



# World Shipbuilding Capacity – Don't judge a book by its cover...

IMSF London

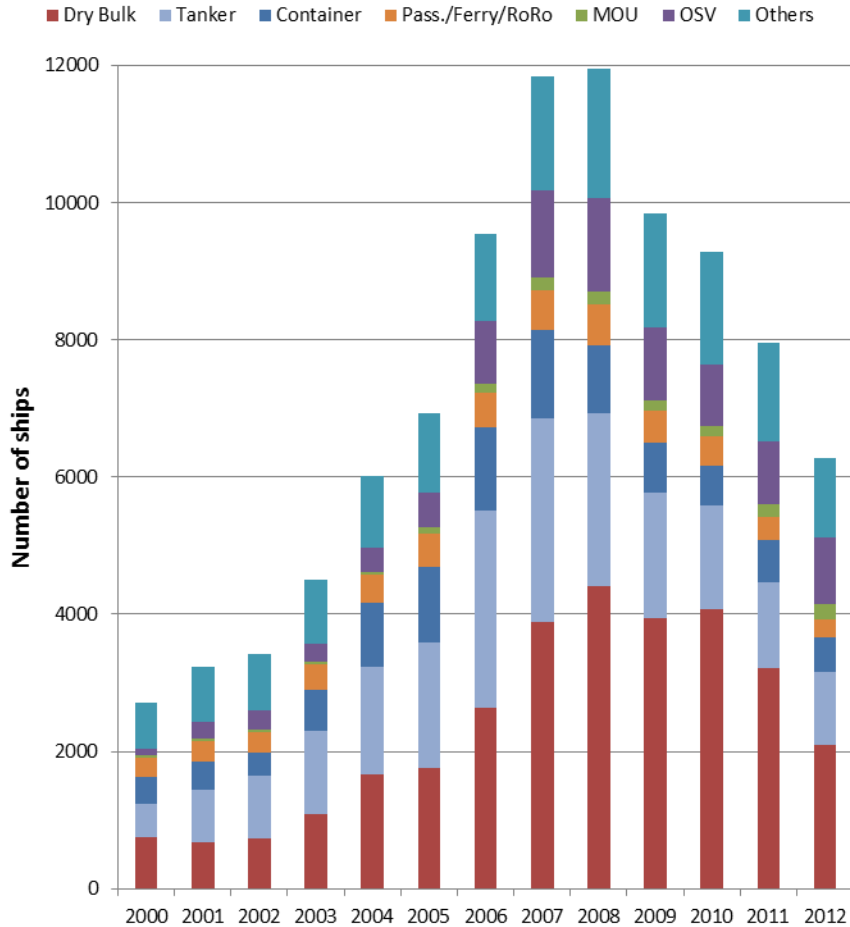
Jakub Walenkiewicz  
2013.04.16

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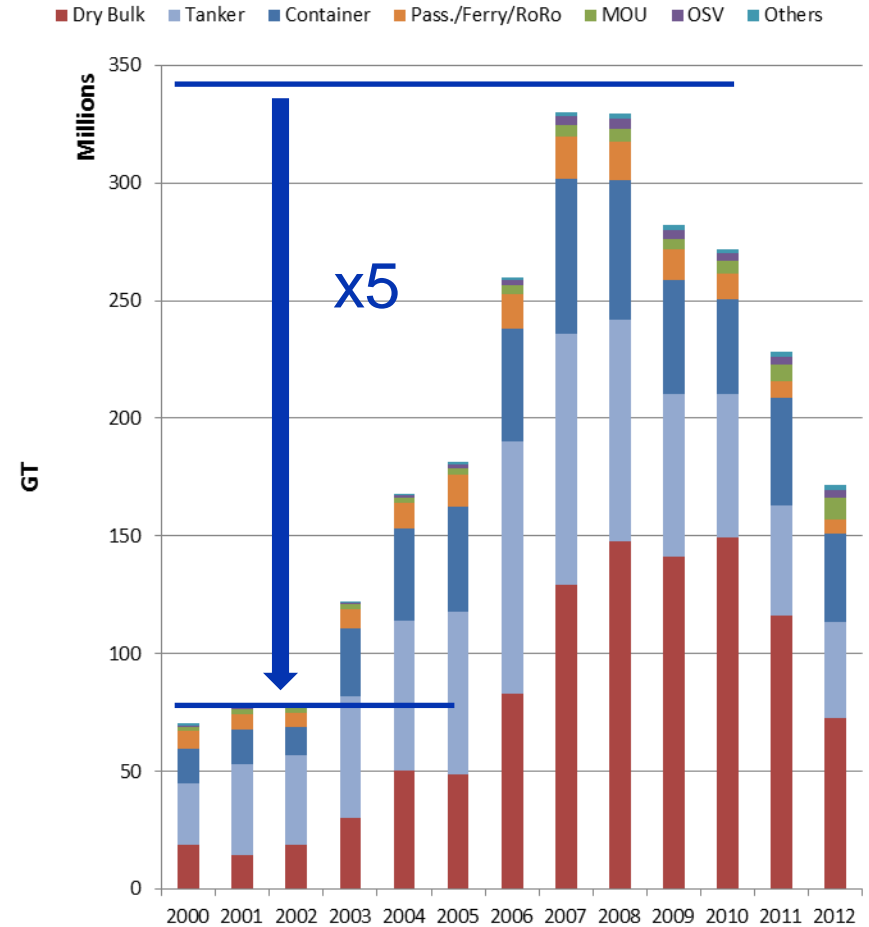
# GLOBAL SHIPBUILDING PICTURE

# Orderbook – development by type

## Global orderbook development by type - number

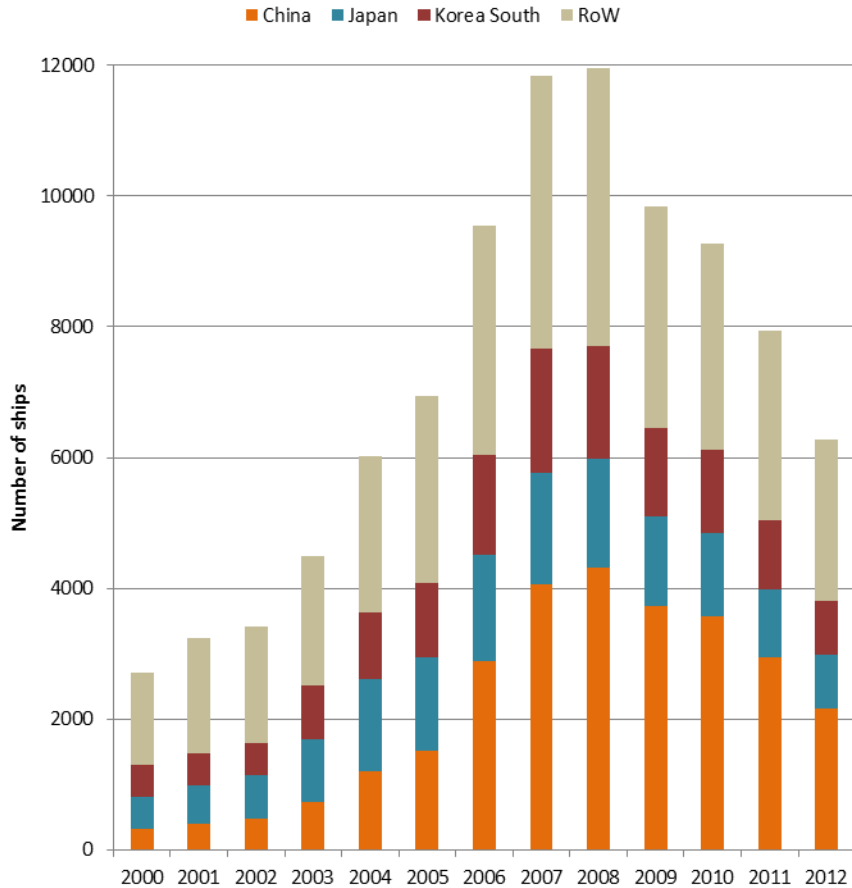


## Global orderbook development by type - GT

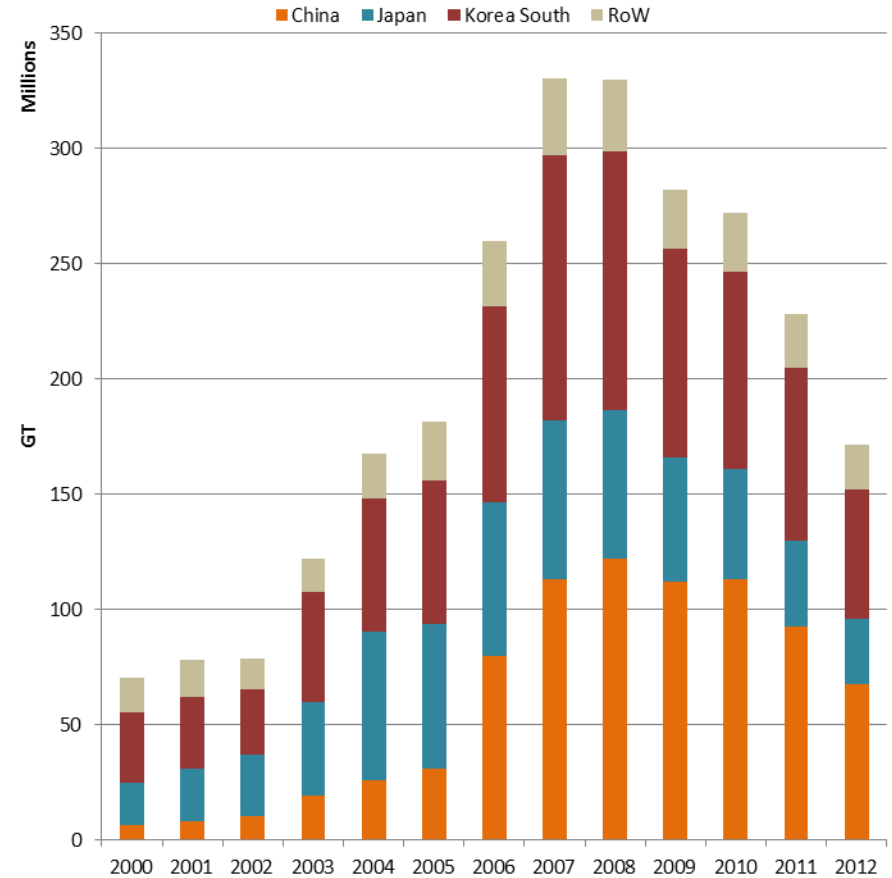


# Orderbook – development by builder's country

Global orderbook development by builder's country - number

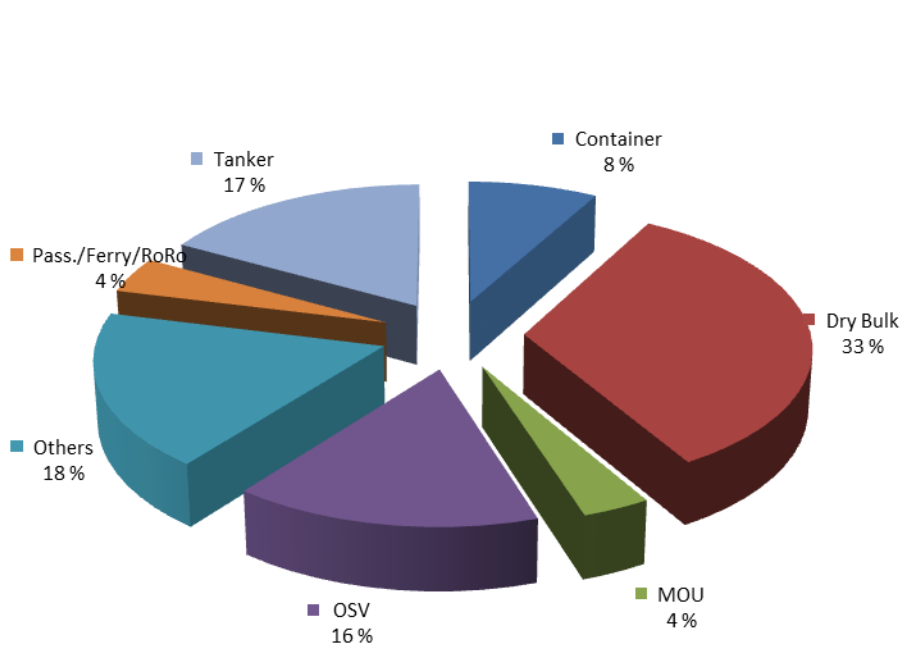


Global orderbook development by builder's country - GT

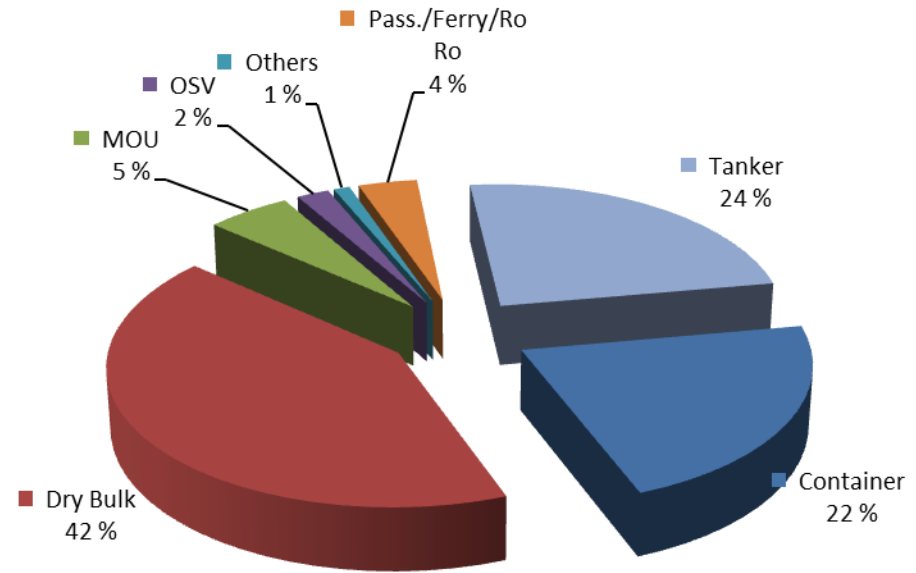


# Current orderbook structure by type

**Orderbook accumulated by type**  
**Total - 6274 Ships as of 2013.04.01**

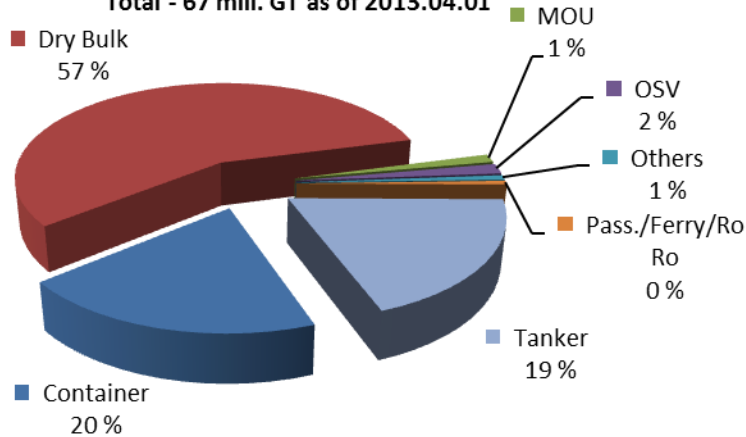


**Orderbook accumulated by type**  
**Total - 171 mill. GT as of 2013.04.01**

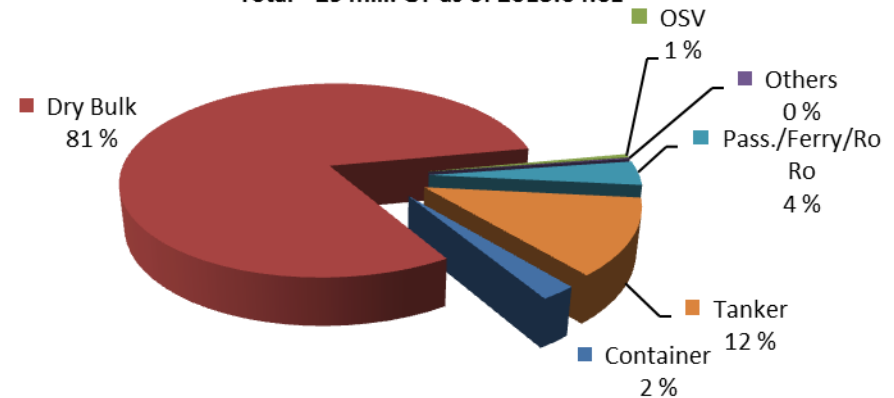


# Orderbook structure in selected countries

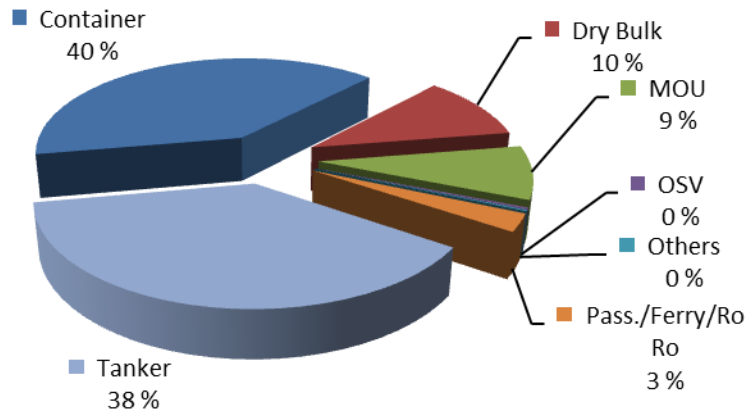
**China - Orderbook accumulated by type**  
Total - 67 mill. GT as of 2013.04.01



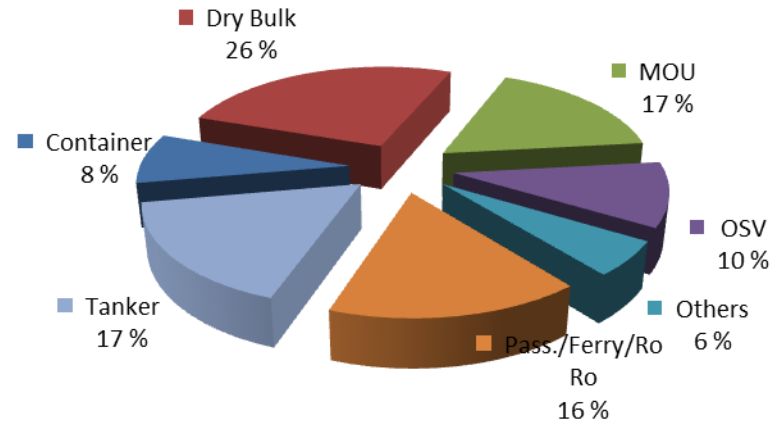
**Japan - Orderbook accumulated by type**  
Total - 29 mill. GT as of 2013.04.01



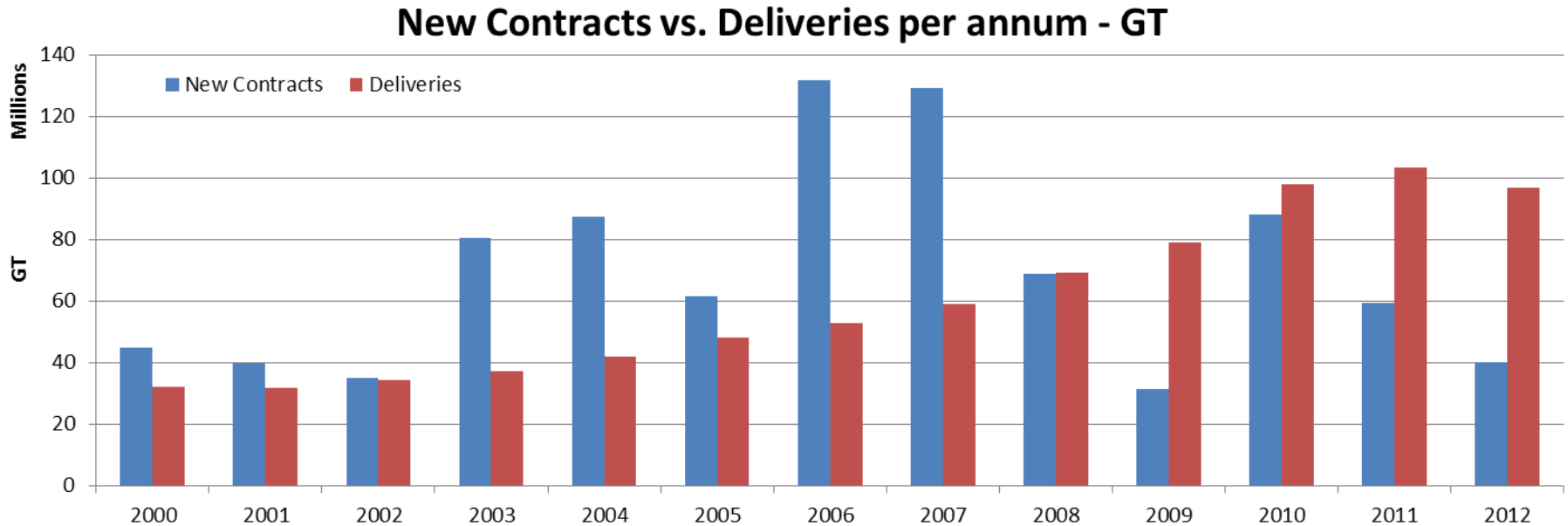
**South Korea - Orderbook accumulated by type**  
Total - 56 mill. GT as of 2013.04.01



**RoW - Orderbook accumulated by type**  
Total - 20 mill. GT as of 2013.04.01



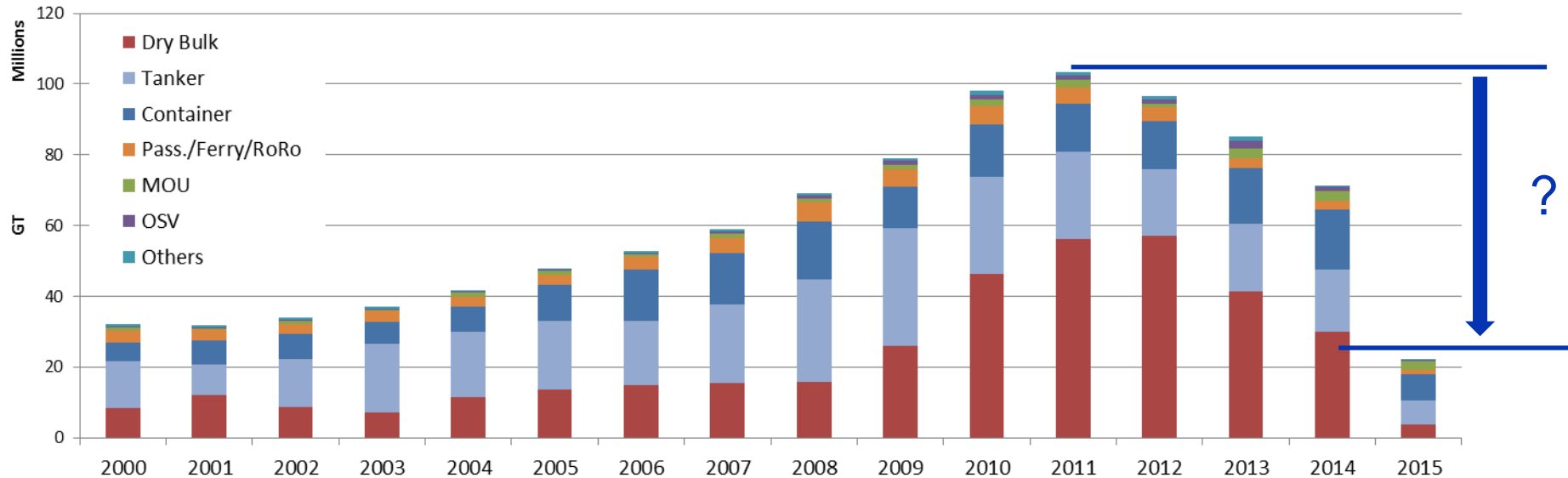
# New contracts versus deliveries



- New contracts ahead of deliveries
- Rapid capacity growth
- Average building time increased substantially
- China – the biggest yard capacity addition

# Deliveries

Annual deliveries per annum by type - GT



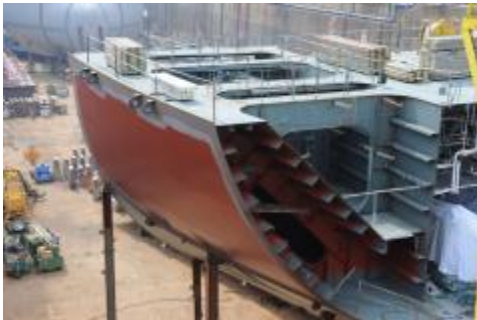
- Increased ordering started from tankers (optimistic forecast for oil consumption), followed by containers (upsizing, globalisation, increased demand), followed by bulkers (developing economies in Asia)
- Substantial ordering in the niche sectors, but relatively modest contracting in the offshore segment until recently
- How much capacity there is in the yards???



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# SHIPBUILDING CAPACITY

# Capacity



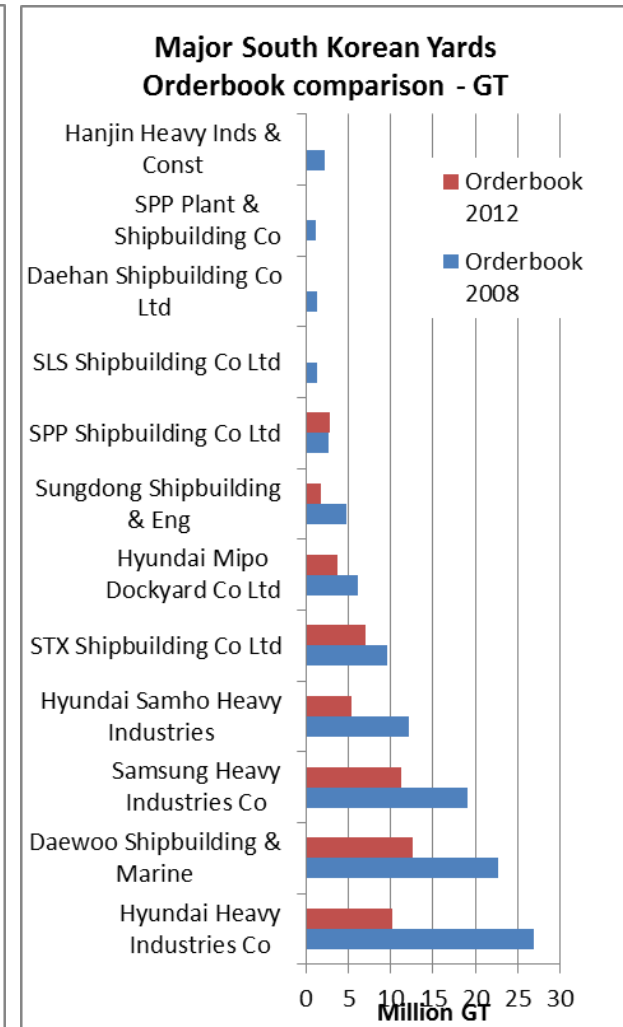
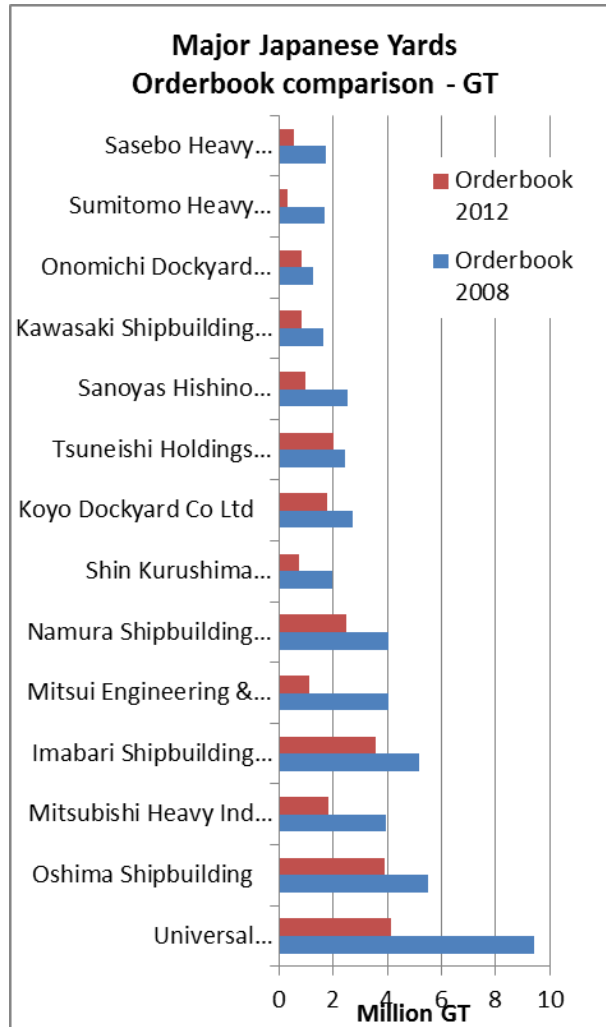
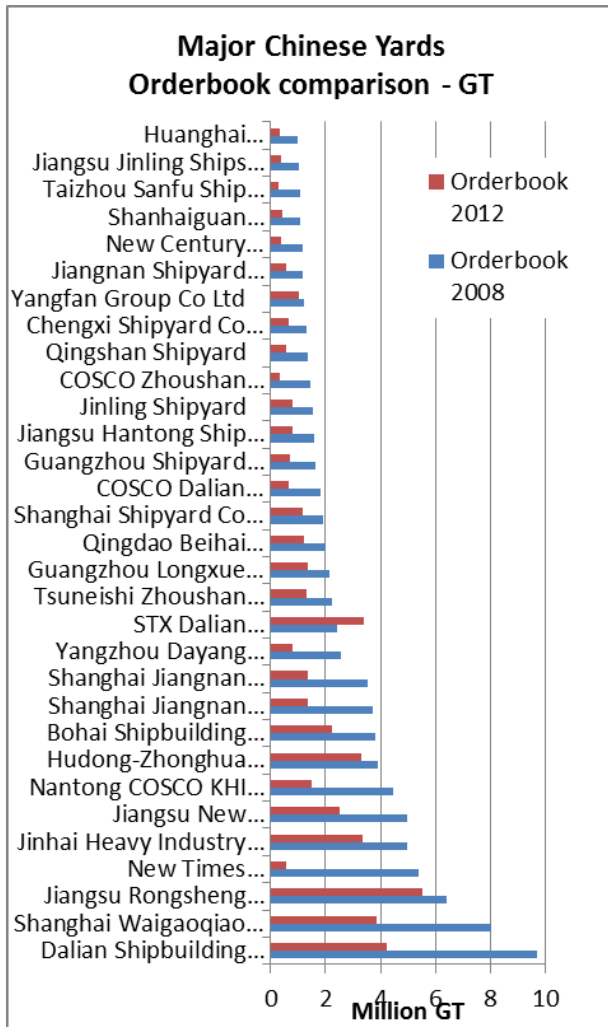
- Physical capacity elements:
  - Size of docks
  - Lifting appliances
  - Assembly lines
  - Cutting, welding appliances
  - Procurement
  - Logistics
- Non-physical capacity elements:
  - Design capabilities
  - Technology advancement
  - Know-how
  - Management performance
  - Efficiency
  - Productivity

# Capacity – some facts

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- It is very difficult to measure as it consists of a combination of quantitative and qualitative elements.
- Physical capacity defines a shipyard, but it doesn't provide a full cross-picture
- Capacity of a yard is not constant! It constantly changes and adjusts itself in order to be more productive, efficient or better aligned with the market demand.
- CGT, as a common measure for newbuildings is an approximated measure and can be misleading!
- If you want to estimate a yard capacity, pay attention to:
  - Past and present orderbook – size, lead times and product diversity
  - Look at the past deliveries and maximum output
  - Size and quality of equipment
  - Building solutions
  - Bear in mind age of a yard, location as well as delivery schedules (delays, non conformities)
  - other factors such as financial liquidity, clients etc

# Orderbook 2008 vs Orderbook 2012

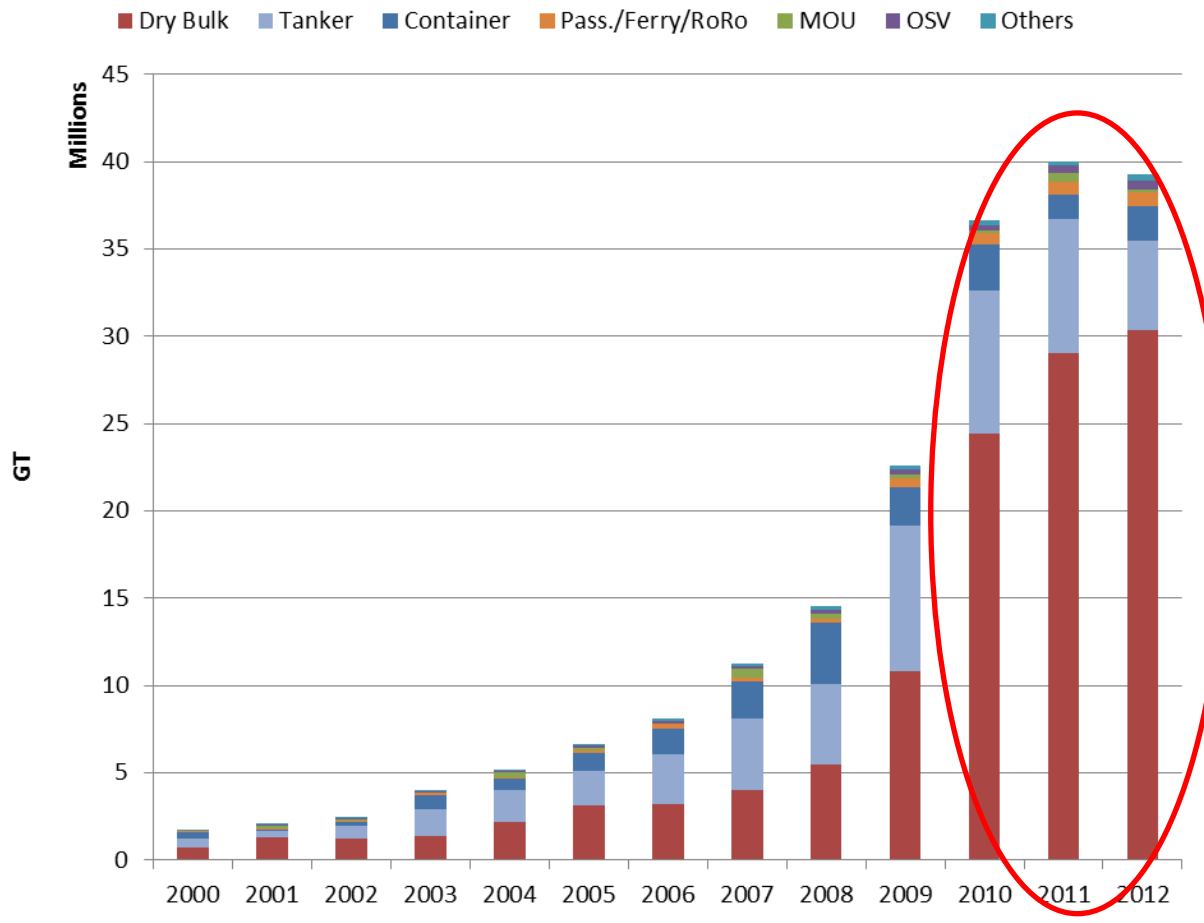


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# SHIPBUILDING IN CHINA

# Deliveries from Chinese yard

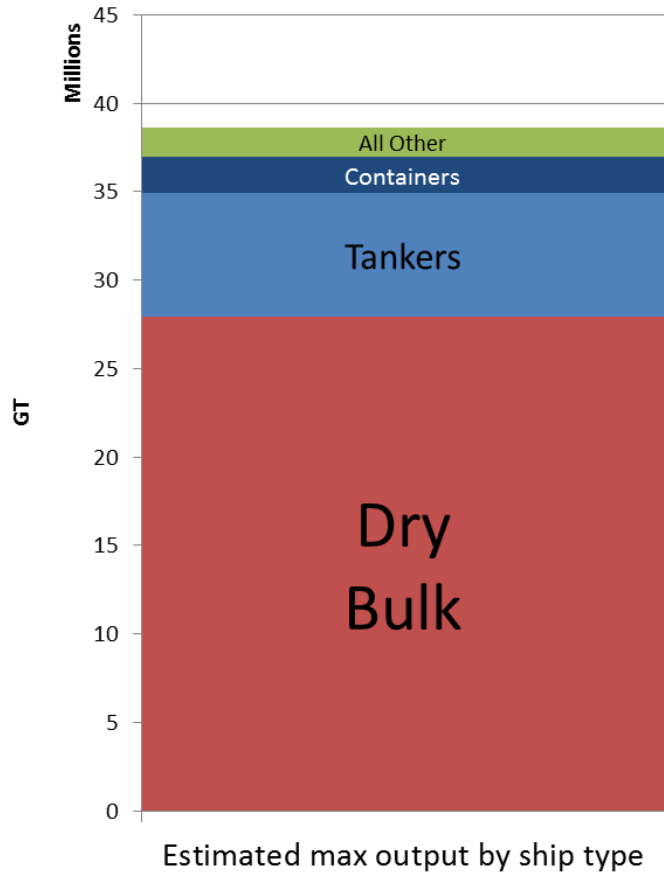
## Deliveries from Chinese yards in GT



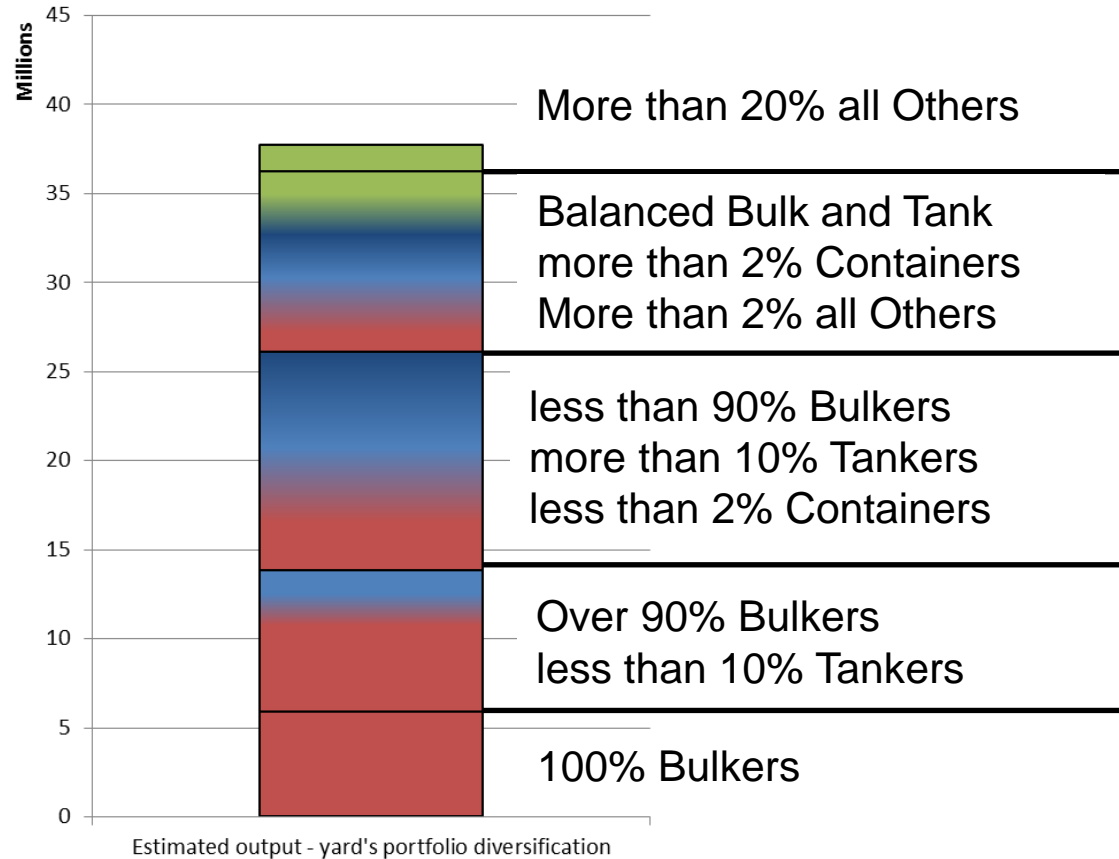
- Heavily dominated by bulkers
- Substantial number of tankers
- Growing in containers
- Marginal output for high-end tonnage such as Gas Carriers or Offshore

# Capacity in terms of maximum output

**Estimated max output in terms of GT**

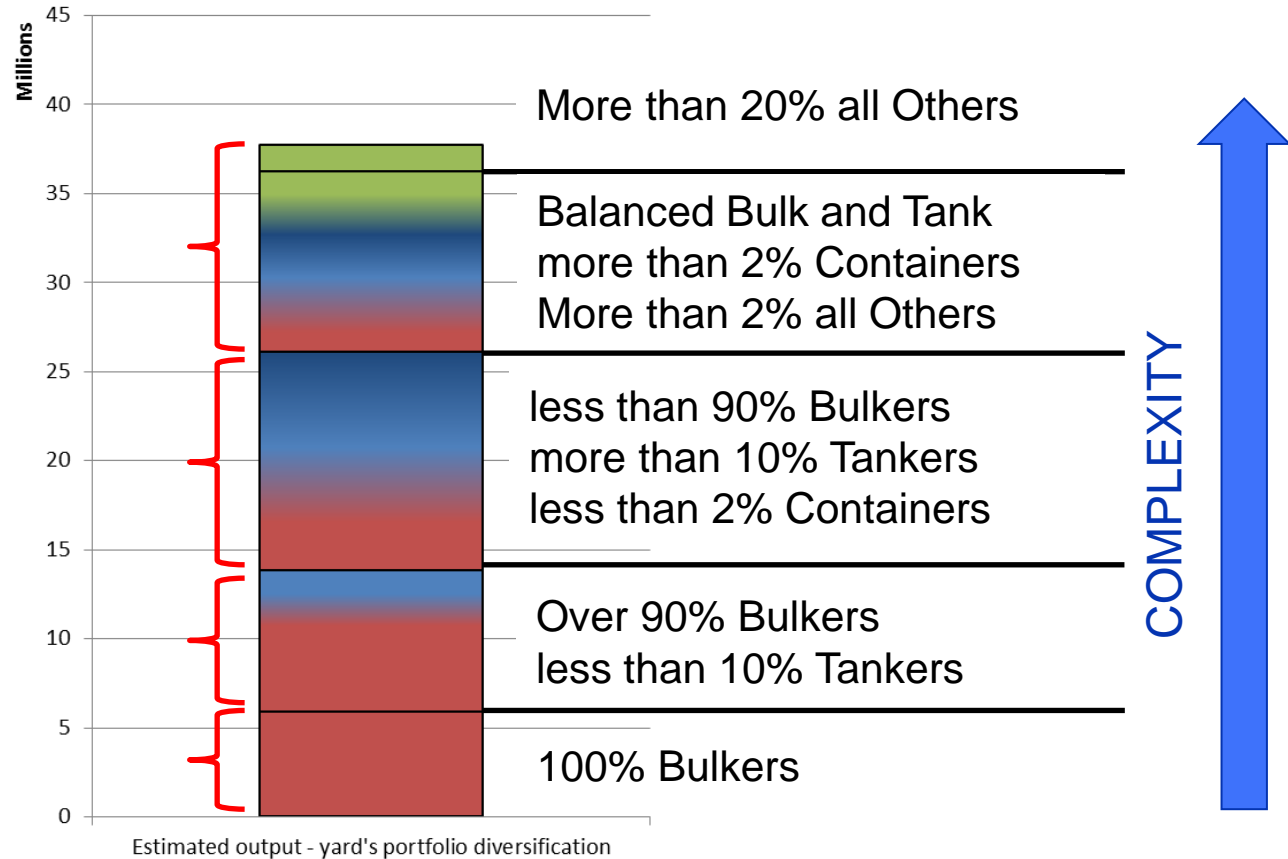


**Shipyards output - product diversification in terms of GT**



# Capacity in terms of maximum output

**Shipyards output - product diversification in terms of GT**



Modern, diversified with prospects for high-tech

Diversified enough

Very vulnerable position

Obsolete? Continued existence in doubt



# Conclusions

- Capacity in terms of maximum output of yards is misleading, if diversification of the orderbook is not taken into account
- Capacity built to deliver simple ships may vanish as quickly as it was established

However

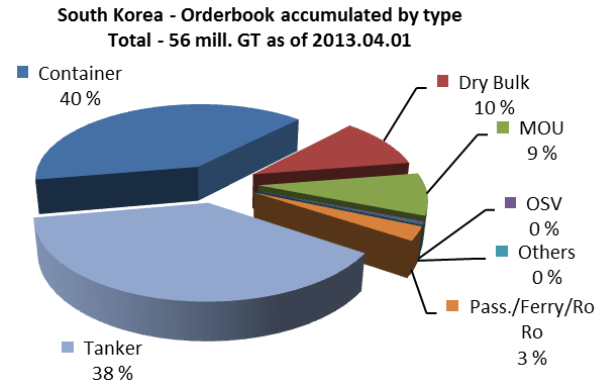
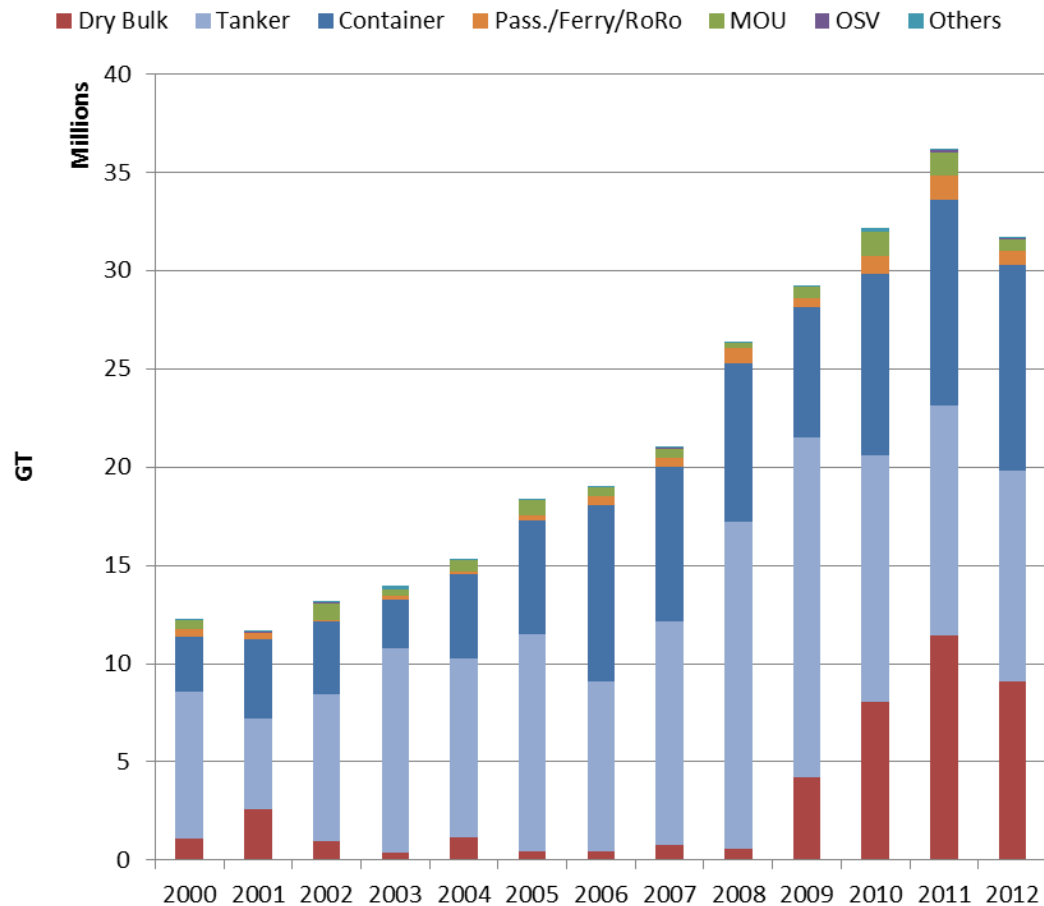
- China has a massive potential in ordering ships domestically
  - Growing economy
  - Wants to carry more cargo on Chinese ships
  - Has financial ability
  - Demonstrates a great ambition for building high-spec ships
- Some facilities can be converted into ship-repair or scrapping sites

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# SHIPBUILDING IN KOREA

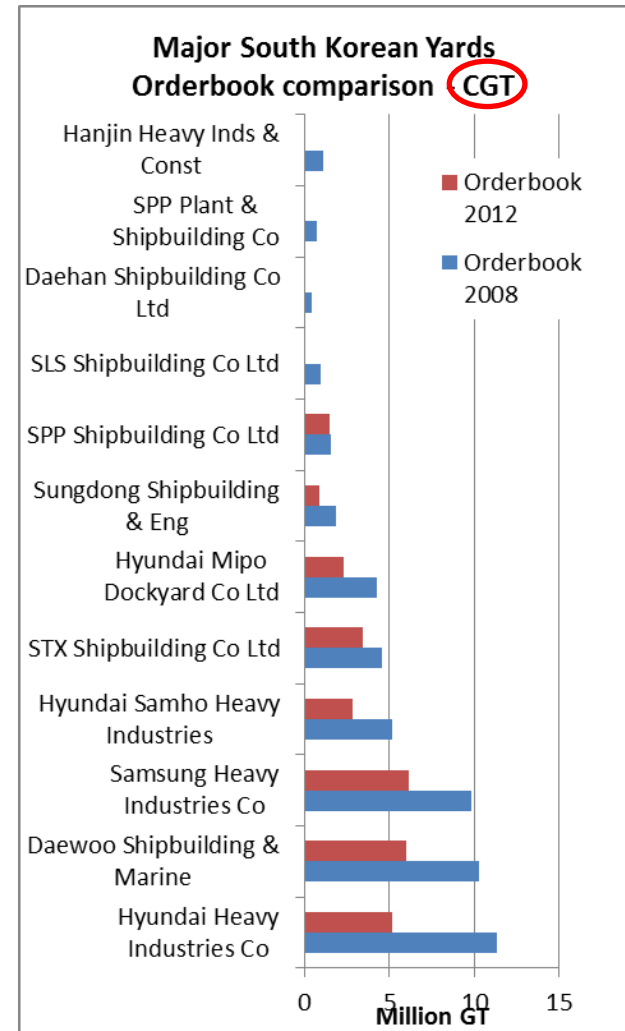
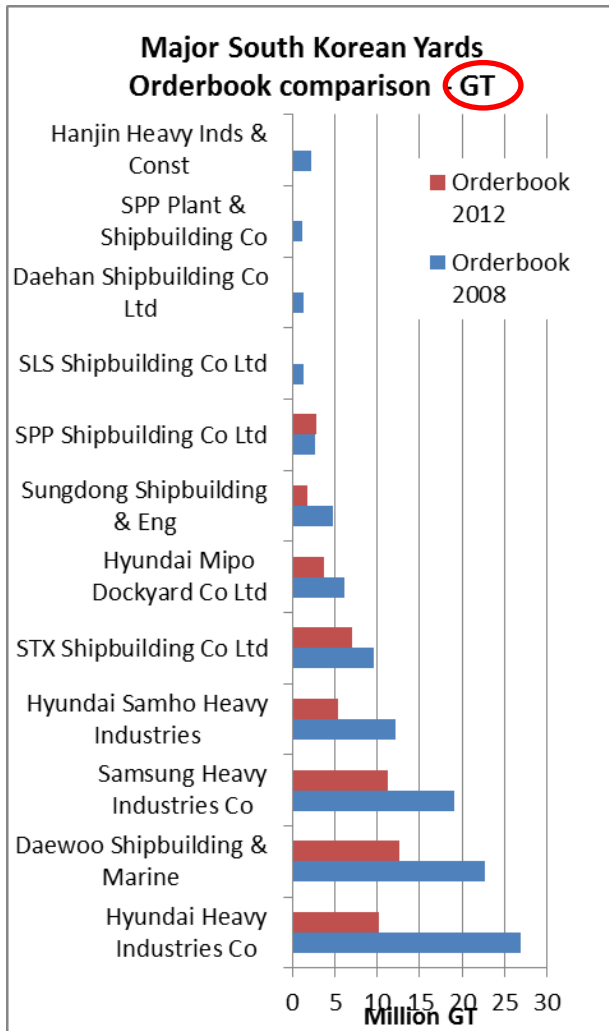
# Deliveries from Korean yard

## Deliveries from South Korean yards in GT



- Very diversified orderbook
- Can build any ship type
- Major shift towards offshore!!!
  - Drill Ships/Units
  - FPSO
  - Semisubs
  - Jack-Ups
- Less interest in OSV

# Orderbook – major shipyards GT vs CGT



# CGT – Compensated Gross Ton

1 TUN



Many, many years back...



GRT  
NRT

69' convention



GT

$$cgt = A * gt^B$$



CGT

Ship type	A	B
Oil tankers (double hull)	48	0.57
Chemical tankers	84	0.55
Bulk carriers	29	0.61
Combined carriers	33	0.62
General cargo ships	27	0.64
Reefers	27	0.68
Full container	19	0.68
Ro ro vessels	32	0.63
Car carriers	15	0.70
LPG carriers	62	0.57
LNG carriers	32	0.68
Ferries	20	0.71
Passenger ships	49	0.67
Fishing vessels	24	0.71
<b>NCCV</b>	<b>46</b>	<b>0.62</b>

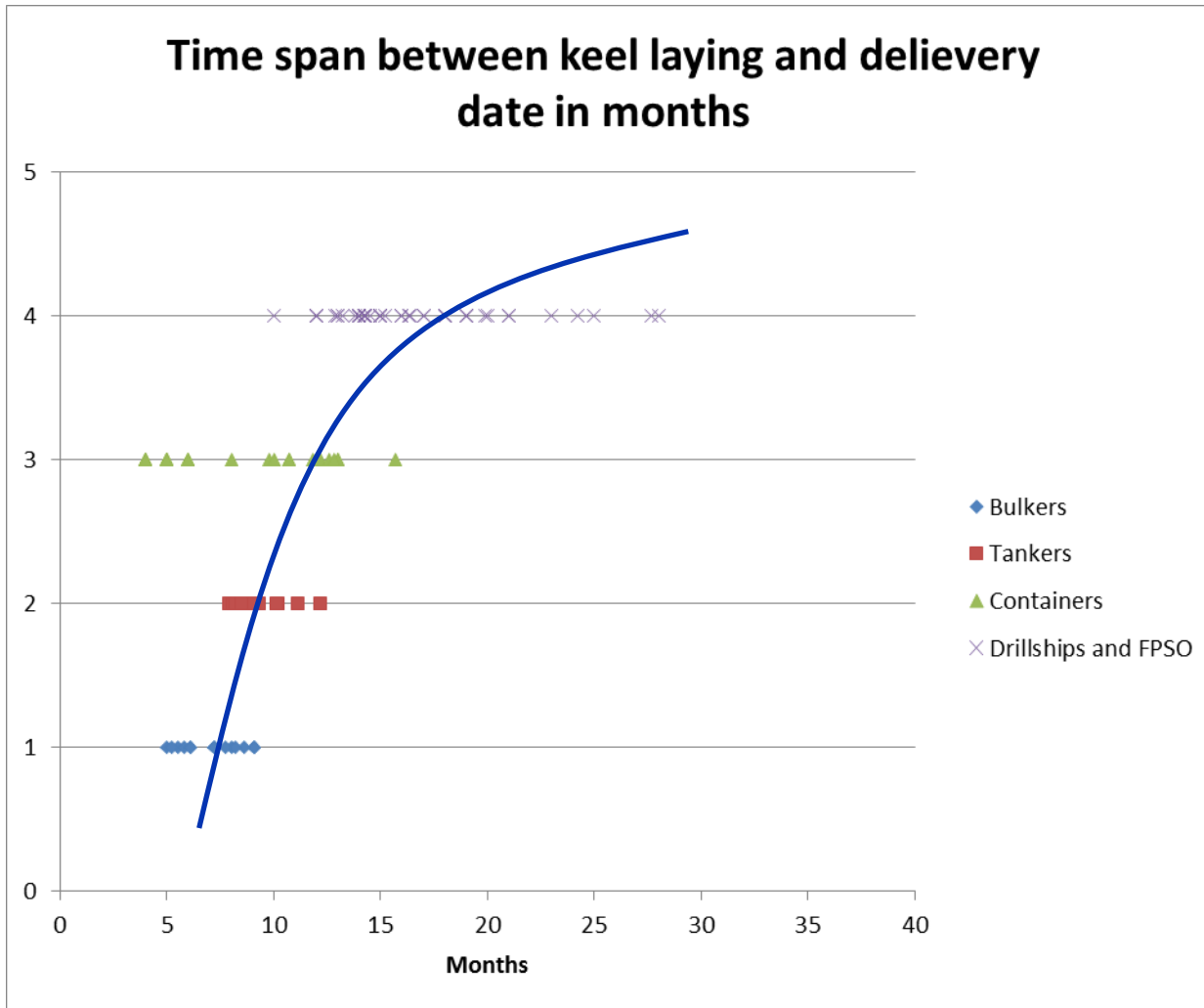
# CGT

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- Bulker – 180 000 DWT, (295m LOA), 95 000 GT – 32 000 CGT (45-55 mill. \$)
- Container – 8500 TEU, (330m LOA), 100 000 GT – 47 000 CGT (90-95 mill. \$)
- VLCC – 320 000 DWT, (330m LOA), 165 000 GT – 45 000 CGT (85-90 mill. \$)
- Drillship – “60 000 DWT”, (230m LOA), 62 000 GT – 42 000 CGT (400 – 700 mill. \$)
- FPSO – 350 000 DWT, (310m LOA), 190 000 GT – 87 000 CGT (1.2 bill. \$)

**It just doesn't work for offshore at all!**

# Construction time



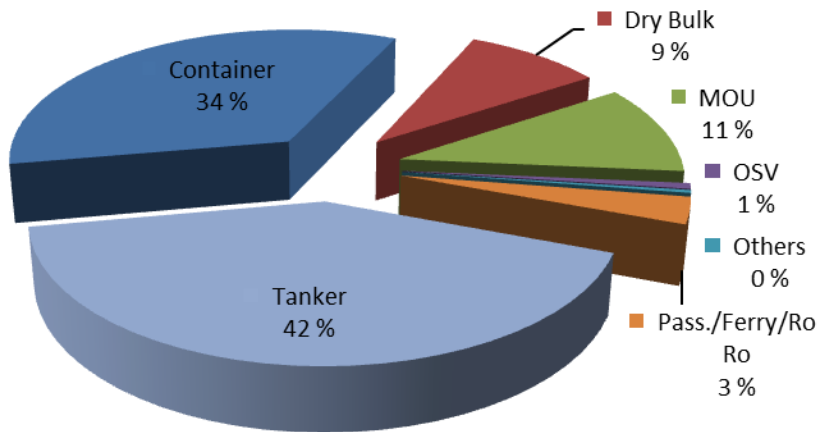
- Construction time does not start with a contract date.
- Steel cutting date is the beginning of a ship's production
- Keel laying date would be the best indicator for illustrating occupation of slots

# Orderbook by CGT

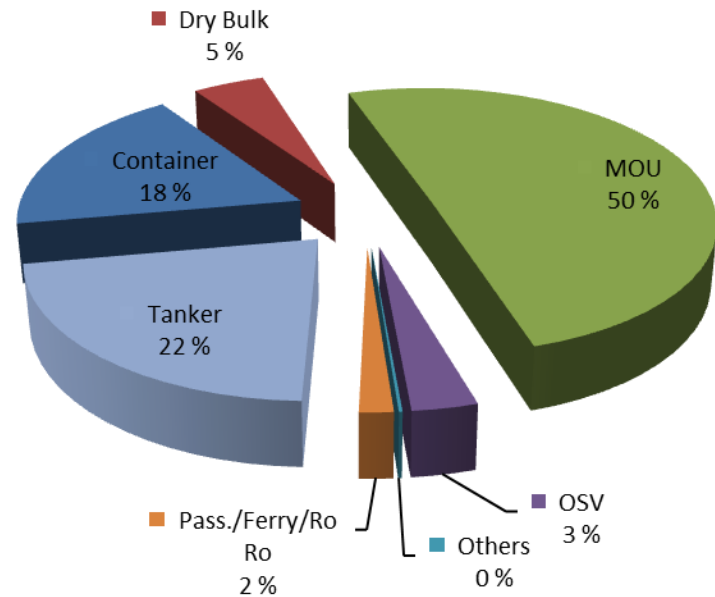
What should it look like?



South Korea - Orderbook accumulated by type  
Total - 56 mill. CGT as of 2013.04.01



South Korea - Orderbook accumulated by type  
CGT





# Conclusions

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- CGT underestimates Mobile Offshore Units (technically speaking it doesn't even recognise them)
- ...therefore it is unable to recognise the complexity of different offshore types for either OSV or MOU
- South Korea has taken considerable amount of Offshore contracts, which occupy capacity in the yards for a lot longer than conventional ships
- If capacity is measured in terms of maximum output (GT, DWT, CGT), the “offshore factor” will skew the results, underestimating actual occupancy of slots
- Offshore projects involve a lot more subcontractors

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