

**OUT OF THE BLUE:  
EXPLORING THE UNANTICIPATED  
ENDURANCE OF THE DANISH MARINE  
EQUIPMENT INDUSTRY**



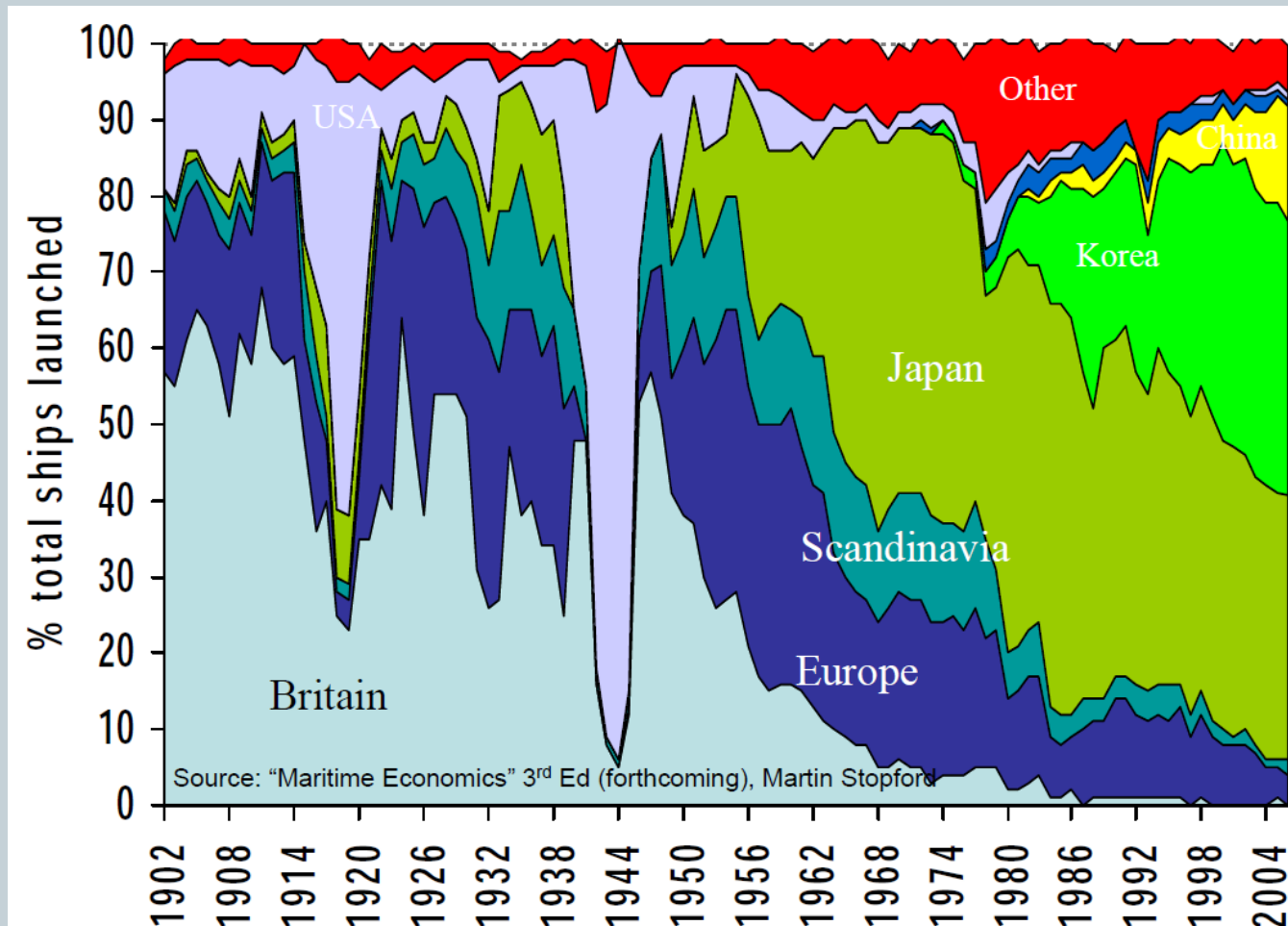
**RENÉ TAUDAL POULSEN  
AND HENRIK SORNN-FRIESE**

# Background

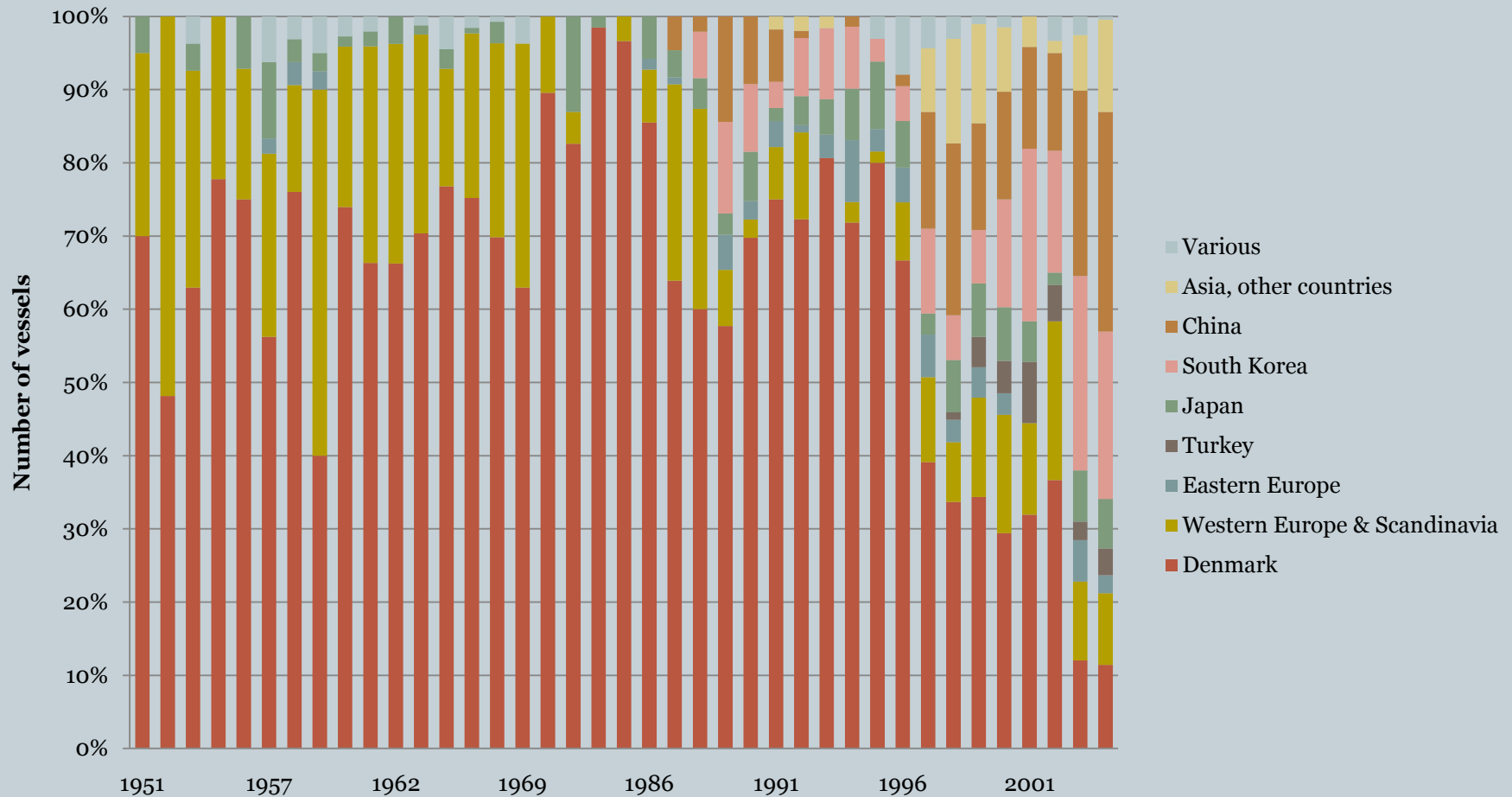


- **Historical shift in global shipbuilding**
  - Historical contraction of European shipbuilding industry
- **Downfall predicted: Falling dominos**
  - Suppliers will fall with the yards
- **However: Historical hindsight**
  - Growth and expansion
  - Dominant position in several sub-sectors
  - Internationalisation

# Historical contraction of European shipbuilding



# Danish orders by location of yard, 1951-2007



Source: Søfart, 1951-2007

# Question



- Reasons for growth: What caused the unexpected endurance and growth of the Danish marine equipment industry?
- Exploring two explanations:
  1. Innovative capabilities: Focus on high tech products only
  2. Network effects: Spill-over from expanding Danish shipping

# Methods and data



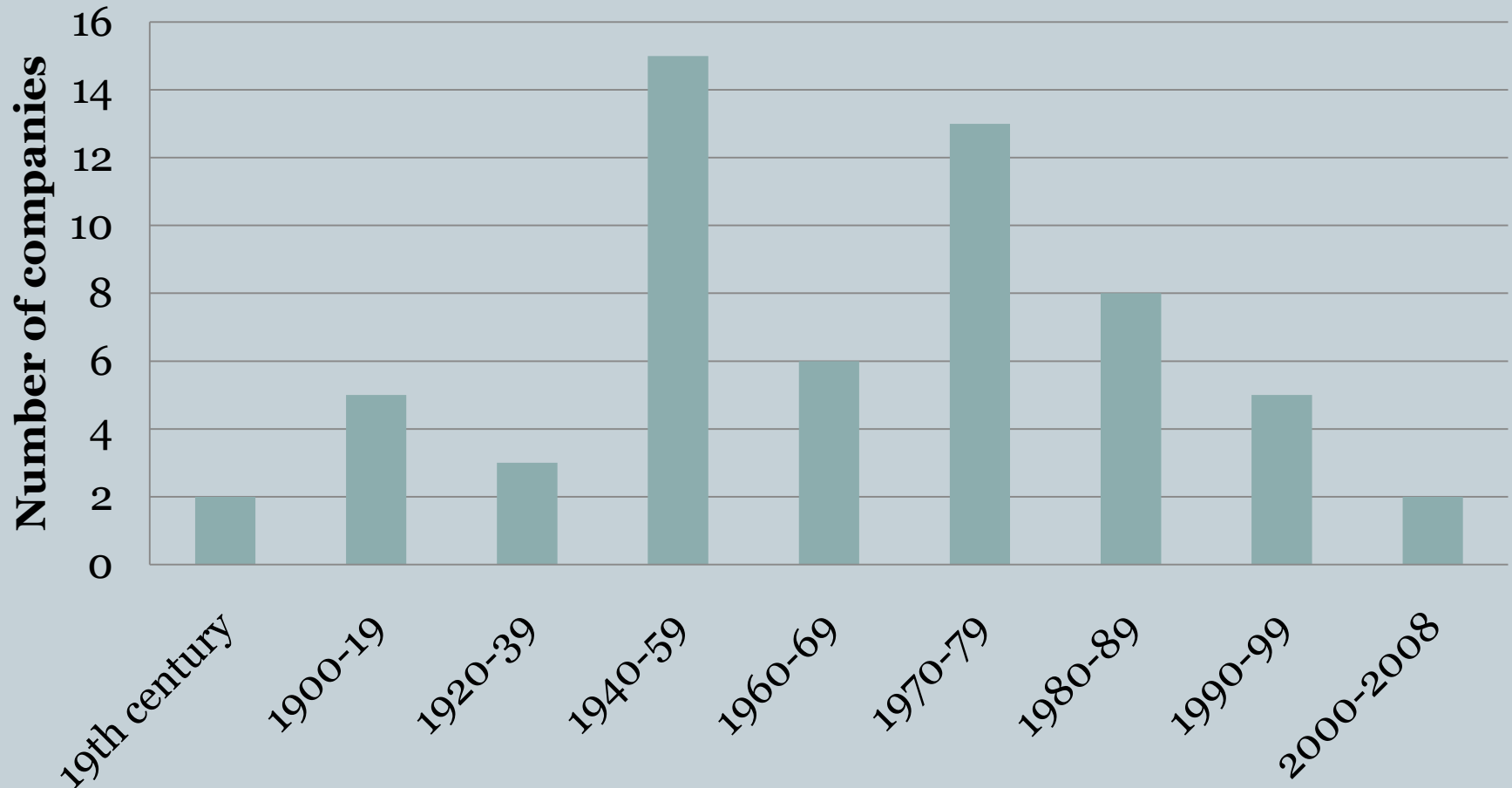
## 1. Company biographies:

- ✦ When did entries and exits from industry take place?
- ✦ What was the product range? Did it change?
- ✦ Sources: SMM trade fair catalogues, 1968-2008

## 2. Customers

- ✦ Who were/are the customers of the Danish equipment manufacturers?
- ✦ How important were/are Danish shipping companies' orders to Danish marine equipment industry?
- ✦ Did/do Danish shipping companies prefer Danish equipment manufactures?
- ✦ Sources: 'The Motor Ship', 'Søfart' and 'Designs' (ShipPax).

# Companies' time of entry into industry



Sources: SMM, 1968-2008 + Danish Export Council

Background

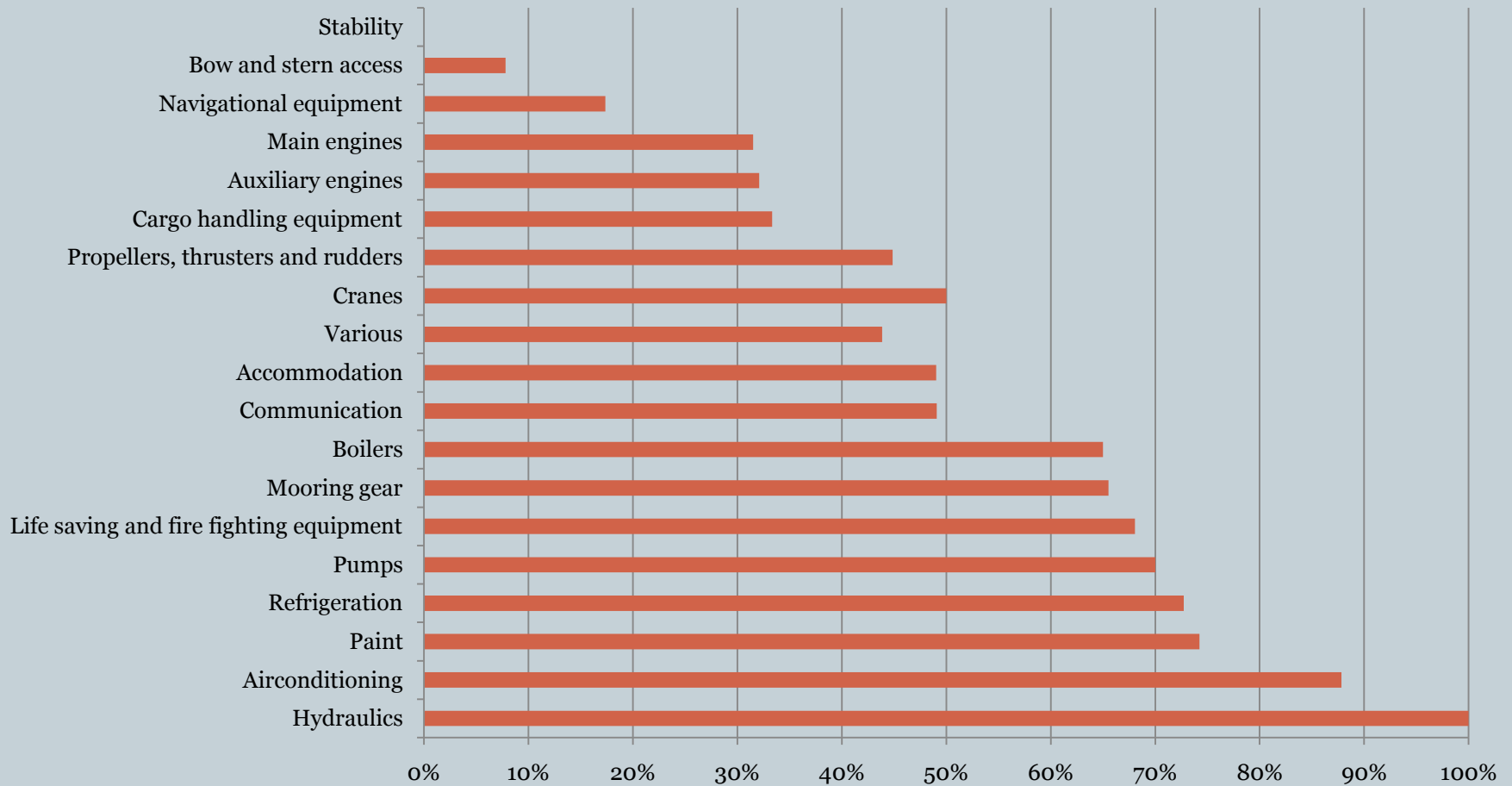
Question

Methods

Analysis

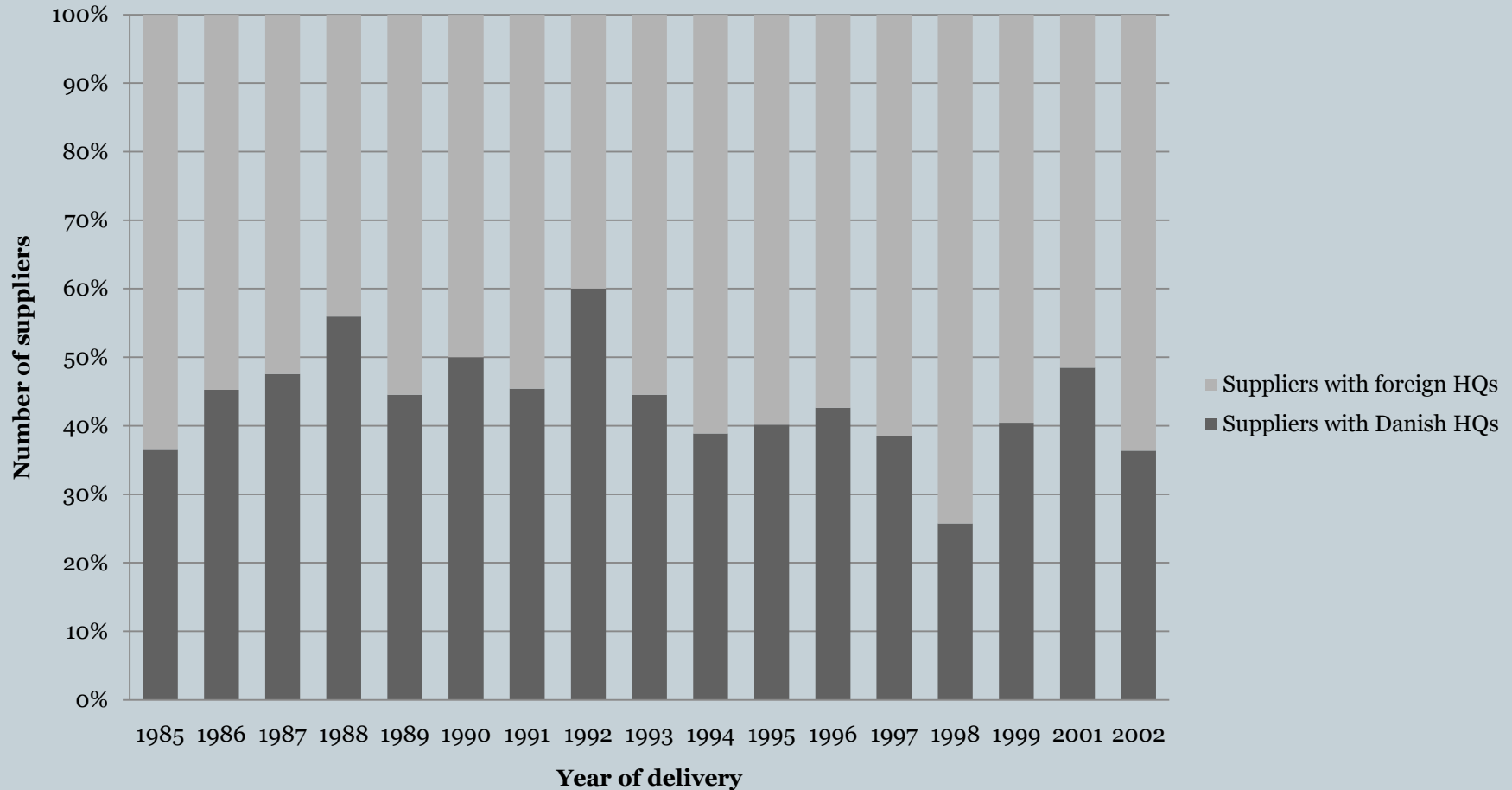
Perspectives

# Sub-sector structure in Danish industry



Source: Søfart, 1985-2002

# Danish suppliers' share of supplies for Danish-build tonnage



Source: Søfart, 1985-2002

# Danish suppliers in makers' lists for two Danish newbuildings, 2005



Item	Product tanker	Bulk carrier
Main engine	MAN Diesel, Dalian Marine Diesel (Denmark, China)	
ME cylinder lubricators	Hans Jensen	
Auxiliary engines	MAN Diesel Holeby, Zhjenjiang Marine Diesel Works (Denmark, China)	
Alarm and bridge manoeuvring system	Lyngsøe Marine	
Machinery alarm monitoring system		Lyngsøe Marine
Boilers	Aalborg Industries	
Engine room crane	Danish Crane Building	
FO supply Unit		Aura Marine
Air condition	York Novenco	
Provision cooling system		
Ventilation system		
Fire extinguishing, water based local		
Fresh water generator	Sondex	
Coolers, heat exchangers		
GMDSS equipment	Kelvin Hughes/Sailor (Thrane & Thrane)	
Valve remote control system	Danfoss	
Pressure and temperature sensors		
Loading computer	Maersk Data (IBM)	
CO2 fire extinguishing system	Semco Maritime	
Deck foam system		
Mixing table in paint shop	Geovent	
Ballast and tank cleaning pumps	Desmi	
P/V Valves	Press-Vac	
Emergency generator set	Nordhavn/SISU	
Coating	Hempel, Hai Hong (Denmark, China)	
Floating floor	Sika Cufadan	
Free fall life boat engine	BUKH	
Life rafts and survival suits		Viking Life-Saving Equipment
Initial stores and provision	Various Danish suppliers	

# Discussion



- Strategy or networks?
- Cluster based dynamics?
- Enduring relationships?
- Future growth?
- Impact of current crisis?