

THE KOREAN SHIPBUILDING INDUSTRY

An Amazing Story

Since its birth just some 20 years ago, the Korean shipbuilding industry has undergone eye-popping growth to the point where Korea became the world's biggest shipbuilder in terms of new orders in 1993. This miraculous growth has made the shipbuilding industry an area in which Korea's international competitiveness is secured. Korea and Japan, Korea's leading competitor, together account for about 70 percent of the global shipbuilding market.

Korean shipbuilders showed a strong performance in 1995, registering a 35.4% increase in new orders over 1994. This was largely the result of their increased price competitiveness relative to Japan due to the strong yen in the first half of the year, their determined efforts to boost orders by expanding their facilities, and the overall increase in orders of large-scale container ships by liners.

In looking at the pattern of new orders for Korean shipbuilders in the 1990s, the number of orders skyrocketed from 5.11 million gross tons

(GT) in 1991 to 8.32 million GT in 1993. Since then, the total has decreased slightly to 7.76 million GT.

What the Future Holds in Store

After dropping off slightly this year, it is expected that the global market will continue to expand through the year 2000, thanks to the increasing demand to replace obsolete ships, particularly oil tankers, and also the growth in international trade resulting from the birth and maturation of the World Trade Organization (WTO) regime. Accordingly, total new orders in the global market are estimated to reach 25 million GT in the year 2000.

The Korean shipbuilding industry is expected to develop in tandem with the global market. According to estimates by the Nomura Research Institute, Korea will receive 9 million GT worth of new orders in 1999, which will make it once again number one in the world.

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<Table 1> The Global Shipbuilding Market

(Unit: 1,000 GT, %)

	1991		1993		1995	
		Mkt Share		Mkt.Share		Mkt. Share
Korea	5,107	25.7	8,317	36.7	7,762	30.4
Japan	8,073	40.5	7,534	33.3	9,810	38.4
W. Europe	3,049	15.3	4,109	18.1	4,309	16.9
Other	3,680	18.5	2,685	11.9	3,649	14.3
Total	19,909	100.0	22,645	100.0	25,530	100.0

Source: Lloyd's

<Table 2> Forecast of New Orders in Global Shipbuilding

(Unit: 1,000 GT)

	1996	1997	1998	1999	2000
Korea	7,000	7,500	8,000	9,000	9,000
Japan	9,000	9,000	9,000	8,500	8,500
Other	6,500	6,500	7,000	6,500	7,500
Total	22,500	23,000	24,000	24,000	25,000

Source: Nomura Research Institute

Showdown between Korea and Japan

At present, the global shipbuilding market is mainly divided between Korea and Japan. In the future, competition between the two will heat up, and unfortunately, it seems as if Korean shipbuilders are losing ground in terms of competitiveness relative to their Japanese counterparts. Part of the reason for this has to do with the unfavorable exchange rate situation, with the won having appreciated relative to the yen. However, it appears that there are structural weaknesses in the Korean shipbuilding industry. In general there are two main problems with the Korean industry relative to Japan.

The first stems from the fact that Korea is losing its price advantage over the Japanese, a problem which continues to worsen. Up through the first half of 1995, Korea had a price advantage of about 20% over Japan, but with the weakening of the yen, the advantage is now only around 5%. In addition, Korea lags behind Japan in terms of non-price competitiveness. Thus, if all these things are taken into consideration, Japan is equally as competitive as Korea, if not more. Again, this situation is largely the result of the weakening of Korea's price advantage due to the won's appreciation rel-

ative to the yen, but it also has to do with the fact that Korean shipbuilders were remiss in taking measures to maintain their competitiveness such as increasing their production capabilities or revamping their management while the yen was strong. On the other hand, Japanese shipbuilders were successful in their wide-ranging efforts to lower their prices during the hardships of the strong yen period in areas such as production expansion, facility modernization and streamlining, and overseas procurement of materials. For example, Hitachi was able to cut its construction costs by 30-40% through management innovation.

The second major problem is that Korea continues to lag behind Japan in non-price areas such as financing or material quality. Of course, if the OECD Agreement on the Shipbuilding Industry comes into effect this year, Japan's advantage in terms of ship financing will largely disappear. Nonetheless, there is still a big gap in the levels of technology development, particularly in design technology. Furthermore, the level of Korea's technology for high value-added ships such as LNG carriers is only about 50% that of Japan's.

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Suggestions to Shipbuilders

It seems clear that in light of the exchange rate situation and other aspects of the currently unfavorable situation, the Korean shipbuilding industry needs to make active changes. Improvements need to be made in production capability, technology, ship financing, labor, the industrial structure—in other words, in all areas.

To begin with, Korea's production capabilities must be improved upon. To be more specific, they should focus on specializing in certain types of ships, attracting more joint company orders, and exchanging production management techniques with other firms.

Second, much more active investment into research and development is needed. Toward this end, a channel could be set up which would allow shipbuilding firms, academia, and research institutes to work together on joint research projects.

Third, Korean firms should adopt outsourcing strategies in certain areas in order to reduce their

costs. This could prove very beneficial in addressing the hiring and employment problems within the industry.

Fourth, new and more diversified financing plans need to be developed in order to improve Korea's non-price competitiveness.

Fifth, facilities much be improved upon, and long-term employment and labor measures need to be developed. Internal training and education programs could be instituted, where older workers could be used to train others, thereby making optimal use of the available human resources.

And finally, the Korean shipbuilding firms must diversify into new areas and gradually spread out into every sector of the shipbuilding industry. That way, the impact on the heavy industry companies engaging in shipbuilding when the global shipbuilding market is uncertain will be reduced. **VIP**

(Hee-sik Jeong)

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<Table 3> A Comparison of Korea's and Japan's Building Costs
(As of the end of 1995)

	Korea	Japan	(Unit \$10,000) Comparative %
Materials	4,590	4,548	100.9
Steel plates	1,870	1,785	104.8
Engine	680	723	94.1
Other	2,040	2,040	100.0
Labor	3,273	3,740	87.5
Overhead	425	340	124.8
Total	8,288	8,568	96.7

Note: 1) Based on the building costs for a 250,000 ton VLCC (Very Large Crude Oil Carrier).

2) The exchange rates used were: 774.7 won/\$ and 102.8 yen/\$

3) The comparative % stands for Korea's costs relative to Japan with Japan's costs=100