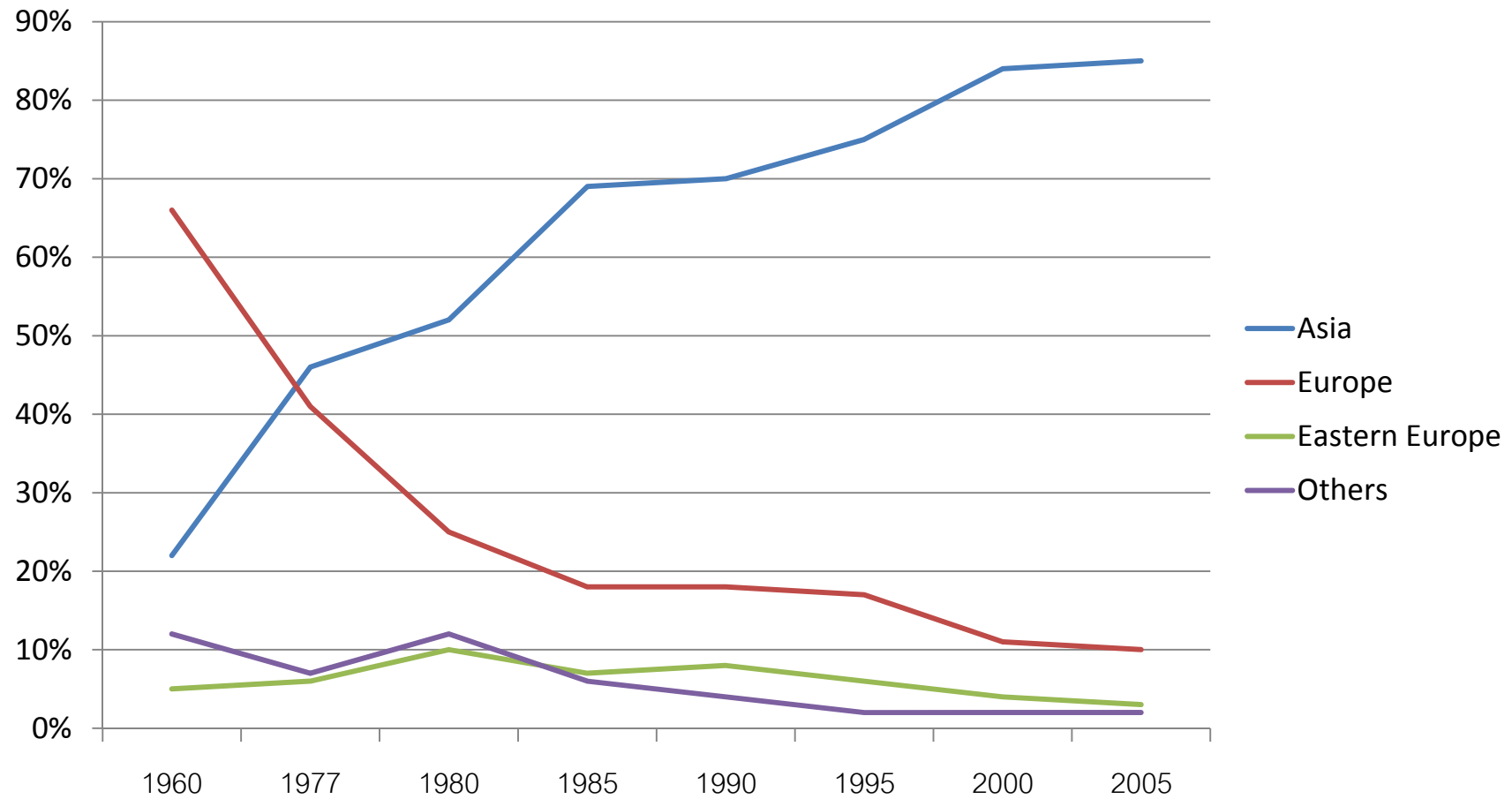


The regional structure of world shipbuilding

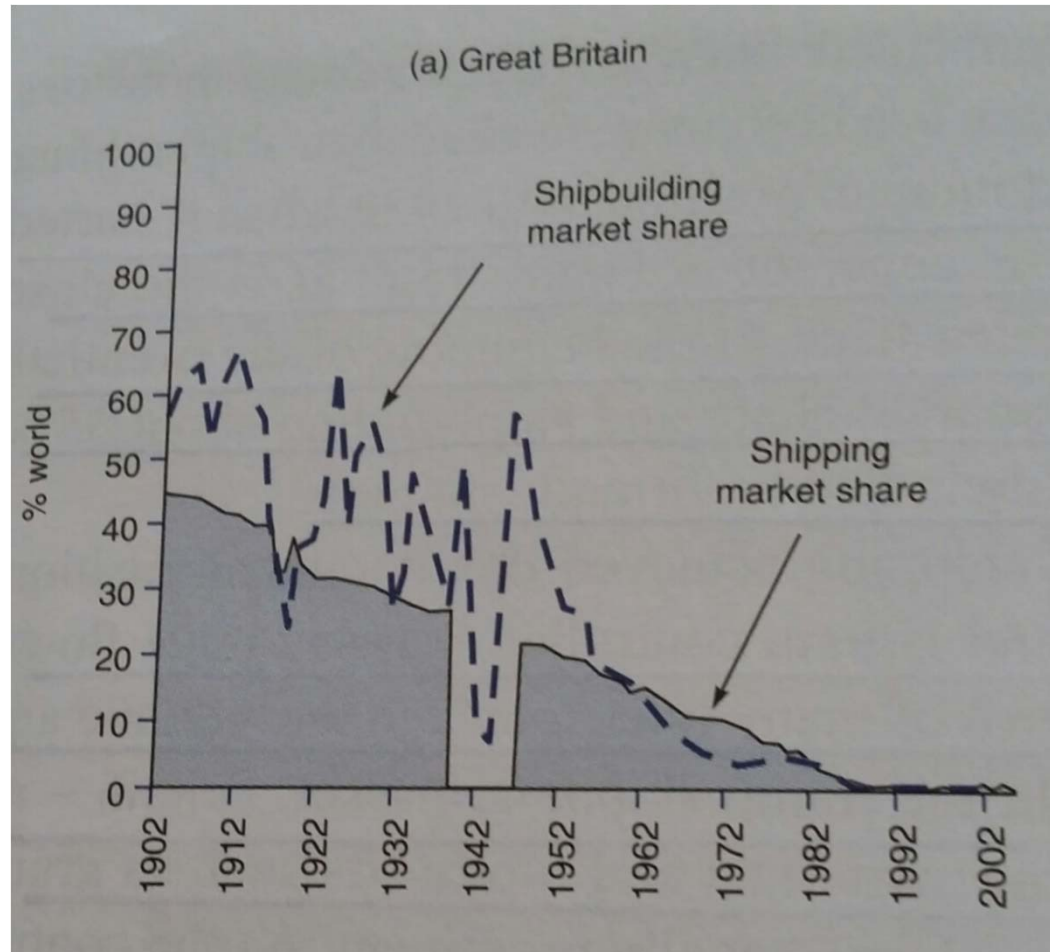
- The shipbuilding industry supplies new ships
- Shipbuilding is a heavy engineering business, selling a large and sophisticated product built mainly in facilities located in the industrialized countries of Japan, Europe, South Korea and now China
- It requires substantial capital investment and a high level of technical and management expertise to design and produce a merchant ship

Merchant ships completed during years, 1960-2005



Source: Lloyd's Register of Shipping, Clarkson World Shipyard Monitor

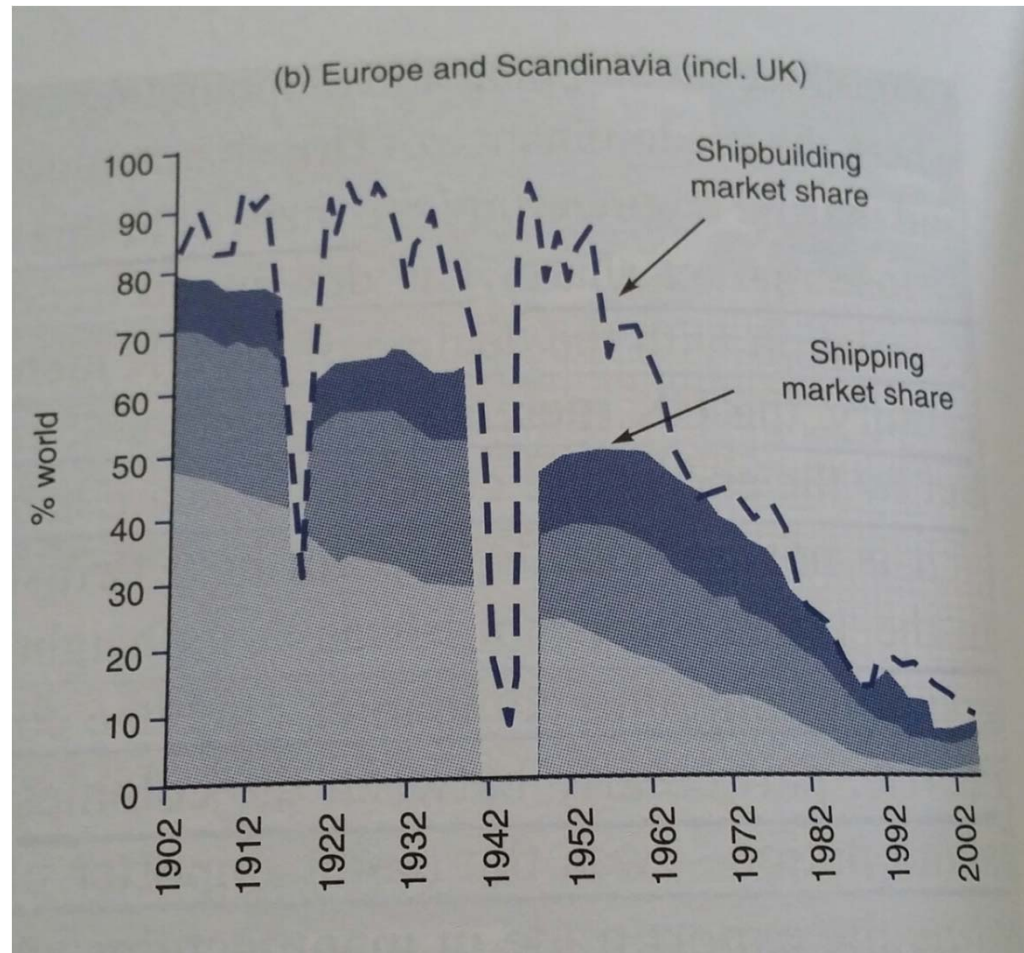
The decline of British shipbuilding



Source: Lloyd's Register of Shipping

Note: This figure shows, the merchant fleet as a percentage of the world fleet and shipyard output as a percentage of world output.

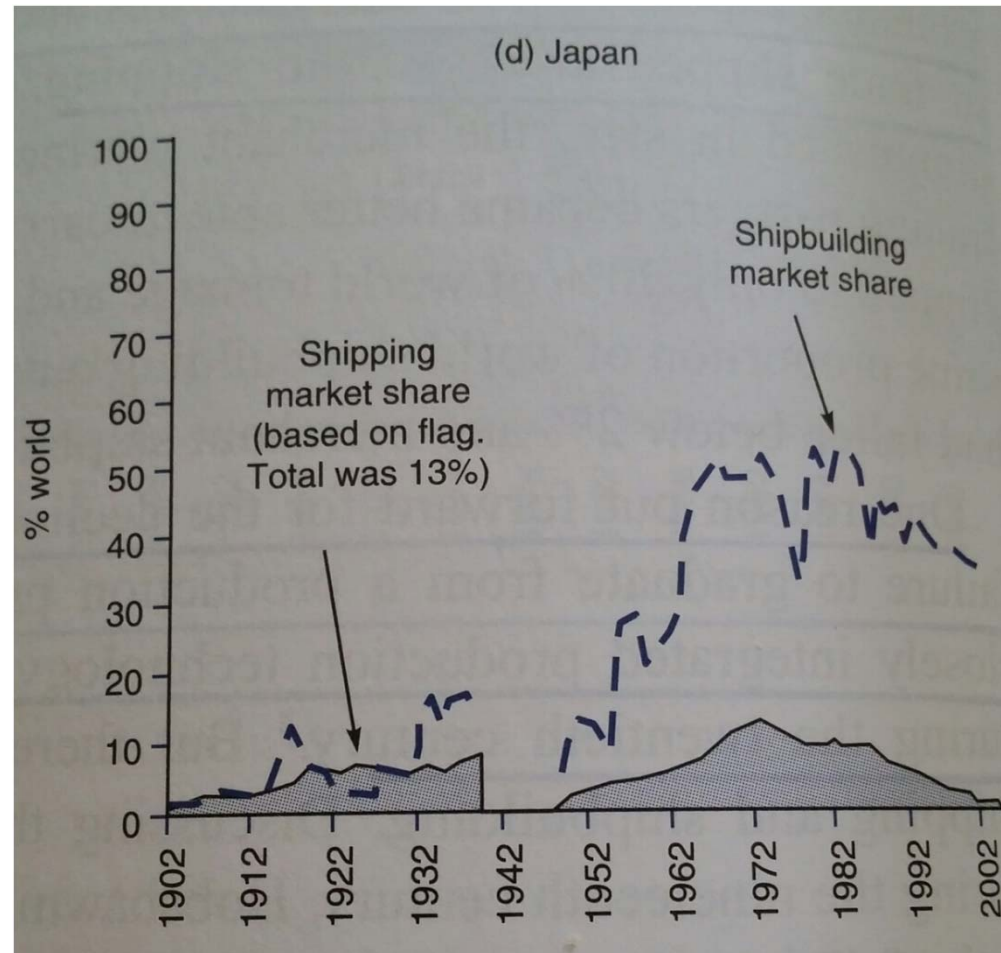
European shipbuilding, 1902-2006



Source: Lloyd's Register of Shipping

Note: This figure shows, the merchant fleet as a percentage of the world fleet and shipyard output as a percentage of world output.

The Japanese shipbuilding industry



Source: Lloyd's Register of Shipping

Note: This figure shows, the merchant fleet as a percentage of the world fleet and shipyard output as a percentage of world output.

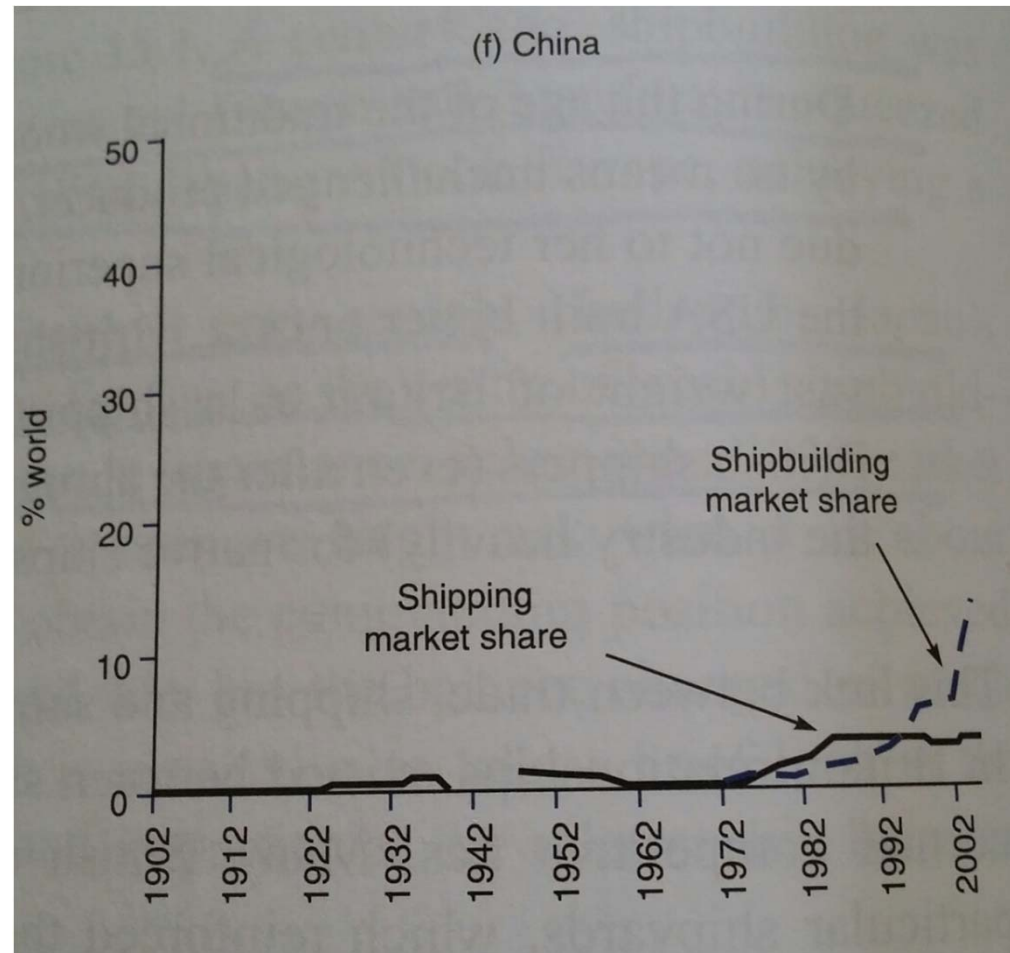
The rise of South Korea shipbuilding



Source: Lloyd's Register of Shipping

Note: This figure shows, the merchant fleet as a percentage of the world fleet and shipyard output as a percentage of world output.

The Chinese shipbuilding industry



Source: Lloyd's Register of Shipping

Note: This figure shows, the merchant fleet as a percentage of the world fleet and shipyard output as a percentage of world output.

Conclusions from a century of shipbuilding development

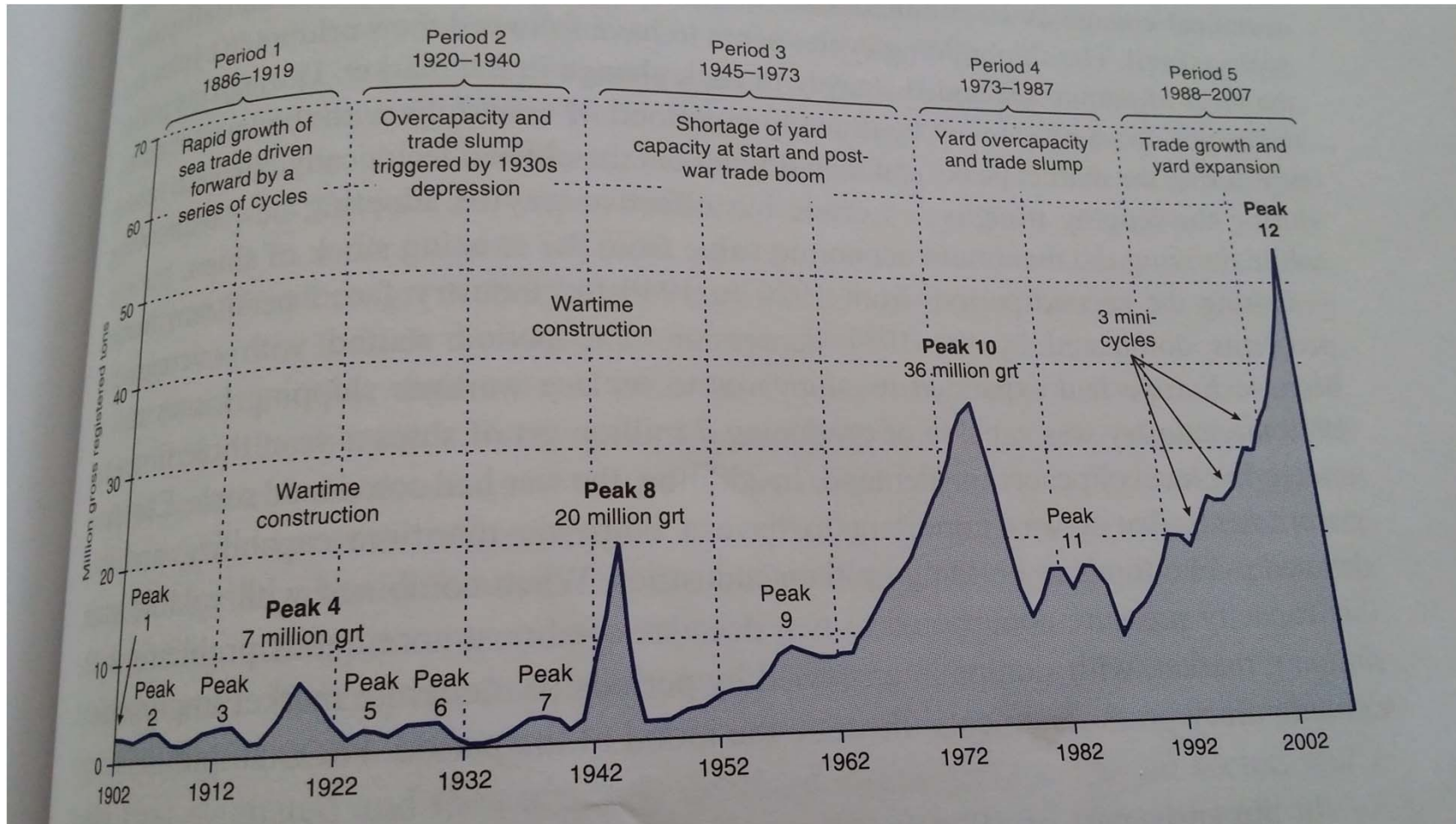
- The business lends itself to a few dominant producers, with a succession of new challengers creating a highly competitive market environment which drives technical change
- The market focus on domestic customers in the first half of the twentieth century gave way in the second half to the broader role of the export market which exists today

- **Britain** built its supremacy early in the century on its large home market which allowed it to develop craft-based skills, but then failed to evolve technically, leaving the industry vulnerable to recessions and adverse currency movements
- **The European and Scandinavian** yards were more effective in improving their production technology, but ultimately this could not overcome their high labor costs and aggressive competition from efficient Asian yards using the same techniques

- **Japanese** yards were very successful in developing sophisticated production systems, but also drew commercial strength from their strong home market which acted as a base for winning export orders.
- Starting with low labor costs and large, efficient facilities, **South Korea** was the first to build its business primarily around the export market, with a product range focused on large vessels
- **China** followed on with many more yards but much the same formula

Shipbuilding market cycles

World shipbuilding launches, 1902-2007



Source: Lloyd's Register of Shipping

Period 1

- Cyclical growth with output increasing with each peak, interspersed by periods of recession
- Rapid to technical change as steel-hulled steamships of rapidly increasing size and efficiency replaced sail
- The shipbuilding cycles seem to have followed the world trade cycles and the level of output responded sharply to each change in the market
- During this period they cycles drove investment by drawing in a flood of new ships with the latest technology during the market peaks and then driving out the old and technically obsolete vessels during the lengthy troughs

Period 2

- Overcapacity and trade slump triggered by the 1931 depression
- In Britain, which dominated the shipbuilding market at that time, shipbuilding employment fell from 300,000 in 1920 to 60,000 in 1931
- In the 1930s the Great Depression undermined demand and resulted in an 83% fall in shipbuilding output between 1930 and 1933

Period 3

- Since war damage had reduced the output of the German and Japanese industries, there was an acute shortage of shipbuilding capacity
- By 1963, trade grew rapidly as Europe and Japan modernized their economies, bringing a steady upward trend in orders that resulted in an unprecedented expansion of shipbuilding capacity in 1975

Period 4

- Started after the 1973 oil crisis and continued until 1987, was grim for the shipyards
- Trade growth was sluggish, volatile and unpredictable
- Shipyard overcapacity was increased by the entry of South Korea as a major shipbuilder
- Employment in the world shipbuilding industry halved and many of the marginal shipyards were closed
- In 1986 new ships could be bought for prices not far above the cost of materials, and even the highly competitive South Korean shipyards announced major losses

Period 5

- An expansion of Asia and China generated a recovery in trade and this coincided with more capacity being needed to replace the ageing fleet built during the 1970s construction boom
- In the process South Korea had consolidated its position as the leading shipbuilder, with China positioning itself in a bid for market leadership, opening the way for the next phase of competition

Reference

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