

.....

# Update on the Constantly Changing Shipbuilding Market

*Martin Stopford, MD Clarkson Research*

*LSE Ship Finance Conference 14<sup>th</sup> Nov  
2000*

Martin Stopford,  
H. Clarkson,  
Research & Publications Division  
12th November 2000  
e-mail [mstopford@clarksons.co.uk](mailto:mstopford@clarksons.co.uk)

# World Shipbuilding Market 2000

*Dr Martin Stopford, H. Clarkson*

Lloyds Shipping Economist Ship Finance Conference

14th November 2000

## 1 The World Shipbuilding a decade ago

The last ten years has been a remarkable period for world shipbuilding. Ten years ago the shipbuilding industry had just emerged, thoroughly chastened, from the great recession of the 1980s. During that decade over a hundred shipyards had been closed, the world shipbuilding labour force had been reduced by over two hundred thousand people and even the South Koreans, the most competitive of all shipyards of the time, had lost \$250 million in 1986. The Japanese, still market leaders, were suffering from a strong yen and complaining that they were being financially strangled by an ageing workforce and could not recruit young people into the industry. W. European shipyards were in difficulty and China was still a place where only the most adventurous shipowners built ships.

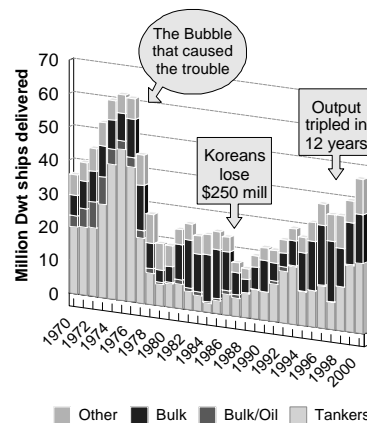


Figure 0 World shipbuilding production

As a result of all these changes, world shipbuilding output fell to a record low of 14 m dwt in 1988 and shipbuilding prices started to rise rapidly (Figure 1). The cost of a VLCC, which had slumped to \$40 m in 1986, increased to \$90 m in 1990. At this stage tanker owners started to worry whether an acute shortage of shipbuilding capacity would cause problems in replacing the tanker fleet, which was expected to happen in the mid 1990's as the bulge of mid 1970s ships hit 20 years old.

## 2 Shipbuilding in the 1990's

As so often happens, the industry was worrying about the wrong thing. Shipbuilding capacity grew rapidly and in 2000 is likely to reach 44 m dwt, more than three times the production achieved in 1988 (Figure 1). On the prices front, the concerns that VLCC prices would escalate to \$150 m could hardly have been more wrong. Newbuilding prices fell gently throughout the decade with the result that the price of an Aframax tanker (Figure 2) is lower today than it was ten years ago. The same is true of a Capesize bulk carrier and of course a VLCC. This happened despite the fact that the tankers are now of double hull design.

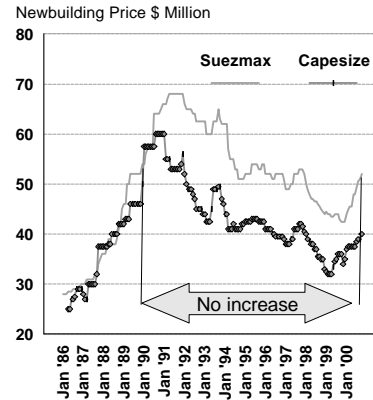


Figure 0 Shipbuilding prices fall in the 1990s

In fact there was heavy scrapping of 1970s ships in the 1990s (Figure 3), but the "replacement bulge" did happen due to age. Rather, heavy deliveries of replacement tankers depressed freight rates, which in turn precipitated heavy scrapping. Not quite the turn out owners had anticipated!

## 3 Now the 21st Century - déjà vu?

As the shipbuilding industry moves into the 21<sup>st</sup> century, shipowners and their bankers face a whole raft of new worries about how the shipbuilding industry will develop. The issues are essentially the same as they were ten years ago -

1. 1970's fleet replacement,
2. Capacity - will there be enough
3. Prices - up or down?

Let me consider each of these in turn.

### 1970's Fleet Replacement

After many false starts it now looks as though we really are coming to the end of the 1970's fleet replacement. It is now 25 years since this fleet was built and long experience shows that this is the life expectancy of steel ships in salt water. The fifth survey is usually the killer, since the inspection

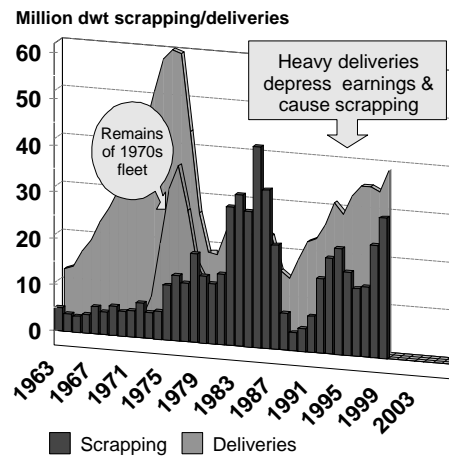


Figure 0 Shipbuilding replacement cycle nears end

is more rigorous, with many more steel measurements taken, bigger repair bills, and less chance of seeing a return on the investment.

Just in case there was any doubt this, IMO has stepped in with a revision to Regulation 13G which sets out a phase-out schedule for these vessels. So for once we have the luxury of knowing the drop-dead date for each generation of tankers. Admittedly there are some issues that remain unclear, but at least that we do not have to guess what shipowners will do.

#### 4 Regulation 13G Update

This is not the place to give a full update on Regulation 13G. Indeed there are so many points that require clarification that I doubt if it is possible to make a precise prediction of when specific ships will be retired from the fleet. In addition it is possible that IMO will modify the regulations, since it seems to be their intention not to produce a shortage of tankers which could in any way damage the flow of oil around the world.

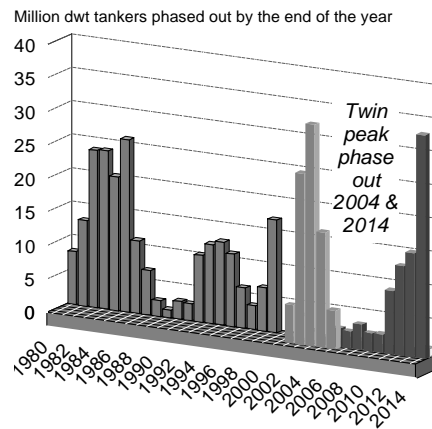


Figure 0 IMO Regulation 13 G phase out schedule

Having said that, IMO have provided their estimate of the phase-out dates for the various tankers and that is certainly the best estimate of scrapping we have available to date (see Annex 1). It shows that over the next five years, starting on the 1<sup>st</sup> January 2003, around 91m dwt of tankers will be phased-out by 1st January 2006 (see cumulative total in Annex 1). What we do not know is just how many tankers will be scrapped before the 2003 deadline.

My estimate of scrapping which takes account of other ship types is shown in Figure 4. In addition to this we must take account of the ships to expand the fleet. My estimate is that over the next six years the world fleet will grow by about 90 m dwt by end 2005. If we add these into the equation, we get the estimate of shipbuilding demand shown in Figure 5. Output expands rapidly to a peak of around 50 m dwt in 2003, after which it starts to fall back. This is a major issue for the shipyards and also for anyone carrying out investment. By 2006 the replacement surge will be over

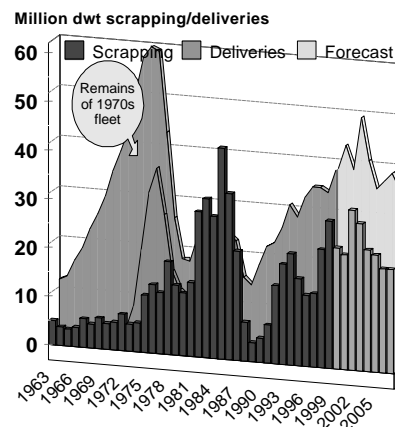


Figure 0 The shipyard cycle forecast

and shipyards will have lost this important sector of their market.

## 5 The Growth of Regional Shipbuilding Capacity

During the 1990's there was intense competition in the shipbuilding market. Japan and Korea were locked in a battle for market share which, by the end of the decade, it looked as though South Korea was beginning to win. In addition China started to become a significant force in the shipbuilding market, whilst western Europe has now retreated into the "high tech" of cruise, LNG and a last foothold in the containership market.

The battle between Korea and Japan produced one of the major surprises during the decade. Early in the 90's it was clear that Korea was targeting Japan's market share and it looked as though they had a very good chance of success. The Japanese shipyards were suffering from a strong yen and Korea was pricing its ships very aggressively. However the Japanese showed greater resilience than anyone expected. Figure 6 indicates that during the first two ordering cycles in 1993 and 1996 the Japanese succeeded in winning far more orders than the Koreans.

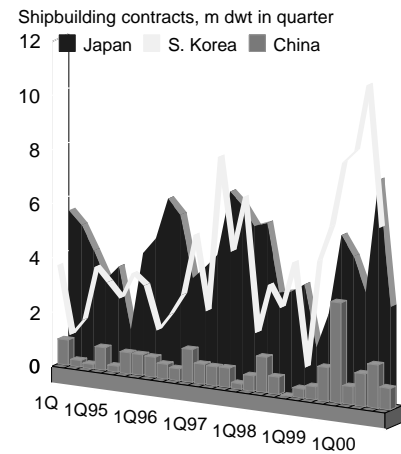


Figure 0 Japan and S.Korea compete

However in the last two cycles, in 1997 and 2000, the Koreans have come out well ahead. During the decade Korean output has increased from 1.5 m cgt to 4.5 m cgt and, according to the orderbook, in 2002 the South Korean shipyards will produce over 6m cgt, putting them firmly ahead of Japan (Figure 7). So this particular battle is now over with Korea set to take the shipbuilding crown in 2002.

Japan is hanging on in there, and one of the big issues that we need to debate is how the Japanese will develop their capacity. Will they stage another comeback, or is the industry now past its prime and moving into a gradual decline over the next ten years. My guess is that even the Japanese cannot continue to perform miracles indefinitely. Their "comeback capacity" in the 90's was remarkable achievement and I wonder whether they will want to repeat the same thing again during the next decade.

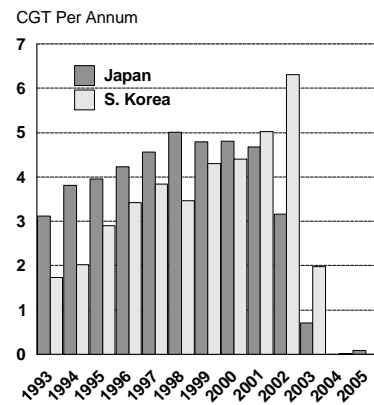


Figure 0 Korean deliveries surge ahead

Sitting in the sidelines is China (see bar in Figure 6). Although it is tempting to see China as the next Korea, every

contender must be taken on its merits. I do not see convincing evidence that China is following in S. Korea's footsteps. From the very beginning Korean shipyards were built for scale. They were designed for the mass production of ships and that strategy was relentlessly pursued over a period of thirty years. In contrast Chinese shipbuilding is much more fragmented. Its foundation is a collection of small to medium sized yards, many with rather old-fashioned technology. So far they have produced no green field on the scale of Hyundai or Daewoo. Before China can become a real challenger for the shipbuilding crown it has to show much greater commitment to major investment in facilities and technology. So I suspect China's impact will remain relatively small over the next decade.

Europe has found itself a niche building cruise vessels, gas tankers, a few containerships and many small and specialist ships. The industry did not have an easy time in the 1990's and its commercial performance was precarious. However there are encouraging signs that, in some areas at least, a phoenix is arising out of the ashes. Cammell Laird, on Merseyside, pronounced dead twenty years ago, is turning into a very successful ship repair group and now has one eye on the newbuilding market. In addition there are some wonderful passenger cruise liners coming out of the French and Italian yards. I do not know what these ships will have cost the taxpayer, but their quality and imagination are a real pleasure to see.

## 6 Shipbuilding Prices

The decline in shipbuilding prices is one of the surprising developments in the shipping industry during the 1990's. It has certainly left analysts a lot less confident about making predictions in future.

It is difficult to overstate the importance of this specific development. Shipping is an industry that relies heavily on asset values as collateral for finance. During the previous two decades prices had generally moved upwards, albeit in a cyclical way. However the fall in newbuilding prices in the 1990's worked through into the second-hand market, with the result that bankers could not rely on inflation to increase the value of the ships held as collateral. For some ship types, after taking into account of depreciation, the value of the ship was falling by 5 - 7 % a year.

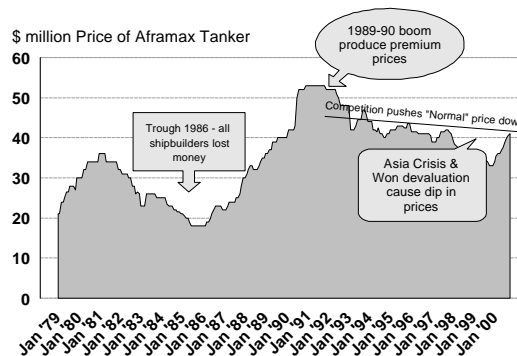


Figure 0 Shipyard price peaks, troughs & trends

Why did this happen? I believe there were three different forces at work, which were explained in Figure 8, which shows the market price of an Aframax tanker. The three factors are:

1. **Boom premium in 1990:** Between 1986 and 1990 the newbuilding price of an Aframax tanker increased from around \$20m to around \$60m. The very high prices were achieved only in 1990/91 for a relatively small number of contracts. By this stage the major shipyards had very full orderbooks and my guess is that these prices, which reflected relatively few contracts, were heavily inflated. The underlying “cost” for building the ship was probably closer to \$40m.
2. **Korea cuts margins:** As the industry moved into the 1990's South Korea embarked on a programme of capacity expansion that put volume ahead of price. Although I have no doubt that they were aiming at modest profits, their main aim was to build market share. This pushed the dollar price down to \$40m, which somehow the Japanese managed to live with. This explains the price plateau at around \$40m for an Aframax between 1993 and 1997.
3. **Korean wan devaluation:** After the Asia crisis the Korean wan was devalued 800 wan/\$ to 1700 wan/\$. This allowed the Koreans to drop their prices sharply without incurring in wan revenue. During the very difficult market of 1999 they used this competitive advantage to cut prices and win market share, which they did very successfully. This accounts for the fall in market price. And today the Korean yards are relatively full and the price is rising again back to the \$40m mark.

## 7 What happens next?

After the events of the 1990's I am not too keen to come out with sweeping predictions. The lesson we have learnt is that this is a market where players can achieve the apparently impossible.

We are starting from a very full orderbook stretching into the middle of 2003 (Figure 9). What happens next depends on how investors play the game. There are four key players here – tankers, bulk carriers, containerships and other vessel types. Let me review each in turn.

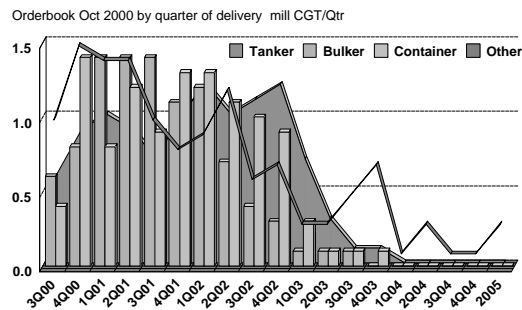


Figure 9 Shipbuilding orderbook in CGT

1. **Tankers:** Tankers investors are in a state of indecision. They have ordered heavily in the first half of this year, filling berths through until early 2003. However most investors have bought into the “boom and bust” scenario and have no desire to take delivery of a new tanker just as the market is collapsing. It's a very tough decision. Some forecasters see a short, sharp bounce back in the tanker market after the current

boom (Figure 8), but others see a very long trough and want no part of it. They had plenty of experience of that in the 1990's. So, for the time being, tanker investment is on hold.

2. **Containerships:** They have been ordering very heavily this year. It has been a profitable year and the big companies are "gearing up" for another level of investment. However the concerns about an economic downturn in 2002 are a damping influence.
3. **Bulk Carriers:** The bulk carrier market has suddenly got very cold feet about all the investment last year. Sentiment is muted.

On the shipbuilding capacity front, my guess is the Japanese yards are holding back in the hope of winning orders at higher prices. Given their cost structure, they have less to lose. However the Koreans are surging ahead and we will see what happens when the yard marketing campaigns get started next year.

## 8 Conclusions

Pulling all of this together, the answer to the questions I posed at the beginning of this paper are as follows:

1. **Where are we in the cycle?** I have argued that the delivery cycle will peak in 2003/4, after which we will see lower levels of shipbuilding output.
2. **Will berths be in short supply?** Not necessarily. There are plenty of berths in 2003. Space will only be a problem if container and dry bulk investors become very active, and that does not seem likely.
3. **Will prices rise?** Because there is plenty of capacity, as long as investors hold their nerve, I don't see why prices shouldn't remain pretty steady, though they could well rise in the short term.

So those are my three predictions. All you have to do is guess which ones are going to be right!

Thank you for your attention.  
Martin Stopford

MD Clarkson Research e-mail [mstopford@clarksons.co.uk](mailto:mstopford@clarksons.co.uk) Tel +44 (0) 20 7334 3142

## Annex 1 MARPOL Regulation 13G Phase Out Programme (roughly!)

IMO Phase Out Programme								
Remove	Built	M. Dwt	Built	M. Dwt	Built	M. Dwt	Total	
By End	Category 1		Category 2		Category 3		in year	Cum
2002	Before 1974	5.8	Before 1978	0.7	Before 1975	3.5	10.0	10
2003	1974-1975	25.6	1978	0.4	1975-1976	1.4	27.4	37
2004	1976-1977	33.2	1979	0.1	1977-1978	0.7	34.0	71
2005	1978-1980	17.3	1980	1.3	1979-1980	0.9	19.4	91
2006	After 1980	5.8	1981	2.8	1981	0.5	9.1	100
2007			1982	2.6	1982	1.0	3.6	103
2008			1983	3.9	1983	0.5	4.4	108
2009			1984	2.8	1984	0.3	3.1	111
2010			1985	2.8	1985	0.5	3.3	114
2011			1986-1987	9.5	1986	0.4	9.9	124
2012			1988-1989	13.5	1987-1988	0.7	14.1	138
2013			1990-1991	15.6	1989-1991	0.7	16.4	155
2014			After 1991	33.4	After 1991	1.2	34.6	189
			<b>OR</b>		<b>OR</b>			
			1986	6.5	1987	0.3		
			1987-1988	11.4	1988	0.4		
			1989-1990	15.5	1989-1990	0.5		
			1991-1992	19.0	1991-1993	0.8		
			1993-1994	15.0	After 1993	0.6		
			1995-1996	8.6				