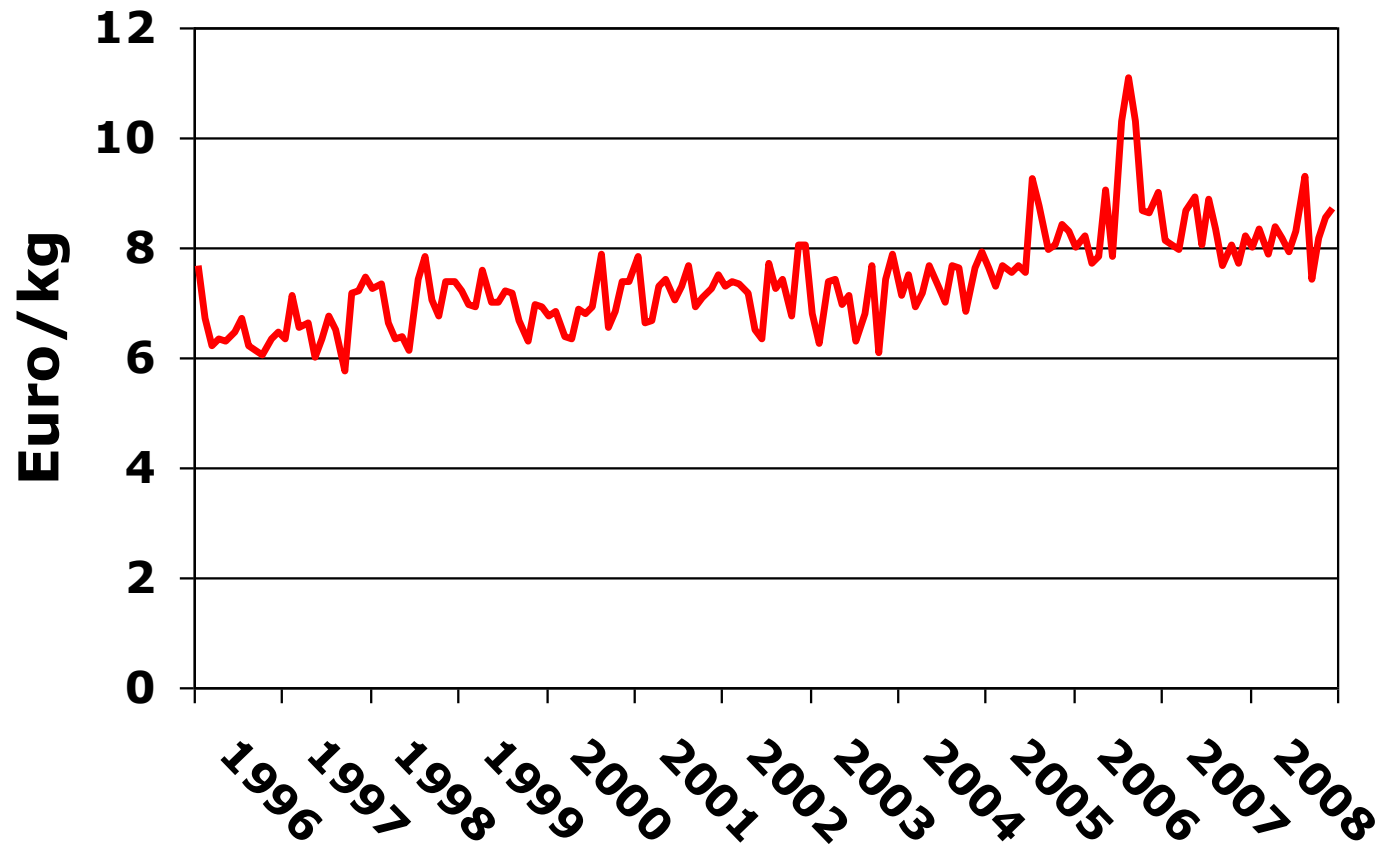
Norwegian and French fillet prices



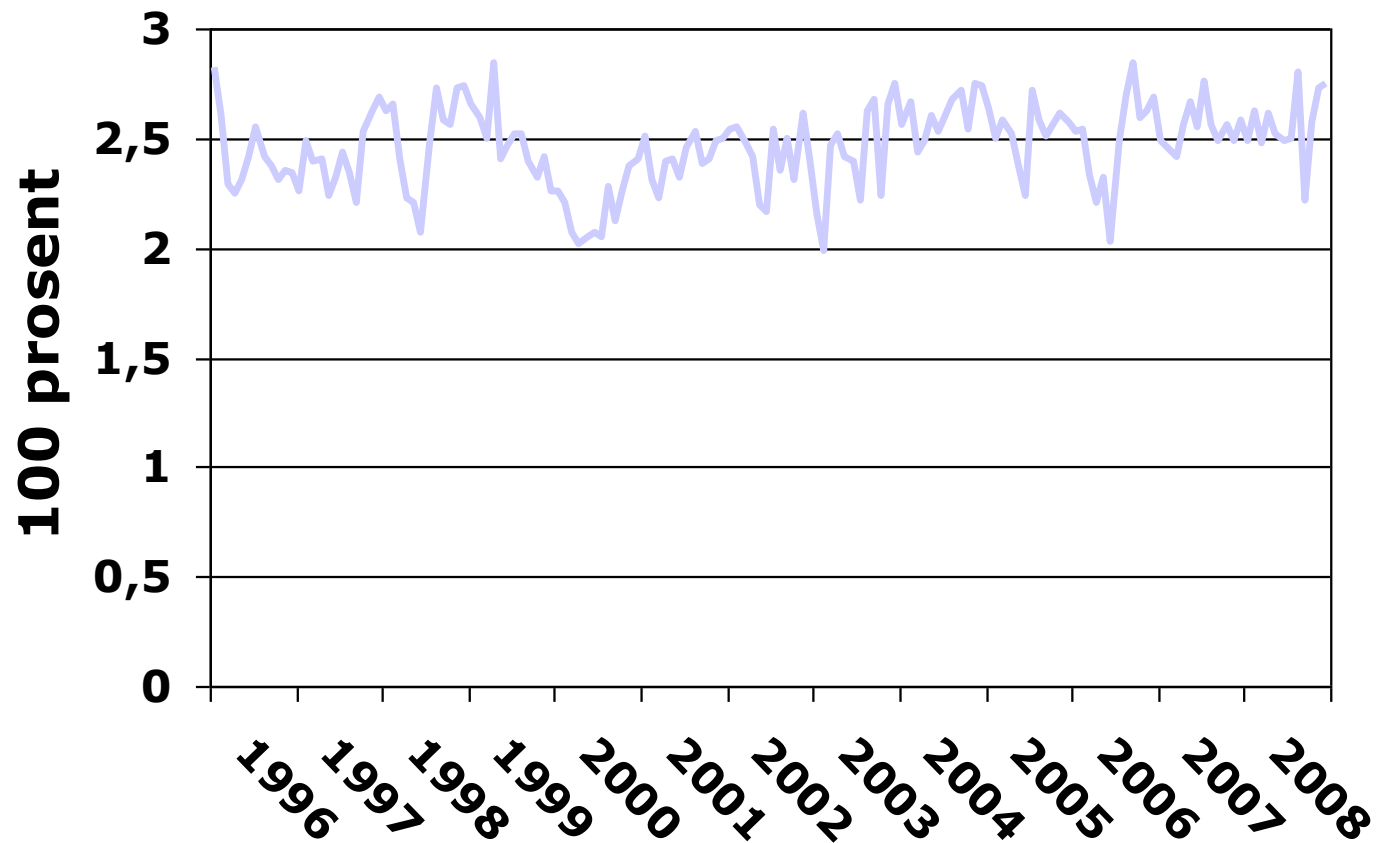
Norwegian and French fillet prices



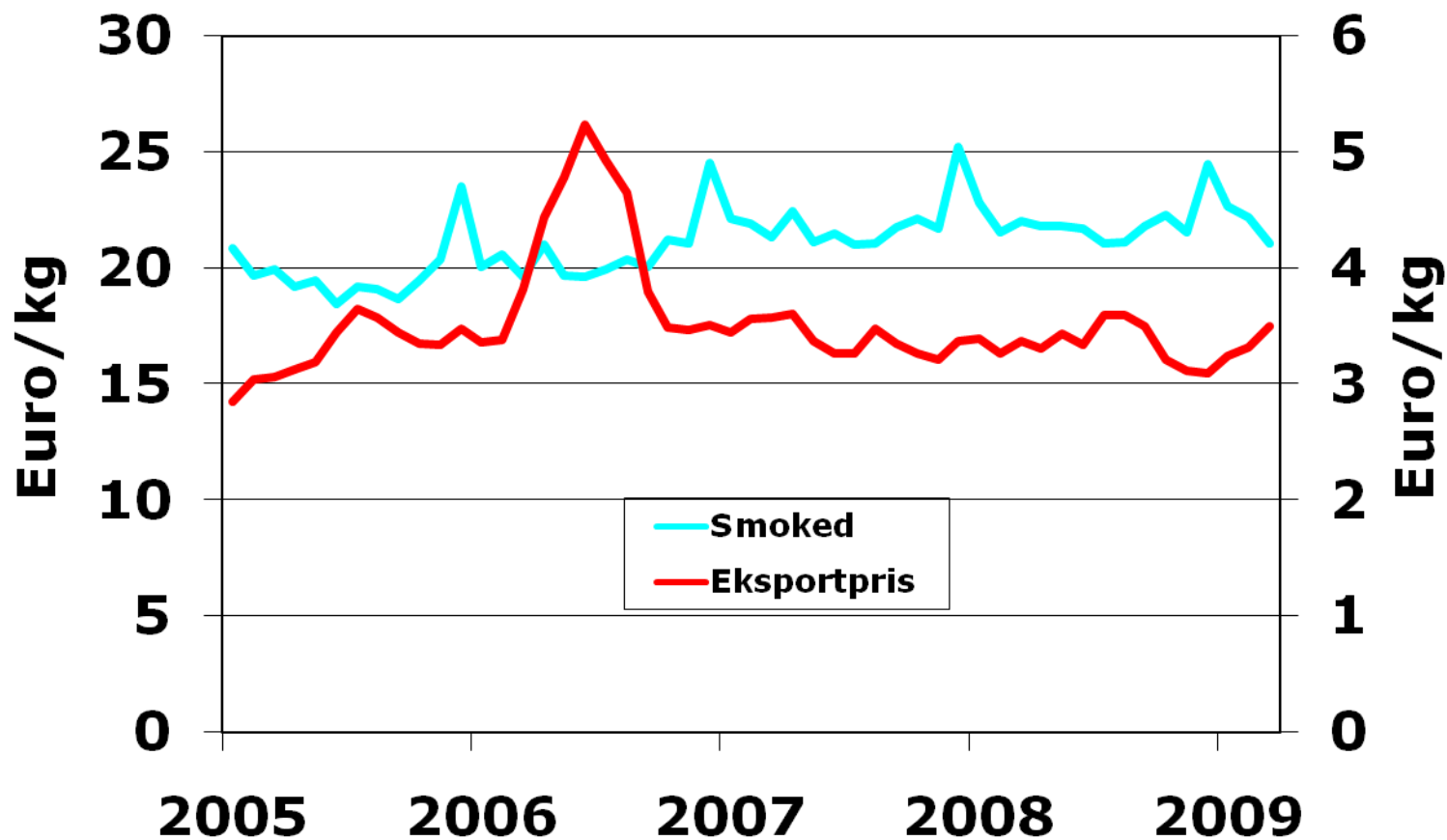
Margin



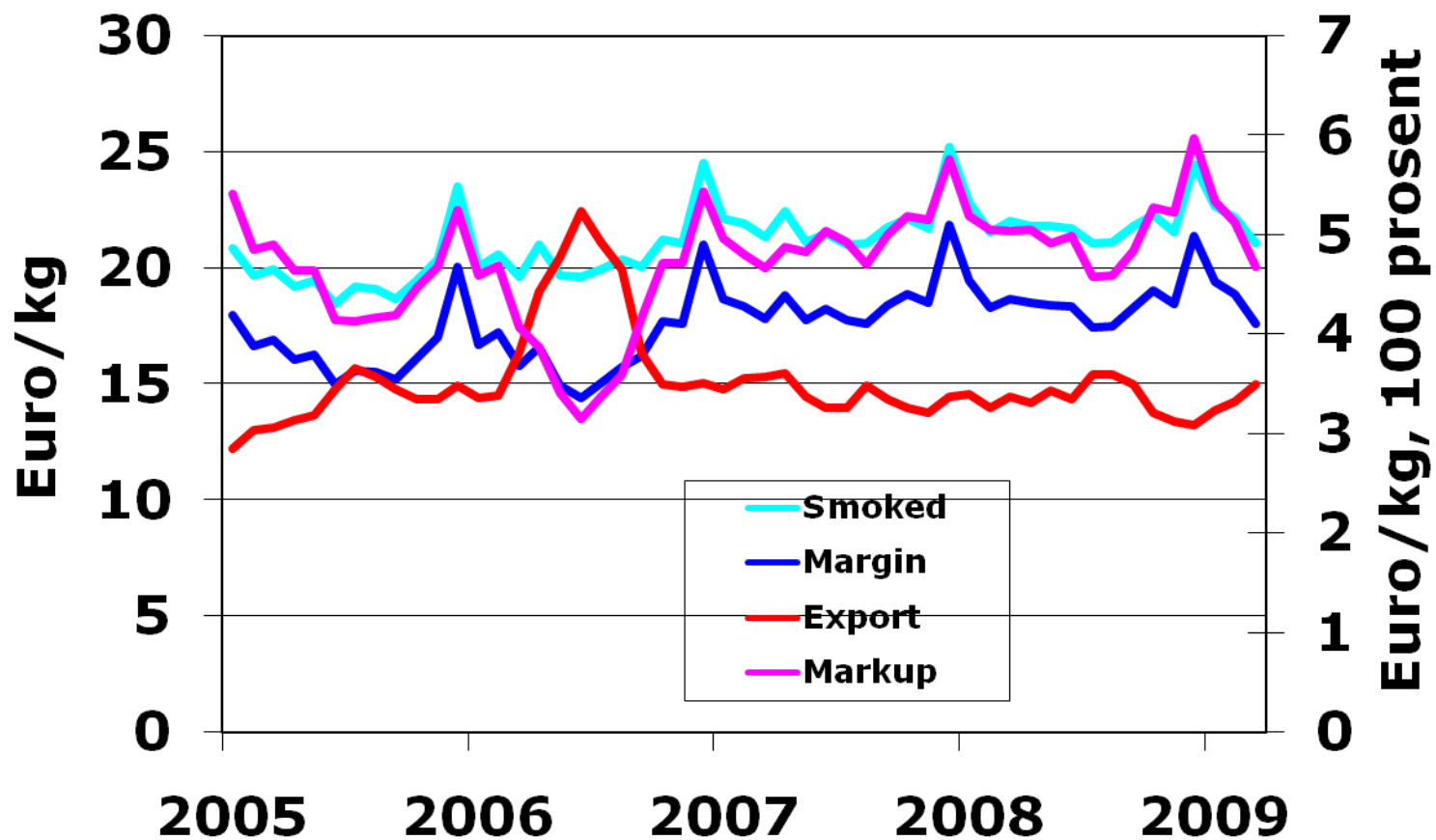
Percent markup



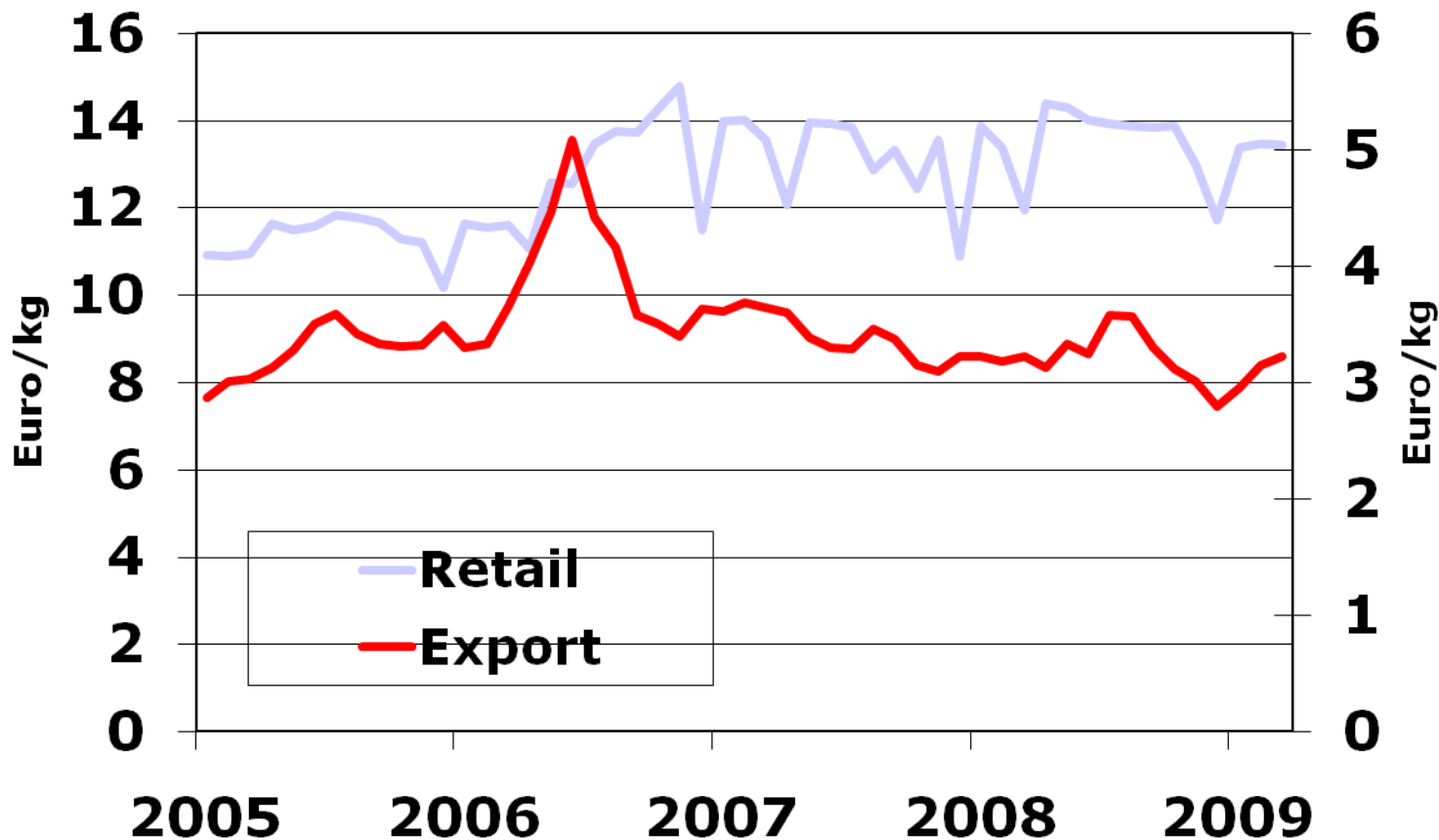
France, smoked salmon



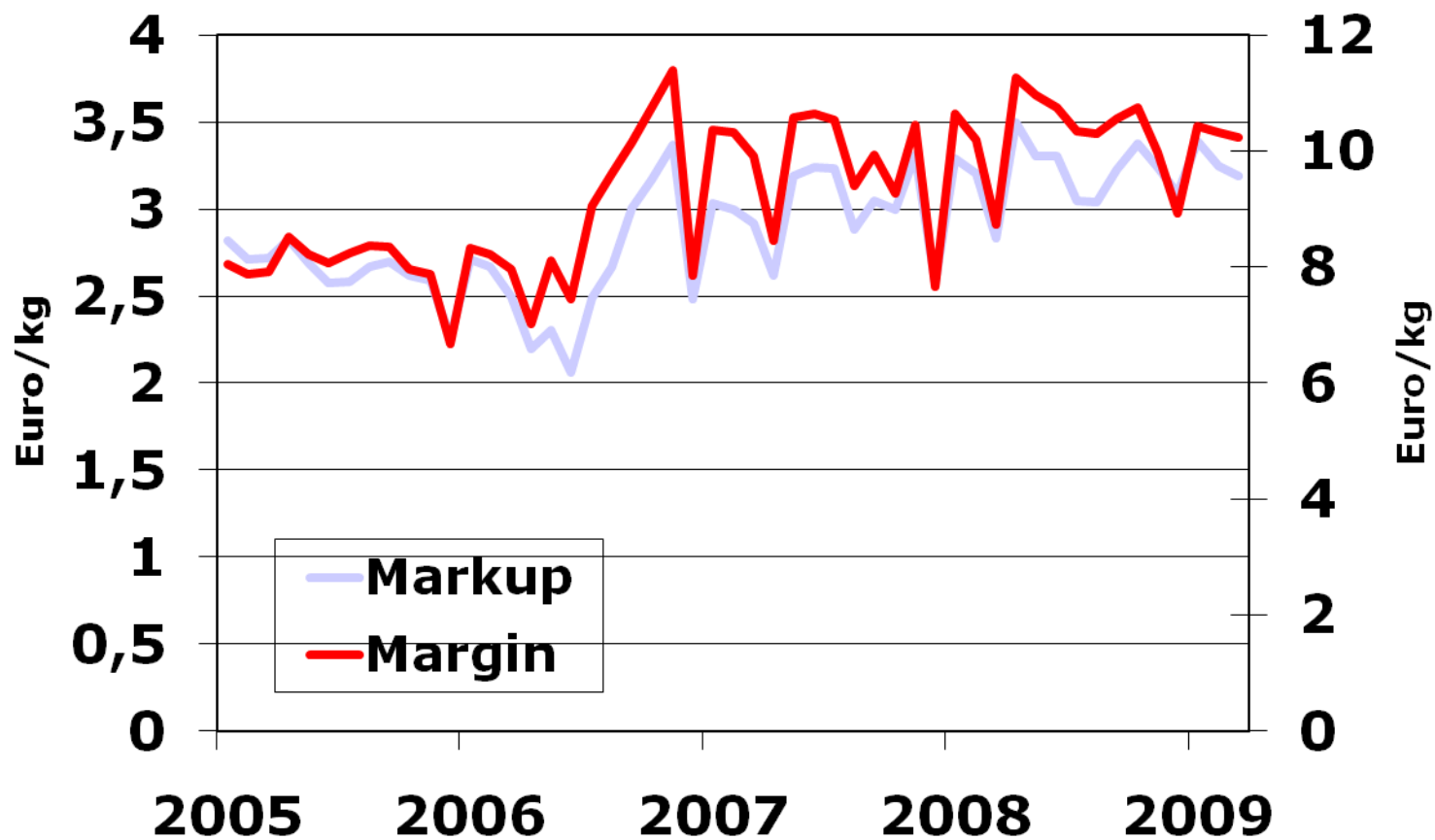
France, smoked salmon



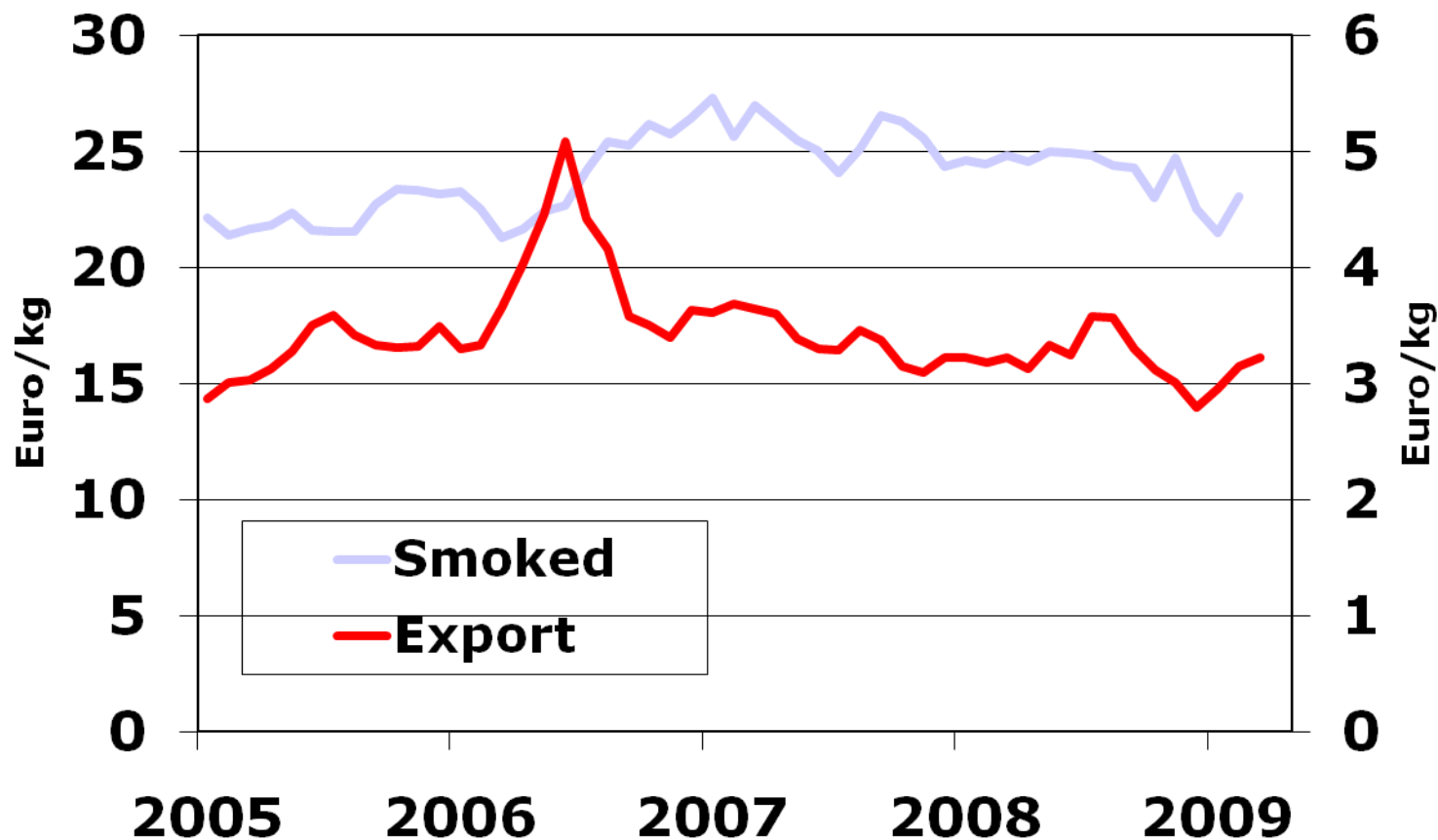
UK, fresh fillets



UK, fresh fillets



UK, smoked salmon



Price transmission differs

- Price cycles is transmitted differently in different supply chains
 - The cycles also influence profitability for companies in different chains differently
- One can observe price transmission elasticities that are one and basically zero, and that some price changes are permanent while others are being absorbed by intermediaries
 - Implies different risk premium in the different supply chains
- Price transmission tend to be high upstream

We know too little about intermediaries

- The effect for smoked salmon in France is most likely the most representative for more processed products
 - Retail chains demand stable prices in the short run
- The companies must then have financial ability to get through the cycles, or find other means for insurance
 - But this requires capital that must give a return
 - In periods with high prices, some intermediaries will disappear, and reappear (as new firms) when prices come down
 - Both structures create risk costs in the supply chain, and reduce the competitiveness for salmon

Other measures

- Contracts
- Vertical integration
- Futures (Fish Pool)
- All approaches gives a smother cash flow, but as costs
- With futures the risk premium is most explicit

Other issues

- Reexports
 - China, then Vietnam and now India
 - Poland

- Cod
 - The share of dried and salted products are higher when prices are high
 - The frozen industry has moved to China

- Pangasius
 - As a cluster
 - In processing companies
 - In India

Per capita seafood consumption, USA

