



# 2011 CAS Ratemaking and Product Management Seminar Ocean Marine Portfolio Management

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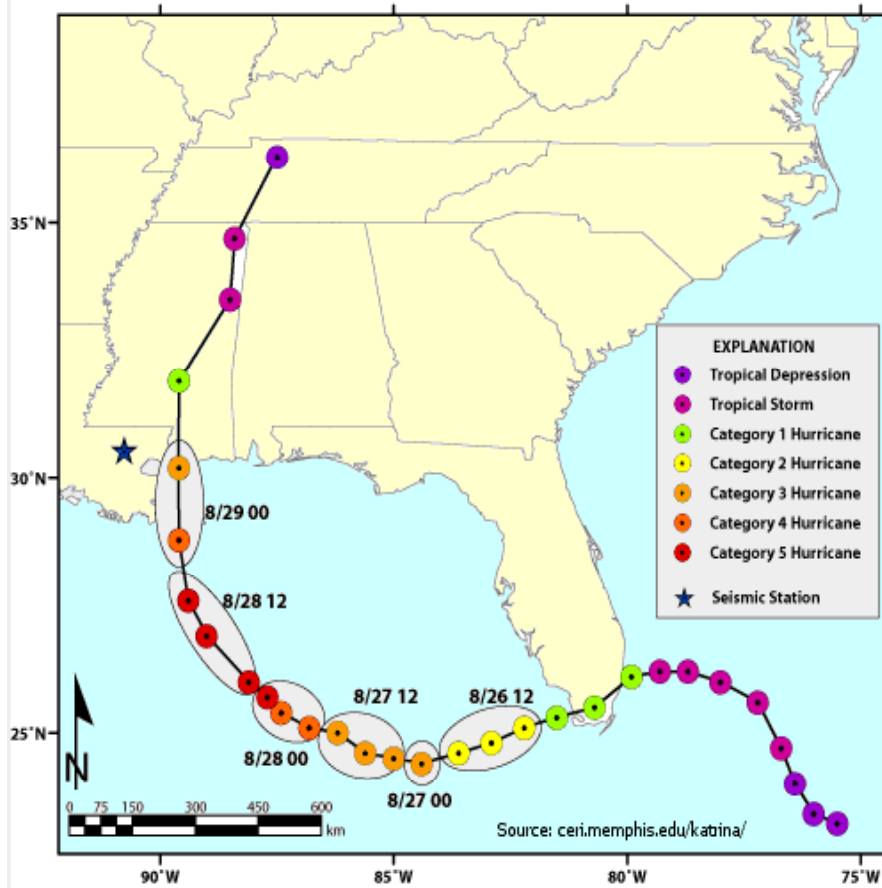
**Ocean Marine, the oldest form of insurance, once in a while, still grabs the center of attention in the news in modern time...**



# Piracy still takes place today ...



# Hurricane Katrina pushed oil past \$70 a barrel, impacting everyone's daily life...



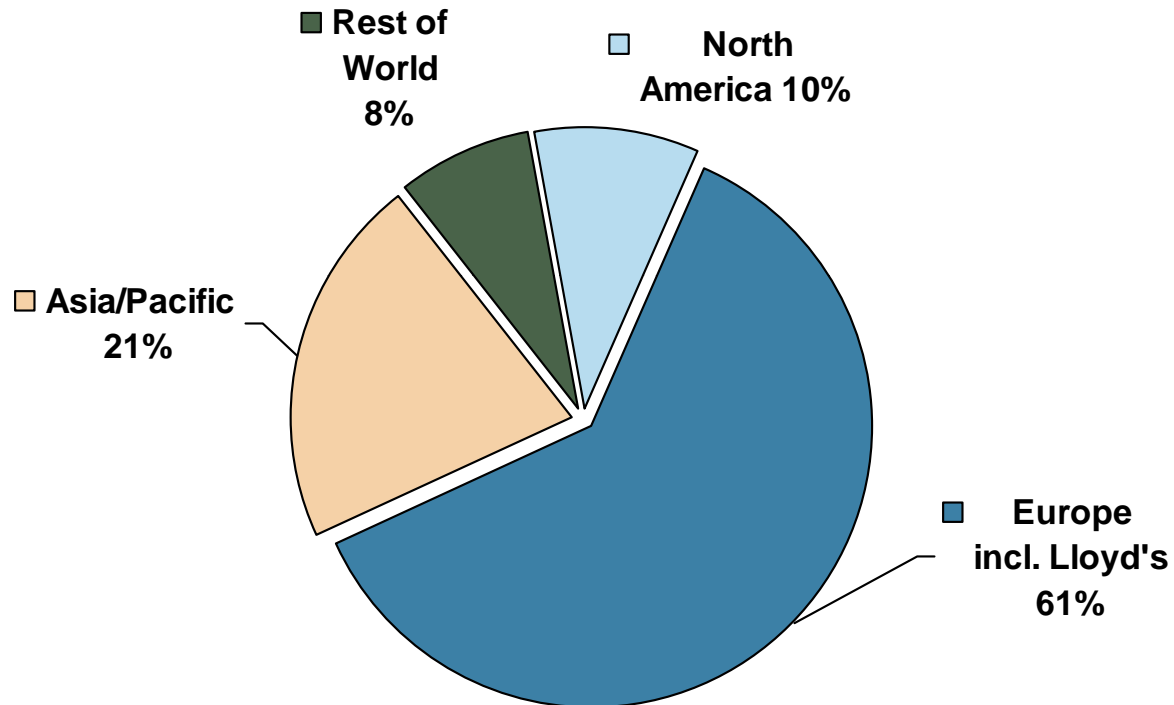
# So what is Marine insurance anyway? What are the product lines being offered?

- Blue Water and Brown Water Hull
- Cargo
- Ports
- Hull Construction Risks
- Marine War including Piracy
- Offshore Energy PD
- Marine Liability
- Energy Liability

*Recent  
Additions*

...A mixture of long tail and short tail product lines that resembles a mini insurance company with property and casualty coverages.

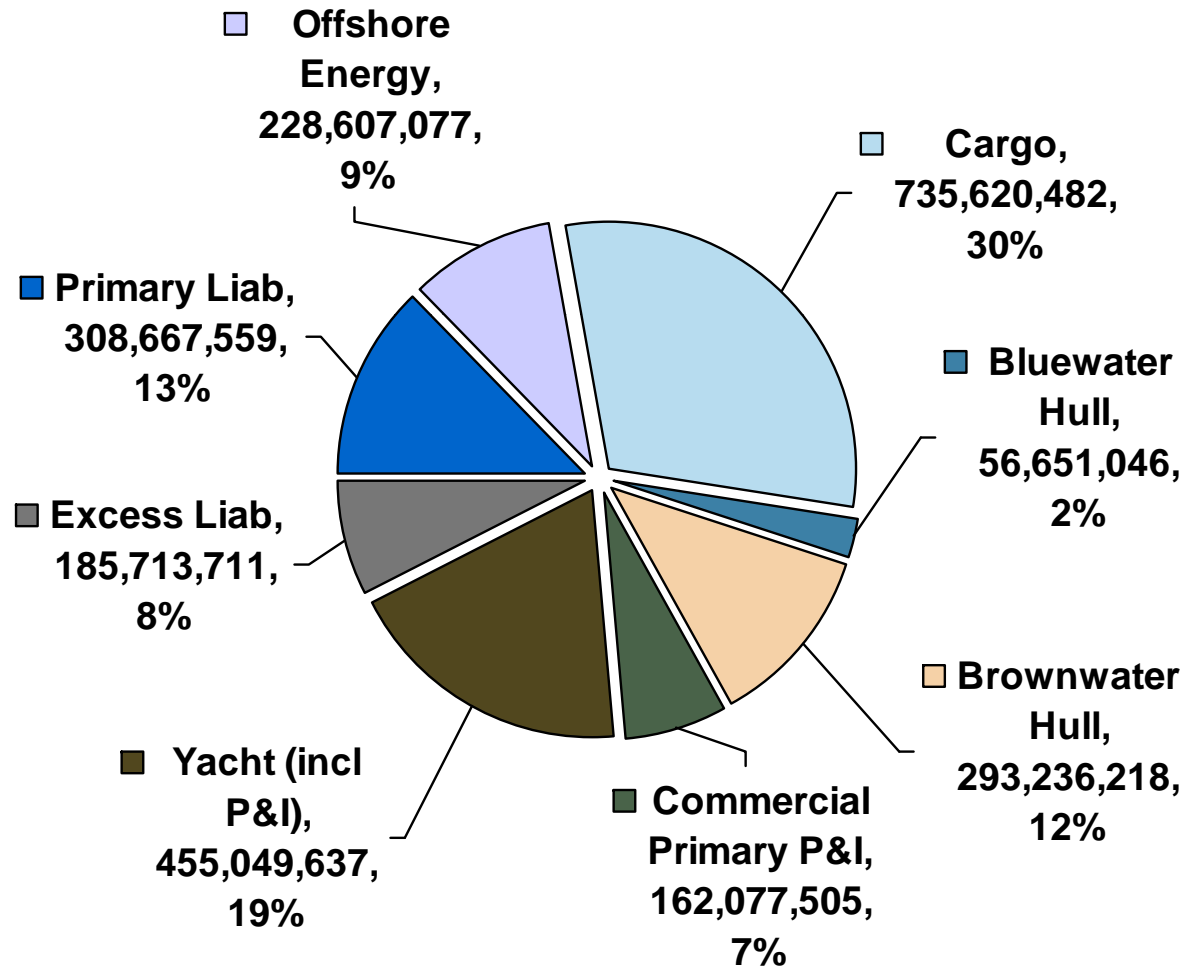
# Global Marine Markets Premium Distribution – IUMI (\$22.9B)



Lloyd's is deeply rooted in Marine insurance. US is a relatively small player in the world. With globalized economy, the Chinese market has a huge potential for growth.

# US Premium Distribution by Product

## AIMU Statistics (\$2.4 B)





# Pricing Challenge - an exciting time now for actuaries to get involved and contribute

- ❑ Complex Risk Factors
  - Risky business, difficult to assess and therefore requiring a high degree of experience, know-how, imagination and “gut feel”
  - Perils of the Sea
  - Total Loss and Partial Loss
  
- ❑ Increasing pressure and requirements for the need of pricing tools to demonstrate considerations on a per risk basis
  
- ❑ Analytical tools vs. Predictive tools

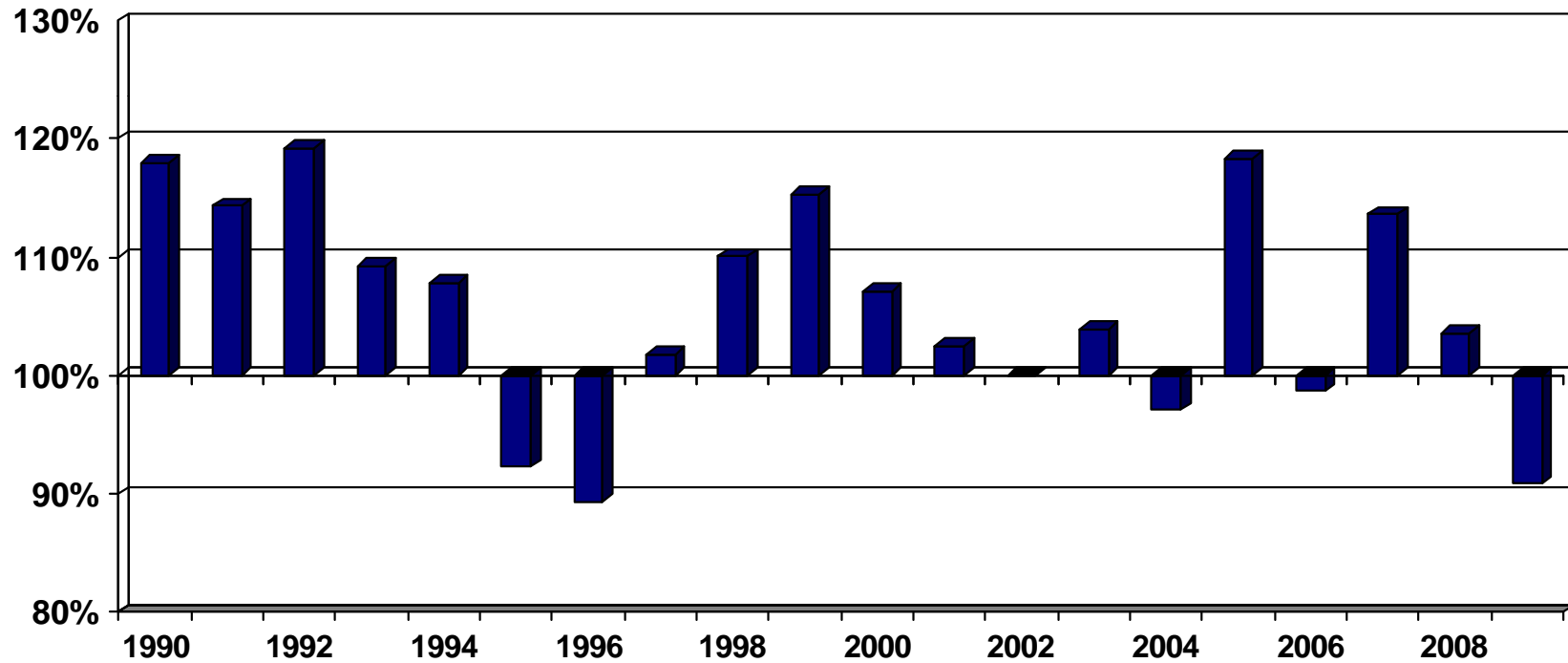
**Pricing Tools will take time to develop...**

**In the meantime,  
how do we manage profitability?**

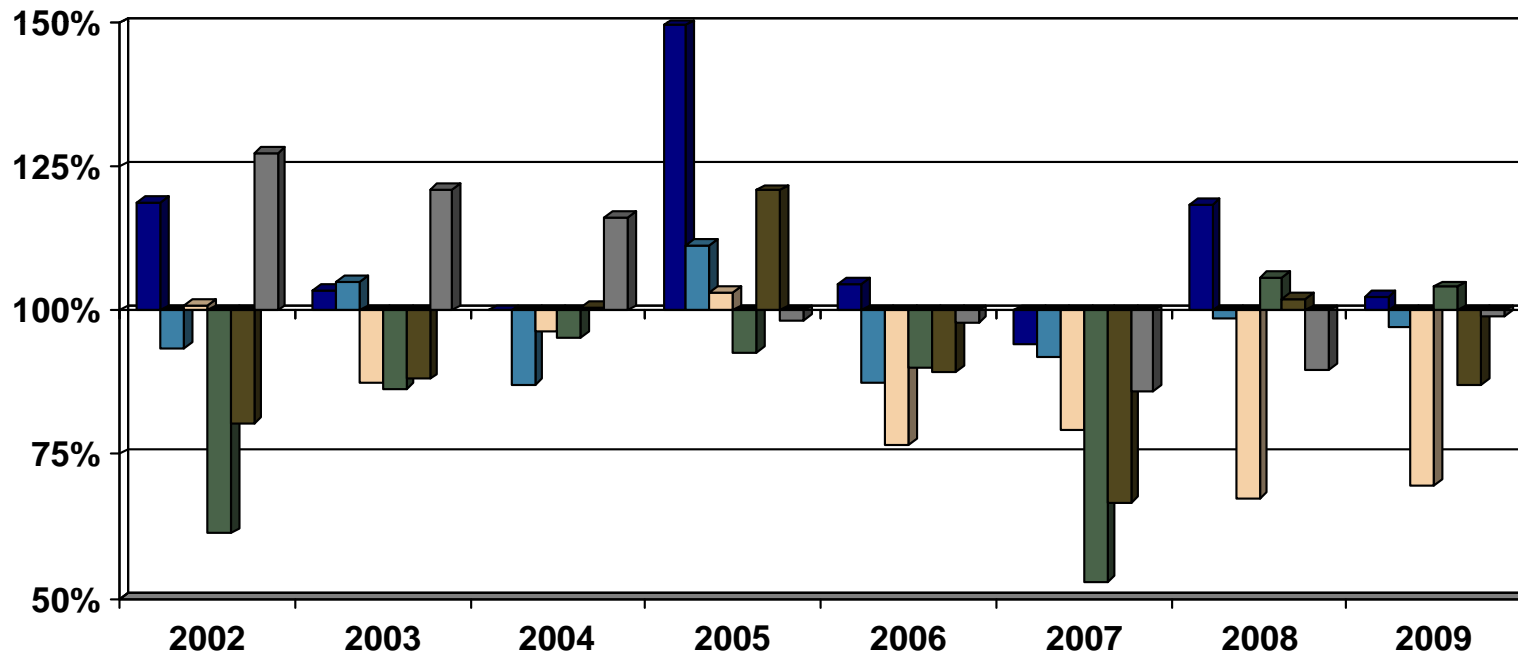
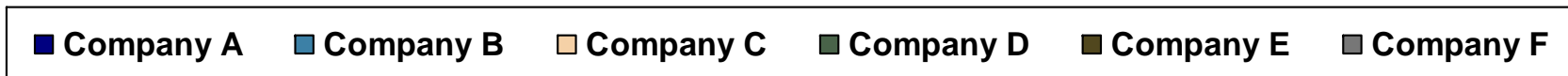


# Perceived Profitability of US Marine Market – AM Best Industry Data

## CY Net Combined Ratio



# Performance of Top Writers (Net Combined Ratio)



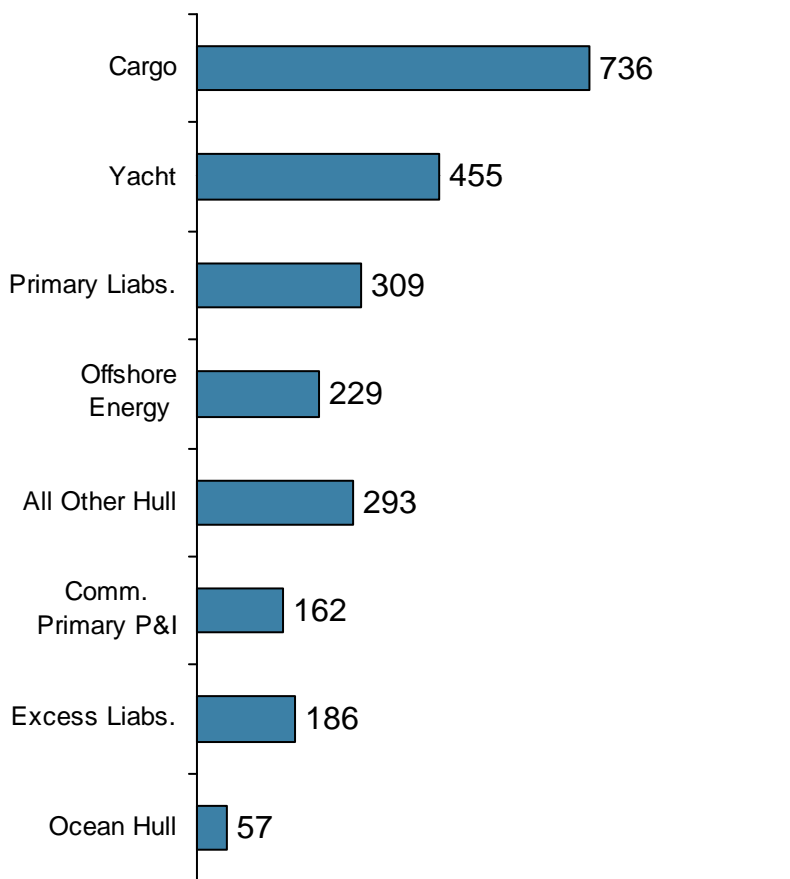
# Underwriting Profit is Reserved for Experienced Mariners Only

- **While the Industry Performance has not been Desirable, There are Pockets of Profitability.**
- **Low Entry Barriers Continue to Attract “Innocent” Capacity to the Market, Creating a Competitive Pricing Environment.**
- **Breadth and Depth of Underwriting Expertise are Necessary for Prudent Risk Selection, in addition to Pricing.**

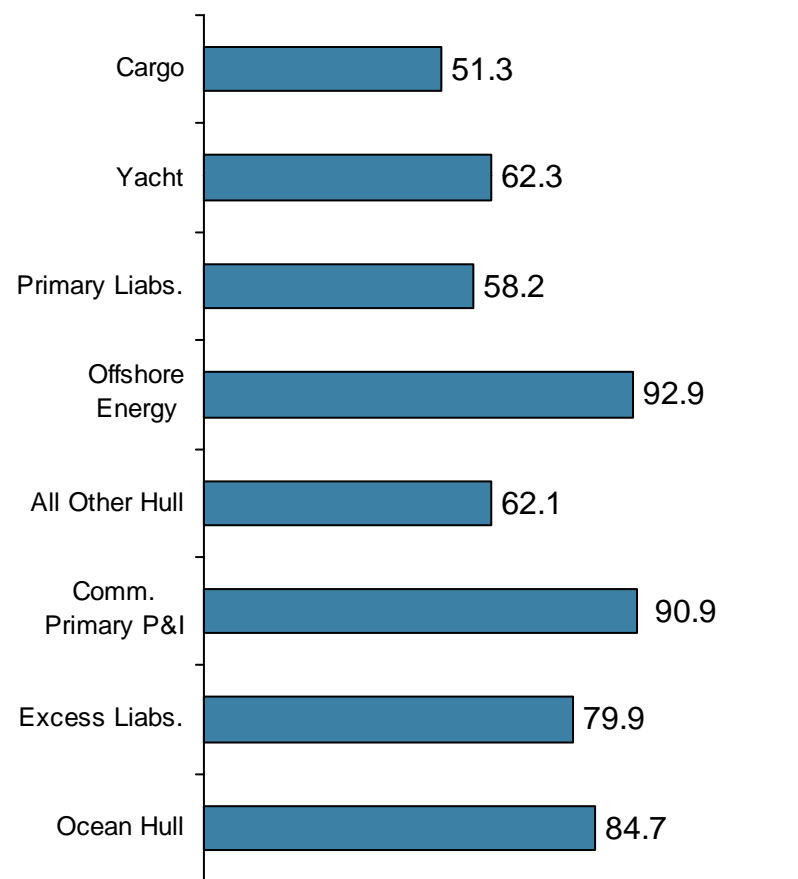
**Cargo is the largest US Ocean Marine product by DWP with a share of 30%. It is also the best performing product with a loss ratio of 51% over the cycle.**

### Split of US Ocean Marine DWP and NLRs by Product

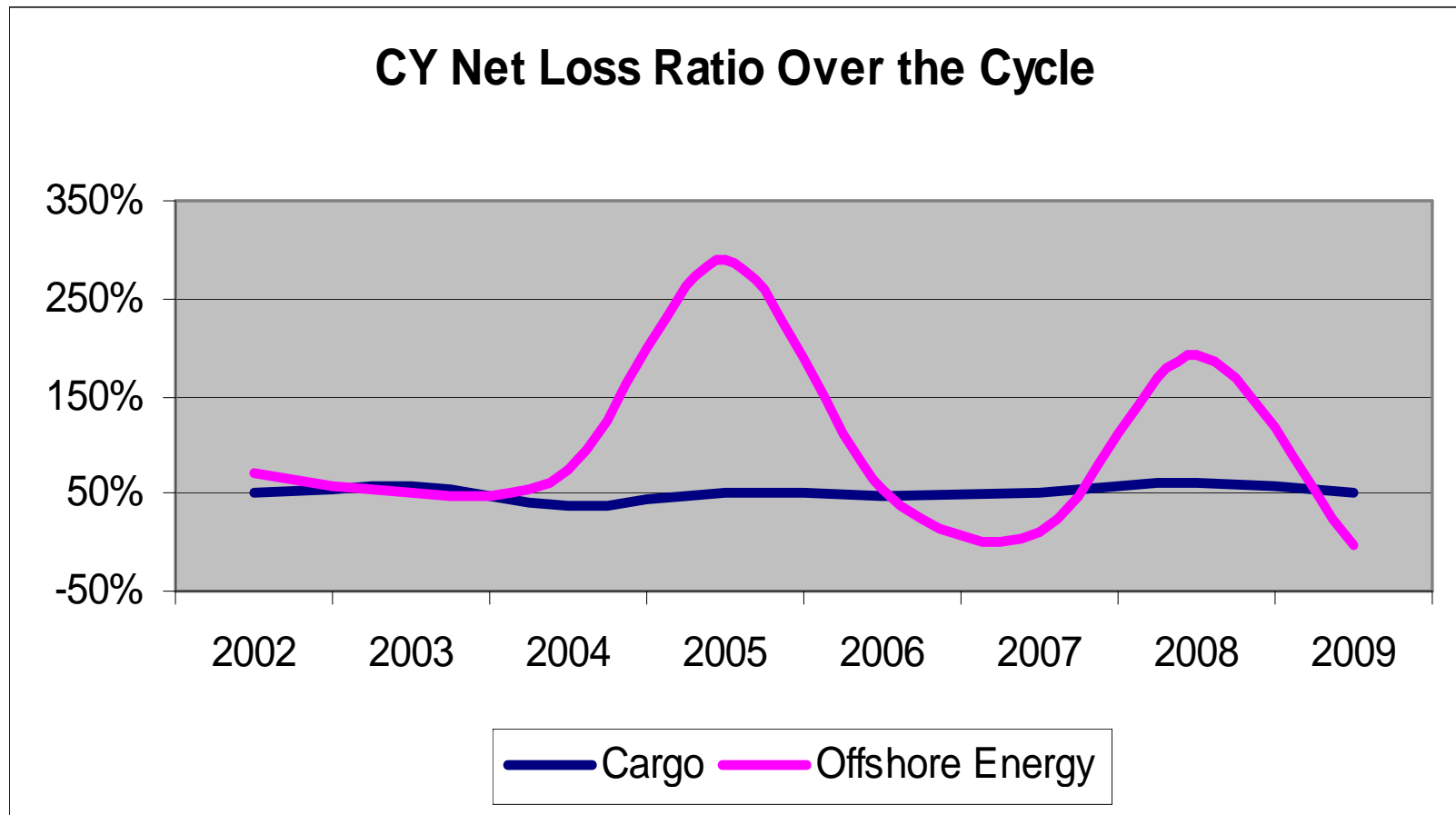
2009 CY DWP (US\$m)



Avg Net Loss Ratio Over the Cycle ('02-'09, %)



A Comparison of Cargo and Offshore Energy Results Over the Cycle. Offshore Energy generates the most volatile results within the Marine product lines, while Cargo is the most static one.



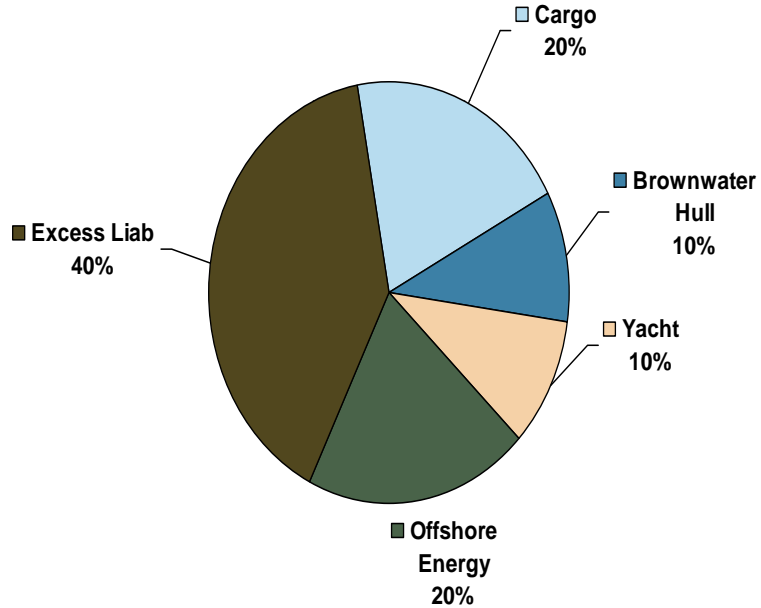
# Portfolio Management

- **Some Products Generate More Volatile Results Than Others – *A Balanced Portfolio is Key to Achieve Consistent Performance***
  
- **KRW and Other Recent Industry Events Have Re-defined Insurance Playground – *Establishing Risk Appetite is Essential for Optimal Performance***
  - ❖ **Clash Consideration and CAT Aggregation**
  
  - ❖ **Realistic Disaster Scenarios (RDS)**
  
  - ❖ **Reinsurance Protection**

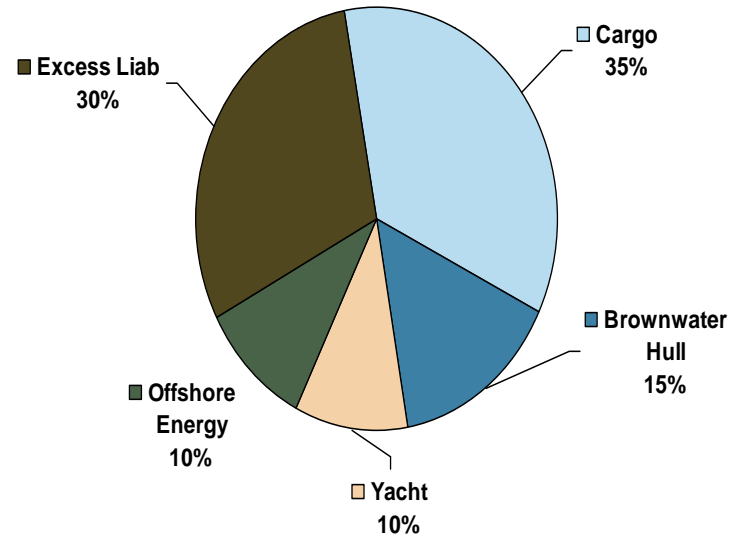


# Hypothetical Portfolio A and B – An Illustration

**A (\$100M)**



**B (\$100M)**



## Estimated Net P&L and Potential Volatility Around the Results

Estimated Figures	A	B
GWP	\$100M	\$100M
Reinsurance Cost	10%	8%
Loss Ratio (G)	64.4%	58%
Acquisition (G)	15.8%	15.8%
Operating Expenses (G)	10%	10%
Net Combined Ratio	100.2%	91.0%
Expected Net P&L	(\$0.2)	8.2
1 in 5	(12.9)	(3.2)
1 in 10	(20.5)	(10.0)
1 in 20	(27.4)	(16.2)

# Portfolio Management is Key to Success

- Companies with Clear Visions and Strategies will be the Winners.
- Questions?

# Deepwater Horizon Incident and the Resulting Gulf Coast Oil Spill 2010



**A number of parties were involved and different types of insurance coverage came into play...**

# Parties Involved

- ❑ BP
- ❑ Andarko Petroleum
- ❑ Mitsui Oil Exploration
- ❑ Transocean
- ❑ Halliburton
- ❑ Cameron, Smith Intl etc.

## Types of Coverage That Came into Play or Might be Applicable...

- ❑ Physical Damage
- ❑ Operators' Extra Expense (Control of Well)
- ❑ Removal of Wreck
- ❑ Environmental/Pollution Liability
- ❑ Products Liability
- ❑ Workers Compensation/Employers Liability

# Impact to Energy Sector, Insurance Markets and Oil Pollution Act (OPA)

- ❑ Drilling Moratorium
- ❑ Changes to the US regulator, ex. Minerals Management Services
- ❑ Possible amendments to OPA and its Limitation
- ❑ Pricing Impact
- ❑ Impact on Demand
- ❑ Impact on Capacity
- ❑ New Insurance Products Proposed
- ❑ Implication on Reinsurance Renewal

## Implication to Portfolio Management

- ❑ New RDS on Rig Explosion established
- ❑ More Challenge to Clash Monitoring Due to Multiple Assureds Involved in the Incident
- ❑ More Scrutiny from Insurance Regulators Regards to Profitability and Availability of the Insurance Products
- ❑ Excellent Case Study Topic for Enterprise Risk Management