

The Development of World Shipbuilding Market since 2005

(OECD Workshop, Session A, 3rd Dec., 2009)

Korea Shipbuilders' Association



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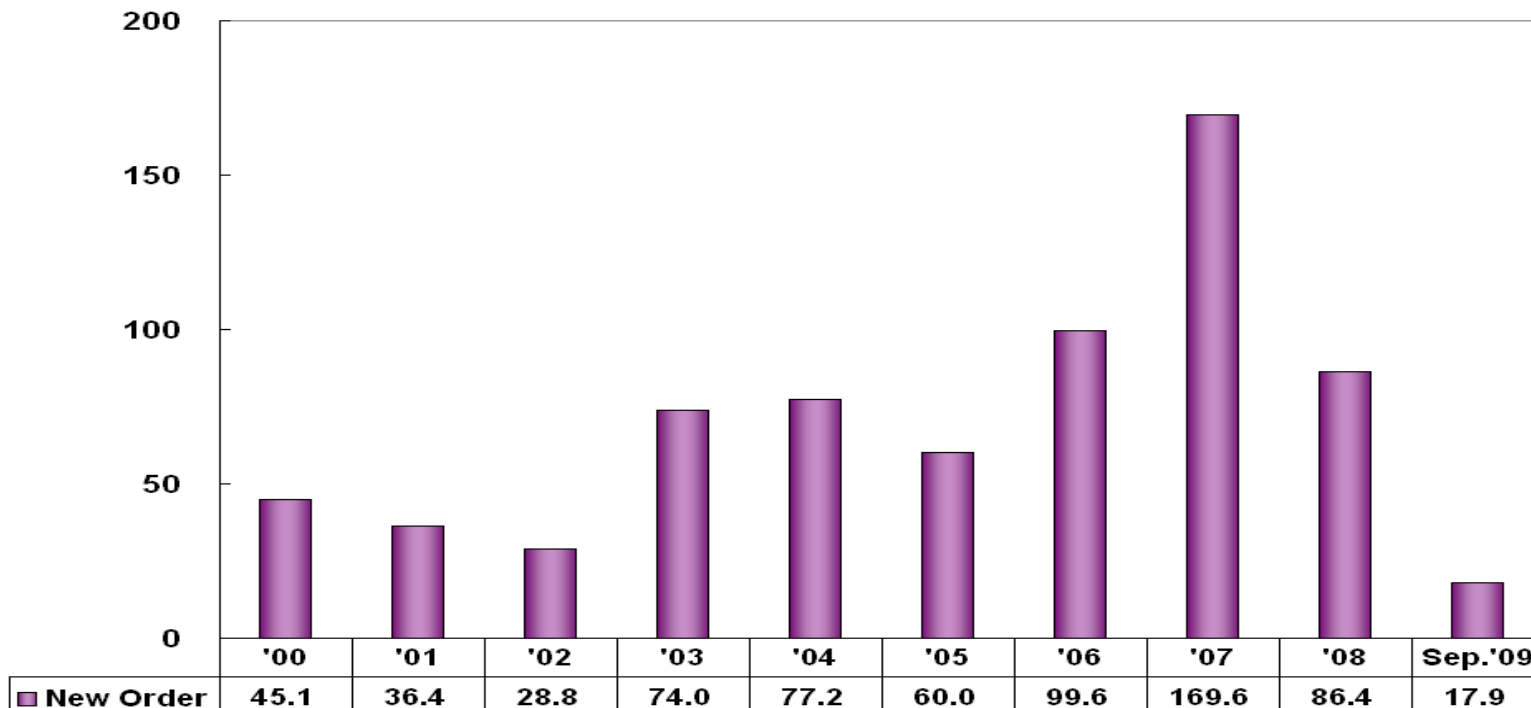
III Summary

I. Impact of the global economic crisis



New Orders (by year)

(UNIT: MIL. GT)



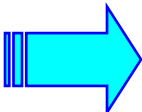
* Source : LLOYD'S

- ◆ Newbuilding demand turned to cool down since the Rehman shock in Sep. 2008, ending the long-sustained boom period since 2003.
 - ✓ Main cause of the boom : Limited fleet supply failed to match with steep growth of shipping demand due to unprecedented China effect

- ◆ Amid the poor order volume in 2009, China takes the majority, mainly driven by domestic demand and export credit support from the ECAs.
 - ✓ Orders up to Sept. '09 (M.GT) : China 9 vs. Total 18.4 (Japan 4.9 / Korea 3.2)

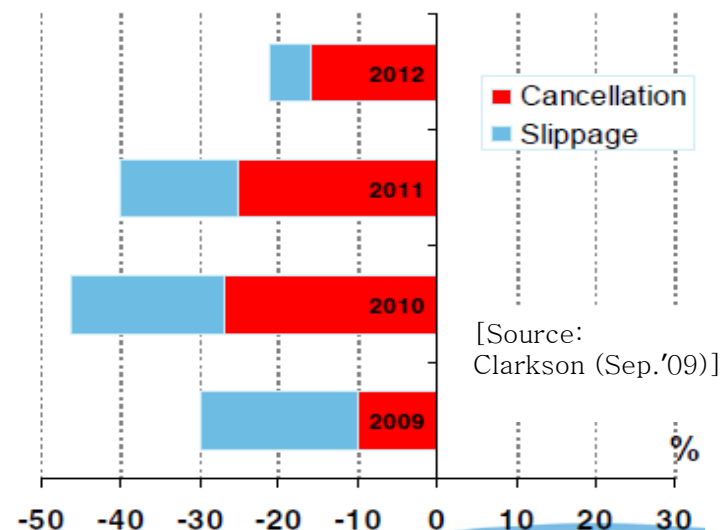
Orderbook

- Orderbook is on the decrease after the Rehman shock. Cancellation & slippage may continue to cause further reduction and flattening.
- The orderbook accounts for at least 2.5~3 years of shipyards' workload.

Sep.'05	Sep.'08	Sep.'09		<i>20% Cancellation</i> (Assumption)	2.5~3 year's workload (Taking into account the estimated 2009 delivery of 80 Mil. GT)
166 Mil. GT	380 Mil. GT	321 Mil. GT		257 Mil. GT	

Delivery Slippage & Cancellation

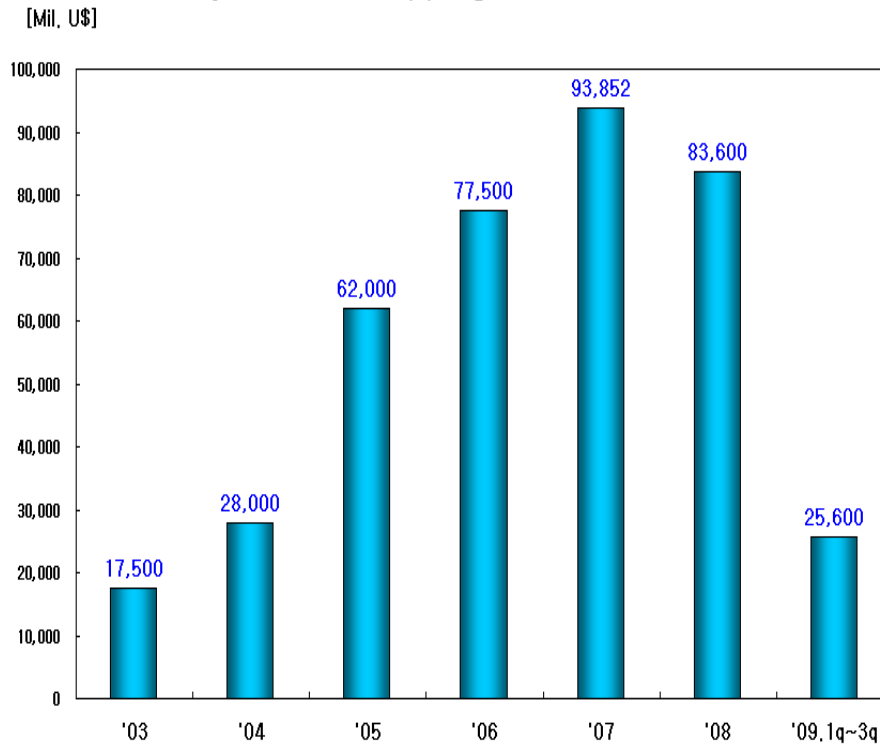
- Difference between estimated / actual delivery during the past 9 months ;
60 M.GT (Act.) – abt. 25% Gap from Est.
- Abt. 40% of the orderbook is assumed to be delayed or cancelled, mainly caused by drastic shortage of liquidity.
=> 2010 & 2011 : more seriously affected



◆ Liquidity shortage detrimental to the soundness of shipping market

- ✓ Syndicated shipping loan is notably dwindled in the aftermath of the credit crunch.
- ✓ Value of the shipping asset is damaged and commercial shipping banks suffering.
[HSH Nordbank – No.1 ship finance bank : € 716m shipping loss up to 3q 2009]

Syndicated Shipping Loan ('03~'09.3Q)

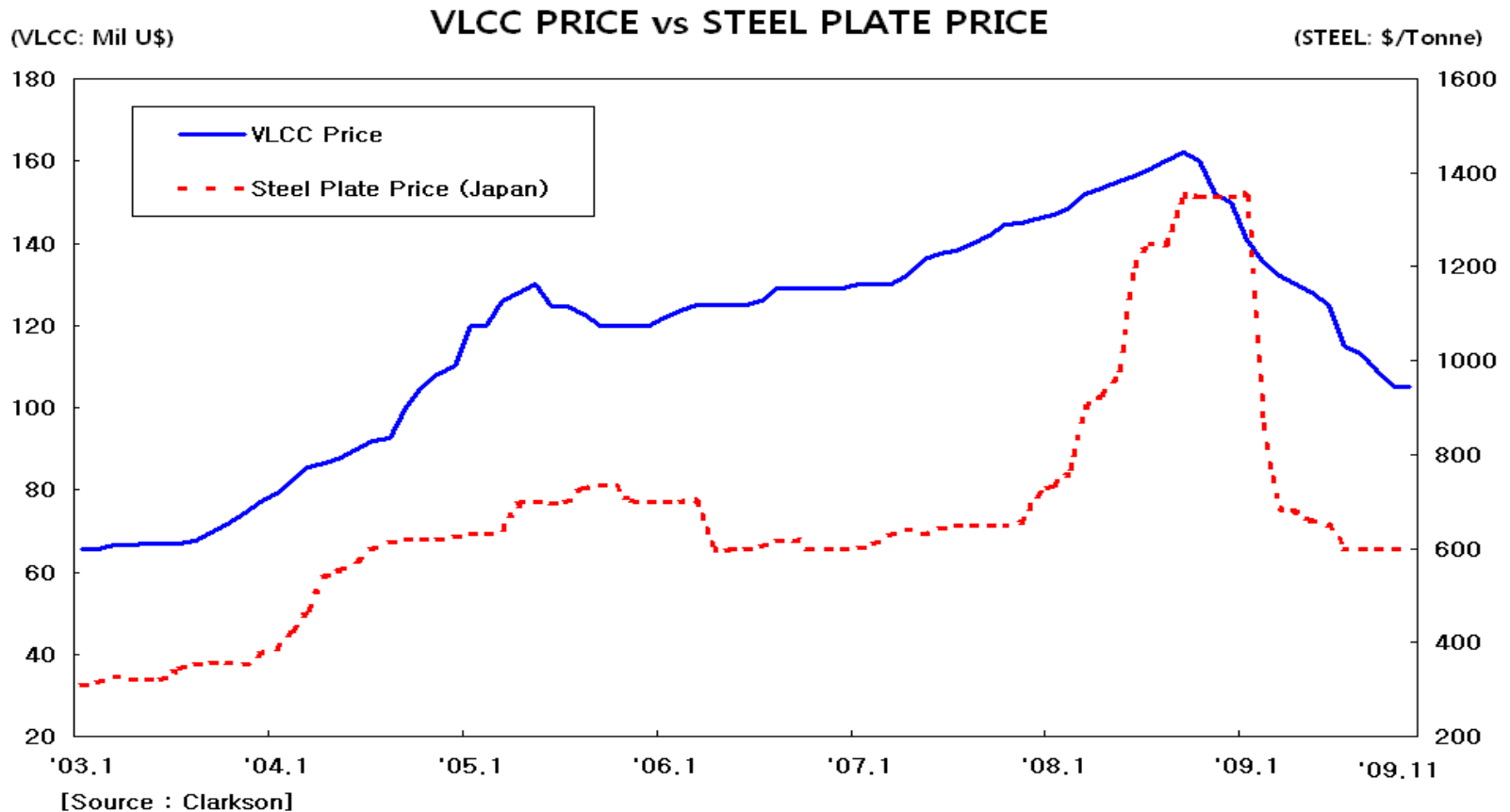


* Source: Dealogic

◆ Supply of liquidity by the ECAs to cope with the instability of the commercial banking.

- ✓ China : China Exim, Bank of China & local state banks providing abundant liquidity to the shipyards and attractive financing for foreign ship owners
- ✓ Europe : Financial support by KfW-Sonder program(Germany), SACE(Italy), Export Credit Fund(Denmark)
- ✓ Korea : Expanded export credit to ship yards and ship owners by Koexim & KEIC





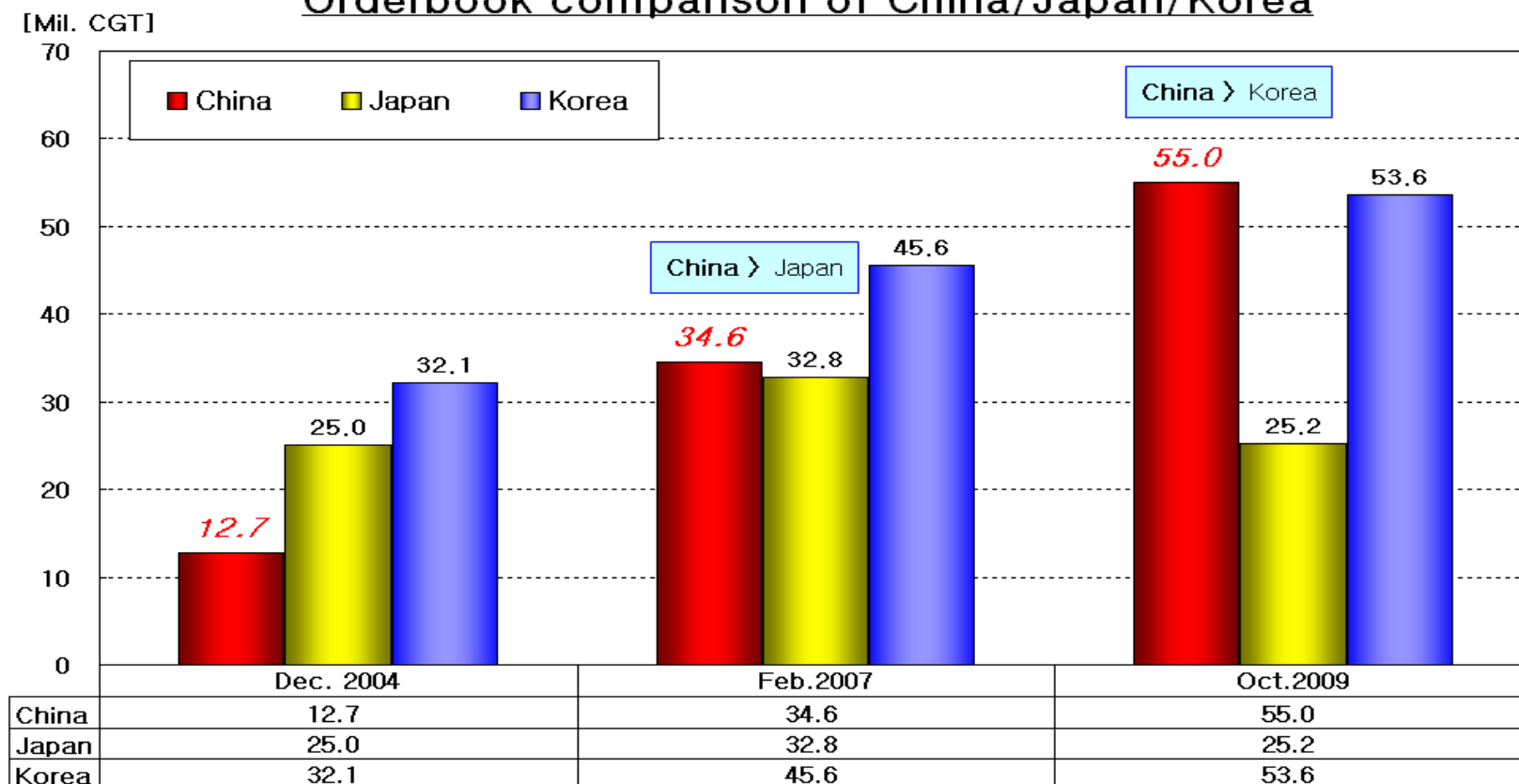
- ◆ Ship price has fallen drastically from the peak since late last year.
=> Drastic fall in ship value caused a Loan to Value problem and funding gap.
- ◆ Steel plate price, a major cost factor of the material cost, is plunging even more steeply after a sudden skyrocketing last year.



II. Structural changes in shipbuilding



Orderbook comparison of China/Japan/Korea



[Orderbook Source : Clarkson]

- ◆ The growth of China is remarkable, jumping into the leading position in as short as less than 5 years.
- ◆ Extensive facility expansion and new construction of the green field shipyards is supported by the government driven promotion plans and policies – “home building for home demand”



◆ Increase in newly established shipyards, especially in China

- ✓ Abt. 20% of the orderbook was taken by the new shipyards in world wide
- ✓ In China, newly established shipyards takes the considerable shares of more than 40% in terms of orderbook.

Orderbook shares by shipyard's category (%)

Shipyard Category	Korea	China	Japan	Europe	World
Established	88	53	98	95	76
Expansion	1	5	2	2	4
<i>New established</i>	<i>10</i>	<i>42</i>	0	<i>3</i>	<i>20</i>
Total	100	100	100	100	100

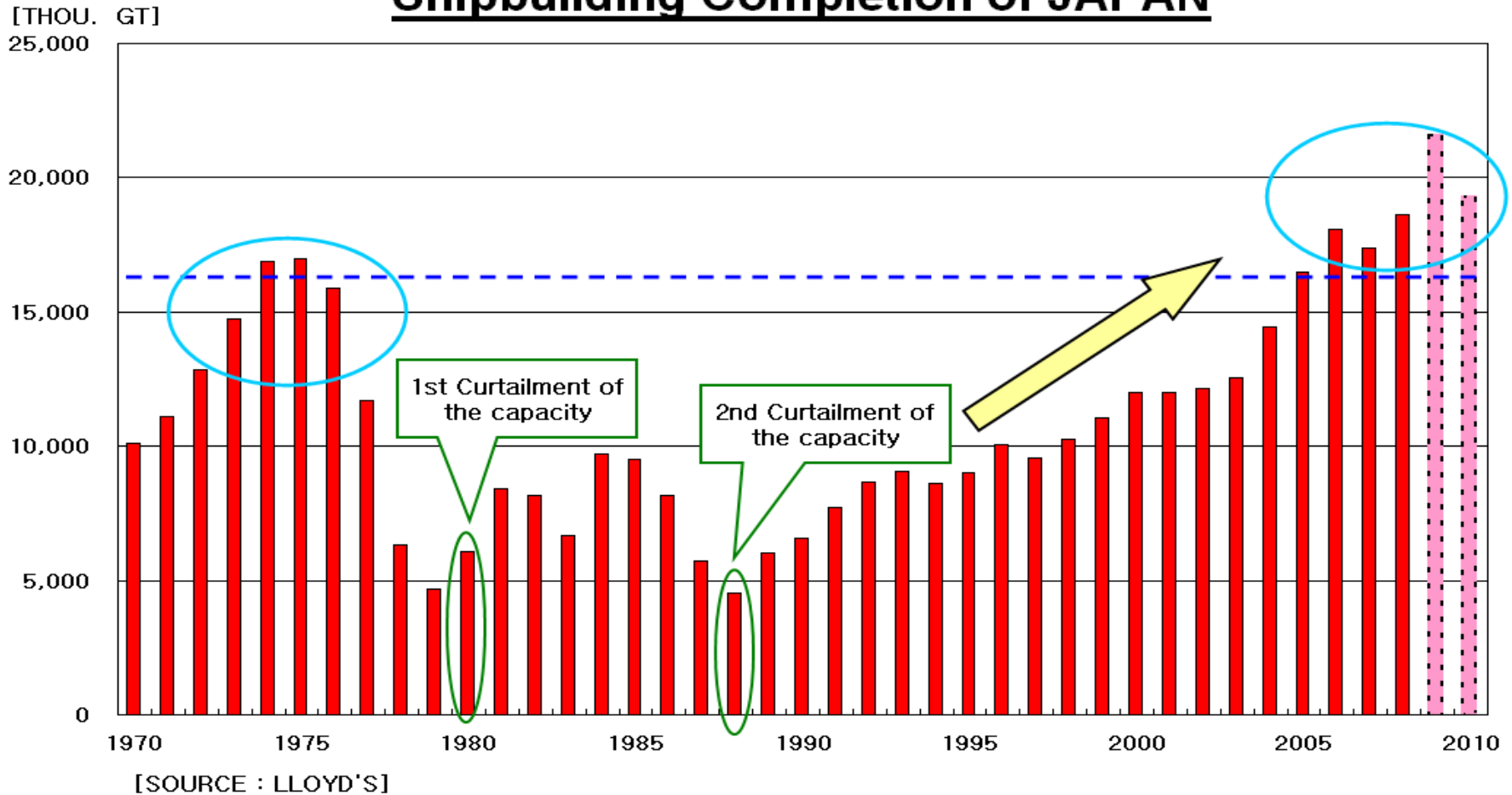
[Source : Clarkson, Newly established shipyards : delivered first ships in past 2 years]

◆ Alternative construction methods widely adopted in Korea

- ✓ Capacity scales up and down depends on market situation.
- ✓ On-land construction (without dry dock), floating dock, mega block election, expanded outsourcing, etc.
- ✓ The options offer flexibility to meet with demand fluctuation
[Impact from the production cut is less due to lower investment cost, flexible manpower management...]



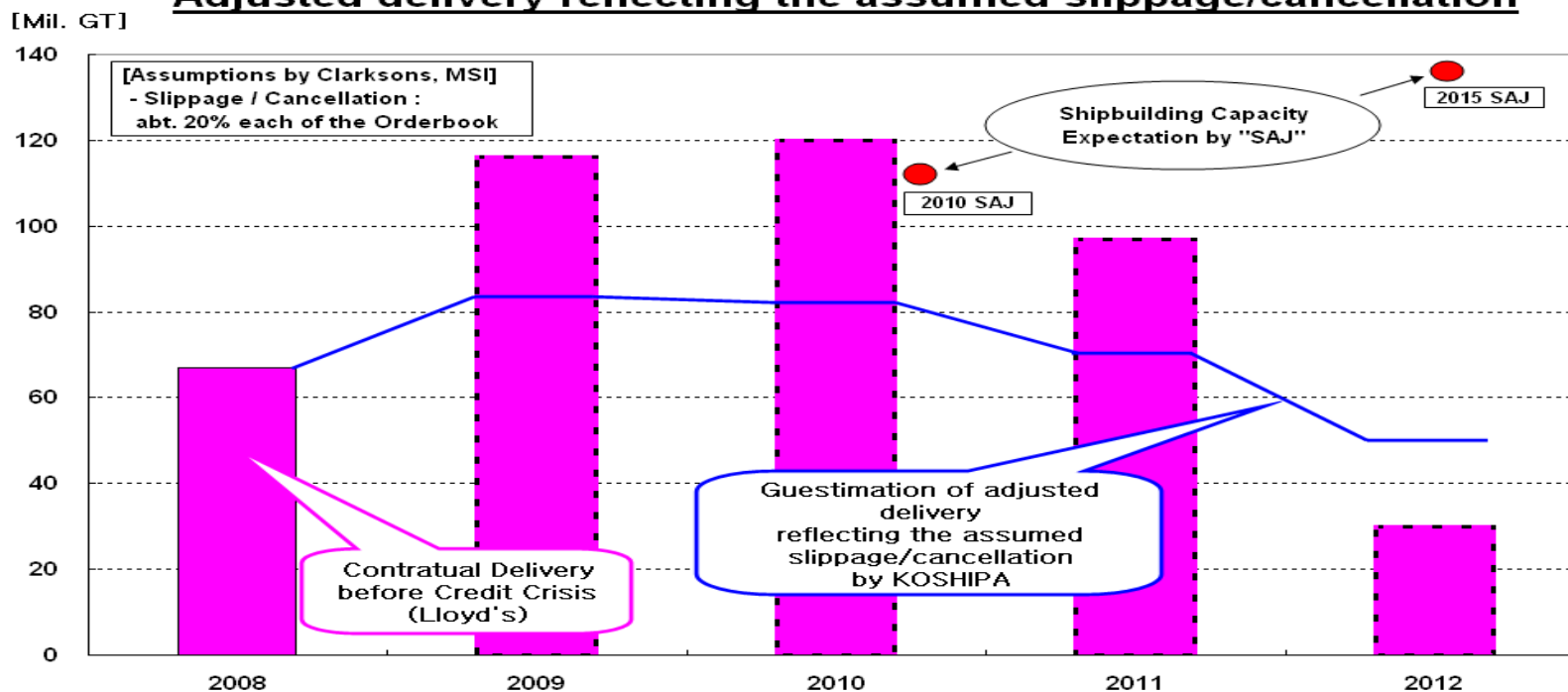
Shipbuilding Completion of JAPAN



- ◆ Actual completion of Japan continue to increase even after the twice of capacity curtailment.
- ◆ The volume of completion in recent years has already exceeded that of the epochal VLCC boom early 70s'.



Adjusted delivery reflecting the assumed slippage/cancellation



- ◆ Economic crisis made a grave impact on downward adjustment of the actual shipbuilding capacity.
- ◆ As slippage or cancellation causes actual completion to be even less or delayed than scheduled, the completion might be peak in 2009~2010.
- ◆ Eventually not a few plans of capacity expansion may not be materialized and production capacity be downscaled in pace with the real demand.
- ◆ There exists a huge gap between actual delivery reflecting assumed slippage/cancellation vs. SAJ's capacity expectation in 2015.

- 1) Technical renovation and engineering capability need to support newly growing demand for “Offshore” oil/gas development.
 - ✓ LNG hybrid ships : LNG-FPSO, FSRU, CNG ships, Co2 carriers
 - ✓ Offshore oil drilling/production : Drillships, S/S rig, FPSO (eg. Brazil demand)
 - ✓ Ice-strengthened ships for development or transportation in arctic areas

- 2) Shipbuilding industry will be poised to meet the new rule requirements for environment and safety friendly ships.
 - ✓ CSR, PSPC & FOTP rules generated new demand and technical renovation
 - ✓ Intensified IMO rules for Nox, Sox, Co2 emission control
=> Challenge for inventive solution to fuel efficiency & emission control
 - ✓ Phase out to be accelerated for single hull tankers and older tonnages

- 3) More attention is to be weighted to Quality & Cost management
 - ✓ Quality seems to be less respected during the expansion period
 - ✓ More efforts to be made in cost management and efficiency improvement



Forecast 1

Forecasting Time	Forecasting Period(2005-2010, mil.cgt)		
	Forecast(A)	Delivery(B)	A/B
Koshipa 1998	18.4	38.3	<u>48%</u>
CESA 1998	17.6		46%
SAJ 1998	16.0		42%

Forecast 2

Forecasting Time	Forecasting Period(2006-2010, mil.cgt)		
	Forecast(A)	*Delivery(B)	A/B
Koshipa 2001	22.4	40.2	<u>56%</u>
CESA 2001	18.3		46%
SAJ 2001	19.3		48%

- ◆ Previous forecast turned out to be far from the reality and revealed the structural weakness from the complexities and uncertainties of various factors.
- ◆ Reference to the forecast need to be cautious and limited in regard to the policy making process.



Shipbuilding Capacity Evaluation

(Unit : Mil.cgt)

	OECD 2003	KSA 2007	SAJ 2008	CESA 2006	Clarkson 2009	Actual output
'02	24.4	–	–	–	–	21.4
'04	–	–	–	–	–	24.8
'06	–	38.9	–	–	–	31.2
'07	27.9	–	35.0	38.8	40.0	34.7
'08	–	–	–	–	–	41.0
'10	–	–	57.0	44.3	59.0	–
'12	–	50.0	–	–	51.0	–
'15	–	–	70.0	44.7	–	–

- ◆ Capacity evaluation is tricky and complicated work
 - ✓ Current methodology need to be refined, reflecting various factors in reality
[e.g. Steelmaking capacity : Classified by 3 categories – Firm, Possible, Unlikely]
- ◆ Could capacity increase even if the demand is going to be sluggish?
 - ✓ In shipbuilding, capacity tends to follow demand – not vice versa.



III. Summary



- ◆ Structural changes in the shipbuilding industry since 2005
 - ✓ China rapidly jumped into the leading position – now No. 1 in orderbook volume

- ◆ Shipbuilding is no exception from the impact of the economic crisis.
 - ✓ Newbuilding demand turned to cool down since Lehman shock in Sep.2008
 - ✓ Paradoxically the crisis caused the capacity expansion to be reduced or not materialized, which may help to alleviate over-capacity concerns

- ◆ With liquidity in the conventional bank debt market all but exhausted, companies have increasingly turned to export credit agencies(ECAs)to plug the gap. (Lloyd's Shipping Economist August 2009)
 - ✓ Roles of the ECAs is crucial for providing liquidity to the market until commercial financing system comes back to work properly



- ◆ Focus is to be shifted from quantitative expansion to qualitative upgrading
 - ✓ Technical renovation is encouraged to meet the new requirements for developing oil/gas offshore and demand for safety and environmental friendly ships

- ◆ Protectionism to avoid fair competition should be refrained and shipbuilding industry is promoted to restructure themselves.
 - ✓ Requirements for domestic build/ local content need to be restricted.
 - ✓ The Crisis offers a chance for the industry to restructure by streamlining and sharpening its own competitiveness.

- ◆ Reference to the forecast need to be cautious and limited in regard to the policy making process.
 - ✓ Previous forecast turned out to be far from the reality and revealed the structural weakness from the complexities and uncertainties of various factors.



Thank you for your kind attention.



Challenging, Changing, Creating

Korean shipbuilders are at the forefront of the campaign to turn crisis into opportunity under the spirit of creative innovation, challenge and paradigm change.



$$\text{Capacity}(2010) = \text{Existing}(2007) + \text{Firm Capa} + (\text{Possible Capa}/2)$$

Classified	Description
Firm	"firm" is one which is under construction or for which contracts have been awarded and to which a major financial or state commitment has been made and which is due and on schedule for completion before 2010
Possible	"Possible" projects are those under construction or those for which contracts have been awarded, but which have been delayed due to financial or technical problems and whose completion may not be realised by 2010
Unlikely	"Unlikely" projects are those at the feasibility or early planning stage, those yet to receive financial or state backing and those not scheduled for completion by 2010

Source: OECD, Developments in Steelmaking Capacity of Non-OECD Economies(2008)

