

## THE KOREAN SHIPBUILDING INDUSTRY IN 1998

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### *Strong Performance in 1997*

*"Shipbuilding orders in the world are estimated to have totalled 15 million GT, an increase of more than 50% in comparison with the same period of last year."*

*"With this total, Korea will regain its spot as the world's biggest shipbuilder in terms of new orders."*

Through October 1997, Korean shipbuilding orders have skyrocketed to 10.72 million GT (gross tons), a 181.2% increase over the same period of the previous year. This amazing growth was mainly due to the large increase in orders of tankers from the end of last year and Korean shipbuilders' determined efforts to compete for orders more actively. At the same time, Japanese shipbuilders' willingness to accept new orders has decreased since they have had sufficient orders, over 10 million GT, for three years in a row. In the first half of this year, shipbuilding orders in the world are estimated to have totalled 15 million GT, an increase of more than 50% in comparison with the same period of last year. In particular, tankers including VLCCs (Very Large Crude Carriers) occupied a market share of more than 60%. In general, there are three main causes for the increase in orders to Korean builders. First, Korean shipbuilders worried about a shortage of work after expanding their facilities and actively competed for ship orders. Second, shipowners have pre-ordered ships in consideration of the relatively low current prices. Third, Korean shipbuilders have had an advantage in how early they can supply ships.

On the other hand, exports through October amounted to 5.0 billion dollars, a decrease of 7.0%. Production decreased 9.0% over the same period last year. These drops were due to the pre-production in December last year, and the drop in the rate of operation.

Total remaining orders, or work in the future, amounts to 17.87 million GT in October 1997, a 57.5% increase over the previous year. This surpasses 16 million GT, a workload of two years, which will enable Korean shipbuilders to keep their production stable. However, ship prices have fallen from \$1015 dollars per GT in 1996 to \$784 dollars this year, which will weaken the earnings of Korean shipbuilders.

### *Forecast for the Rest of 1997*

In the second half of this year, shipbuilding orders are also forecast to increase, thanks to sufficient new orders and the weakening of the won. Thus, total shipbuilding orders will be 12.5 million GT, an 79.9% increase in 1997 over last year. With this total, Korea will regain its spot as the world's biggest shipbuilder in terms of new orders.

Exports are expected to reach 6.7 billion dollars, 1.7% more than the amount in 1996, because of the increase in production as the Korean shipbuilding industry mainly exports

〈Table 1〉 Annual Ship Prices

	1993	1994	1995	1996	1997. 10
Ship price	771	923	952	1015	800

\* Note: Ship price is equal to the total amount of money spent divided by total amount of orders.

its products. Production will rise to 7.9 million GT, a 1.3% increase in comparison with 1996. This rise in production will stem from the fact that the rate of operation is increasing due to the complete operation of new production facilities, and productivity is expected to increase because of replicative shipbuilding. However, as most of the facility expansion has now been completed, the rise in production will be lower than that in 1996.

The massive shift in the exchange rate should result in big profits for the Korean shipbuilding industry. Assuming that the average exchange rate for the year increases 13.2% from 804 won/dollar in 1996 to 910 won/dollar in 1997, shipbuilders should realize an additional profit of 340 billion won. Breaking this down, the change in the exchange rate will cause an increase in the amount of exports of 640 billion, a loss of 50 billion won because of the increase in the price of imported parts, and a foreign exchange loss of about 250 billion won from the industry's overall foreign debt of more than 2.5 trillion won.

*Forecast for 1998*

Shipbuilding orders for Korea are expected to total 9.7 million GT, a 22.4% decrease in comparison with 1997. Korean shipbuilders

will be more selective in taking orders because they have secured much two-year-work, while the Japanese are expected to compete for orders more actively. However, in light of their expanded production facilities, Korean shipbuilders will still have to take enough orders to maintain stable production. In addition, the Japanese Ministry of Transportation estimates that world shipbuilding orders will be largest amount ever, totalling more than 28 million GT.

Up through the first half of 1996, Japan had a price advantage of about 5% over Korea, but with the depreciation of the won, the advantage has been turning round. If we will forecast exchange rates to be 1050 won/dollar and 130 ¥/dollar, Korea will have a price advantage of about 4 to 5%.

But considering the increase in productivity made by restructuring during the strong yen period, Japan still has a advantage. Recently, Japan shipbuilders have made efforts to reduce the shipbuilding time by making the basic block size larger. In addition, Korea continues to lag behind Japan by about 3 to 5% in non-price advantages such as financing, material quality, and shipbuilding time. Thus, if all these things are taken into consideration, Korea is about equally competitive as Japan. In conclusion, competition between Korea and Japan will intensify in 1998.

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〈Table 2〉 Forecasts for the Korean Shipbuilding Industry

		1996		1997(E)		1998(E)	
			increase rate(%)		increase rate(%)		increase rate(%)
Orders	10,000 GT	695	-2.6	1,250	79.9	970	-22.4
Exports	billion dollars	6.6	28.0	6.7	1.7	7.3	9.0
Production	10,000 GT	780	37.7	790	1.3	810	2.5

\* Note: i ) Figures for 1997(E) and 1998(E) signify HRI forecasts.  
 ii ) Increase rate (%) change over a year ago

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*"The determining competitive factor in the shipbuilding industry is productivity."*

Production in 1998 is expected to total 8.1 million GT, an 2.5% increase over this year, thanks to the regular operation of production facilities and increases in productivity. It is expected that productivity will increase by about 8~10% because of replicative VLCC shipbuilding.

### *Suggestions to Shipbuilders*

In 1998, it seems clear that the shipbuilding industry will enter into another boom period which will last until 2005. Therefore, the competition between Korea and Japan, the leading countries in the global shipbuilding market, will be more intensified. In particular, after the gap in technology is reduced, the gap in productivity will be important in determining competitiveness. At present, Korean shipbuilders lag behind the Japanese by about 30% in terms of productivity. The Korea shipbuilding industry needs to make a crucial effort to catch up with Japan's productivity.

There are several main problems connected with improving productivity such as skill from experience, production facilities, and product management. If we compare Korea's skill from experience with Japan's, the cumulative production of Korea is only 50 million GT less than the 300 million GT of Japan. Japan has an advantage of about 30% in the product management,

40% in the shipbuilding time over Korea. On the other hand, Korea's facilities are newer than those of Japan.

If all these things are taken into consideration, the determining competitive factor in the shipbuilding industry is productivity. Therefore, the Korean shipbuilding firms must make active efforts to improve productivity.

There are two main aspects in terms of improving productivity, hardware and software. In terms of hardware, some ways include the development of automative welding robots, enlarging the basic blocks, and standardization of parts. Through those ends, shipbuilding time can be significantly shortened. In terms of software, making a database of technology in design and production, the introduction of CIM (Computer Integrated Management), and the unification of production systems can also help. By accomplishing these things quickly, Korean shipbuilders will be able to realize more efficient project management.

Recently, it has been reported that the profits on new orders are very low. Under these conditions, maximizing profit will depend on reducing costs by improving productivity. Korean shipbuilders must have a progressive attitude and actively implement the above mentioned changes, especially if they are ever to escape the influence of exchange rate fluctuations. VIP

<Table 3> A Comparison of Korea's and Japan's Shipbuilding Times

	Japan	Korea	Remarks
280 thousand GT VLCC	380~450	650~750	Single Body
280 thousand GT VLCC	550~650	850~950	Double Body
150 thousand GT VLCC	300	640	Single Body

\* Source: Nomura Research Institute, The Association of Korean Shipbuilding