CHAPTER II

SHIP-BUILDING

It is well known that, when a boom is followed by a slump, the industries hit most severely are those engaged in making long-enduring products and particularly such of these as take a long time to manufacture. The reasons for this are plain. First, when the demand for the services rendered by a long-enduring product varies, the demand for new output of that product and, therefore, for work-people engaged in making it must vary in a much larger proportion, instead of, as with a quickly perishable product, varying in the same proportion. For with long-enduring products there is sure always to be an existing stock large relatively to the annual output, so that to increase the total stock sufficiently to add 10 per cent to its yield of service might well entail increasing the annual rate of output by 100 per cent; while, if 10 per cent less of total stock were wanted, there might for some time be no need to make good wear and tear, and so the demand for new output might disappear altogether. Secondly, if demand all round is increasing with population and capital in a fairly steady trend, the occurrence of a boom must itself directly generate a subsequent slump in respect of durable products, though it has no such tendency in respect of those which are immediately perishable. For, if the stock is augmented at more than the average rate in one period, it must be augmented at less than the average rate in another. A boom in effect snatches up for itself a part of the demand that would normally become operative at a later date. Conversely, of course, a slump, if it is not merely the reflex of a preceding boom, by hampering additions to stock now,

generates a need for enhanced additions presently. Thirdly, when a product takes a long time to make, the fact that a large amount of it, started in a preceding boom, is coming to completion may easily be ignored, so that its unlooked-for emergence startles people and discourages them from beginning work on any further new output.

Ships are outstanding examples of products that are both long-enduring and also take a long time to make, and it is, therefore, to be expected that in any period of violent industrial fluctuation the ship-building industry should experience exceptional disturbance. Its post-war history is thus a very good illustration of a general economic rule. It is also very important, so to speak, as a thing in itself. In the latter part of Mr. Fayle's *The War and the Shipping Industry*, which carries the story down to 1925, an excellent account of it is given. The paragraphs that follow are based on that work.

On 31st October 1918 British tonnage available was less by nearly 18 per cent than it had been at the beginning of the war, while in vessels of ocean-going size the decline was no less than 25 per cent.[1] At the same time there was a change in the proportions of different types of ships. Replacement of lost shipping had mainly taken the form of the construction of comparatively large ships. Thus there was an increase in the number of ships between 5000 and 10,000 tons of 191, while for all ships there was a decline in numbers of 951. There had been a decrease in the proportion of faster steamers, compensated by an increase in the proportion of those of moderate speed. There was an increase in the number of large tankers; but the only other specialised type built in large numbers was the frozen-meat ship, and even here the loss had not been made good. Most of the standard ships lacked the specialisation needed for the liner trade or even that demanded by tramp owners

[1] *Loc. cit.* p. 323.

before the war. There was also a higher proportion of old ships in service.

World tonnage did not decrease in the same ratio as British tonnage. In fact, between June 1914 and June 1919 the gross tonnage of steam and motor vessels of 100 tons gross and up, recorded in Lloyd's Register, had risen from 45·4 millions to 47·9 millions (*i.e.* 5%). This was largely due to the great ship-building programme of the United States, whose sea-going steam tonnage rose in this period from 2 million gross tons to 9·8 million. To a less extent Japan, the Dominions and Holland had increased their tonnage.

In October 1918 detailed instructions were sent to loading officers throughout the world as to what supplies should be left behind and what shipped if an Armistice was concluded. These instructions were carried into effect when the occasion arose; so that space was not used for war supplies which were no longer considered essential. At the same time the convoy system, with its incidental delays, was stopped, sinkings ceased, and ships allocated for the transport of American troops to France were released. As a result there was a large amount of extra tonnage available for normal requirements. The full demand for civilian purposes did not come into operation immediately. For a time there actually seemed to be a surplus of tonnage, so that liner freights in the North Atlantic fell in some cases to one-sixth of the rates in force immediately before.

It was not long, however, before a shortage of shipping began to develop once more, and by March 1919 it was as serious as in the worst period of the war. In view of the fact that the world tonnage was not below that at the beginning of the war, and that it is world tonnage which should determine the available supply of shipping, this is *prima facie* surprising. It must be remembered, however,

that some of the world's shipping was not very suitable for peace requirements. This was particularly true of some of the American shipping — and not only the wooden ships. Again, owing to failure to agree on the terms of surrender of the German ships, these ships were held in German ports until after the Brussels Agreement of 14th March 1919. Thus the shipping statistics do not show the true amount of shipping available for trade purposes. It was after the release of the German ships that the position began to improve.

More important than the actual shortage of tonnage was the fact that the tonnage which was available was not as efficient as it had been before the war. The change in the age and type of ships has already been mentioned, but, since there were some compensating improvements, it is doubtful whether there was any marked decrease in efficiency on this score. The most vital factors were the need for repairs and congestion at the ports. Owing to the urgent need to keep all possible tonnage constantly employed during the war, small repairs and refits had been postponed. In addition, it had been necessary to use shipping for work for which it had not been intended, with natural resultant damage. It had sometimes been necessary to use inferior coal for bunkers. Many of the most skilled seamen and firemen had been withdrawn for naval work. There were complaints that damage had been caused to requisitioned ships by the use of unskilled labour in loading and discharging. Fayle reports that by February 1919 nearly 12 per cent of the available ocean-going tonnage was in the hands of the repairers, but that there was still a tendency to postpone repairs because of the high cost.

Possibly, however, the most serious cause of the drop in efficiency was the port congestion both at home and abroad. The main reasons for this were —

(1) The railways had been allowed to deteriorate and there was a shortage of rolling stock.
(2) Stocks of imported commodities were allowed to pile up in the warehouses at the ports, with the result that there was no room for new imports.
(3) As a result of the high freights for coasting trade as compared with railway charges, coasting traffic was almost stagnant and there was increased pressure on the railways. In August 1919, in an attempt to overcome this difficulty, the Government agreed to refund to merchants sending their goods coastwise the difference between railway and coasting rates.
(4) Hours of labour at British ports were reduced and, as a reaction after the war years, the efficiency of work had decreased. Also there were difficulties through labour troubles in many countries.
(5) The regulations of July 1919, which restricted the use for bunkers of any coal except that coming from South Wales and the Northumberland-Durham coalfields, caused serious delay. The Liverpool bunkering facilities, for example, were intended for coal brought by rail from the Cheshire, Lancashire and Yorkshire fields, and not for water-borne coal from the Bristol Channel. As a result the majority of ships for Liverpool either had to bunker abroad for the round trip, and so lose cargo space, or to lose time going to the Bristol Channel and waiting their turn at the crowded coal ports.
(6) There was also some bunkering abroad for the round trip on account of the threat of a strike of coal miners, dock labourers and transport workers.

The annual report of the Chamber of Shipping for 1919–20 estimated that these obstacles to quick turn-round had decreased the annual carrying capacity of the

available shipping by 30-40 per cent as compared with 1913: and this in spite of the fact that, according to Prof. D. H. Robertson, there was an increase in the imports per net ton per voyage since 1913 of 15 per cent in 1919 and 9 per cent in 1920.[1]

So far we have been discussing the available capacity of the shipping. The demand for shipping space must next be considered. At the end of the war the stocks of food and raw materials were very low in most European countries. The result was an urgent need for imports both for current consumption and to build up stocks to a normal level once more. The attempt to re-establish industries contracted during the war resulted in a demand for increased importation of their raw materials as compared with the war period. While, too, the demand for shipping space for the import of munitions ceased at the end of the war, ships were still needed for the repatriation of prisoners of war and troops from overseas. Moreover, there was a change in the distribution of shipping between different routes. Owing to the disturbed economic conditions of a large part of Europe, and, in particular, of Germany, Austria and Russia, and to the serious reduction in the output of the Northern neutrals because of the blockade, it was necessary to bring imports from more distant destinations than before the war. For example, Europe had to import coal from the United States because of the continued low level of output in the United Kingdom.

When all these factors are taken into consideration it is not surprising that the shipping position became stringent and that there was, at all events in the earlier part of 1919, an acute shortage of supply relatively to demand.

This situation was reflected in the state of the freight market. The partial index of shipping freights prepared by Dr. Isserlis, which stood at 87 in February 1919, had

[1] Cf. *Economic Fragments*, p. 119.

risen to 157 in August and September, relapsing to 126 in January 1920.[1] From that date there is available the Chamber of Shipping freight index. This, after an upward wobble, was in May 1920 at nearly the same level as in January; so that, in a general way, the index stood much higher than in the post-Armistice Breathing Space.

These high freights — they were only available, of course, in the open market, while many freights were still controlled, — the recollection of war profits, the prospect of release from control, the general expectation of a world-wide boom in trade, the Chancellor of the Exchequer's announcement in May 1919 that the Excess Profits Duty would be reduced from 80 to 40 per cent, the natural desire to restore the United Kingdom's *share* of world shipping, which had dropped from 41·6% in June 1914 to 34·1% in June 1919,[2] all acted together to stimulate British ship-building. In spite of the enormously high costs of building at the end of 1919, nearly 3 million tons of merchant ships were under construction in British yards, 1 million more than in December 1913. The tonnage of merchant vessels of 100 tons gross and upwards launched in the United Kingdom in 1918, 1919 and 1920 were respectively 1,348,000, 1,620,000 and 2,040,000.[3] There was thus a substantial increase in the first, and an enormous increase in the second, peace year over the best accomplishment during the war itself. Since, according to the Z8 returns, the number of men employed in ship-building and marine engineering was slightly less — 433,000 against 435,000 — in July 1920 than in November 1918, this is, on the face of it, curious. The explanation presumably is that a large number of men, who at the Armistice were engaged in work on warships, presently became available for employment on merchant ships.

[1] Private Memorandum by Mr. Corlett.
[2] *Ibid.*
[3] Cf. Appendix, Section II, Table IV.

To anyone looking back on this period from the vantage-ground of a later time it is apparent that this Boom was being pushed forward in the face of a clear writing on the wall. Already, as we have seen, in June 1919, in spite of war losses, world tonnage was greater than in June 1914 by some 5 per cent, — largely, of course, as a consequence of American ship-building efforts. Everywhere facilities for building had been increased and were in use. Moreover, the withdrawal of British ships from trade between foreign ports during the war had led to the development of foreign, particularly American and Japanese, services there, which it would not be easy to supplant. Yet again, world trade had been dislocated, and it was not reasonable to expect that, once the immediate requirements of demobilisation and re-stocking were satisfied, the trade needs for sea transport would reach their pre-war level for some considerable time. Nevertheless, not in England only, but all over the world, ship-building boomed. "By June 1920 the steel and iron steam and motor tonnage of the world was greater than in 1914 by 7 million tons, or 14·2 per cent."[1] British tonnage (of 100 tons gross and upwards), which in June 1919 was down to 16·3 million tons, had by that time recovered to 18·1 million tons, as against 18·9 millions in June 1914.[2] Between June 1920 and June 1921 world tonnage rose further from 47·8 to 53·9 million tons, and British tonnage from 18·1 to 19·3 millions, its peak level. World tonnage, it may be noted, continued to expand till 1923, when it reached 62·3 million tons.

The breaking of the Boom made itself manifest in shipping freights at about the same time as in general prices. From a maximum of 141 in March 1920 the freight index had fallen to 84 in August; by March 1921, a year after the maximum, it had crashed to 37, and in the last quarter of 1921 and throughout 1922 it stood in the region from 33

[1] Fayle, *The War and the Shipping Industry*, pp. 381-2. [2] *Ibid.* p. 415.

to 27.[1] Thus the fall between March 1920 and March 1921 amounted to 74 per cent, and between March 1920 and December 1921 to 77 per cent. The corresponding contractions in the general index number of wholesale prices were 35 and 48 per cent. The large excess fall in freights as compared with other prices is in accord with what the considerations set out at the beginning of this chapter should have led us to expect.

In the first quarter of 1920, before freights had begun to fall, the tonnage of new ships *begun* in the United Kingdom was 708,000. In the second quarter it fell to 589,000 tons, in the third it was 594,000 and in the fourth 506,000 tons. Then a great fall began. In the four quarters of 1921 the figures were 393,000, 69,000, 51,000 and 55,000, and it was not till the last quarter of 1922 that they again topped 100,000.

Tonnage *launched* — this is not, of course, identical with tonnage completed — only fell substantially many months later than tonnage begun. In the second, third and fourth quarters of 1920 it was greater than in the first, and, though in the intermediate quarters it had been less, in the last quarter of 1921, when tonnage begun was very low indeed, it was actually larger than in the first quarter of 1920 ; — this in spite of the fact that between January 1921 and July 1921 the tonnage laid up in the principal ports of the United Kingdom had leapt up from 940,000 to 1,852,000 tons.[2]

In like manner tonnage *under construction*, a better measure of ship-building activity than either tonnage begun or tonnage launched, continued to expand for a year

[1] Cf. Appendix, Section III, Table VII. In February 1920 freights are said to have stood at 500 per cent above the level of July 1914, as against an excess of a little over 200 per cent in general wholesale prices (*Is Unemployment Inevitable?*, p. 290).

[2] Fayle, p. 434. This high figure was no doubt largely due to the coal strike, but in January 1922 it still stood at 1,307,000.

after freights had started to fall, reaching its maximum only at the beginning of the second quarter of 1921. This long delay of effect behind cause is obviously due to the fact that ships take a long time, maybe nine months or a year for a fair-sized vessel, in building.

By 1922 the end of the Slump had made its full impact on the industry. In that year some one-sixth of the world shipping was laid up in the ports.[1] In the United Kingdom the average quarterly launchings in 1922 were 263,000 tons, and in 1923, 162,000, as against 510,000 in 1920. If we subtract from tonnage under construction tonnage suspended (first recorded in June 1921) [2] in consequence of cancellation of contracts or inability of owners to pay instalments, the following figures for tonnage actually being constructed emerge :

Date		Tons
1921	1st April	3,302,000
,,	1st July	2,795,000
,,	1st October	2,552,000
1922	1st January	1,918,000
,,	1st April	1,619,000
,,	1st July	1,439,000
,,	1st October	1,198,000
1923	1st January	1,121,000
,,	1st April	1,311,000
,,	1st July	1,208,000
,,	1st October	1,029,000
1924	1st January	1,231,000
,,	1st April	1,373,000
,,	1st July	1,465,000
,,	1st October	1,431,000

Thus there was a continuous decline from April 1921 till January 1923, when the volume of tonnage actually under

[1] Cf. G. C. Allen, *British Industries*, First Edition, p. 153.

[2] Fayle, p. 425. Since at that date 497,000 tons under construction are recorded as suspended, while no figure is given for tonnage suspended three months before, at which date the under-construction figure was 90,000 tons less, it may be that the true maximum was at the beginning of the *first* quarter of 1921.

construction had contracted by two-thirds. The arrest in the decline at this date coincided with what we have agreed to regard as the end of the Slump.

During the first stage of the Doldrums, throughout 1923, the figures, as the table in the Appendix [1] shows, moved irregularly; they were wavering about at the bottom of a depression. By the beginning of 1924 a definite and continuous, though not very rapid, upward movement had begun. Nevertheless, neither within our period nor indeed ever until the new war started, was the British ship-building industry to attain again its pre-war scale. The main reason for this, no doubt, was the fact that the physical volume of world trade was substantially less than before the war — in consequence of the general dislocation of international economic relations for which the war had been responsible. Writing in 1933, Professor Allen paints this picture: "The additional capacity created during the war has been idle for the last ten years and the profits earned have been small. Throughout this period unemployment has never fallen much below 20 per cent of the labour force, although the number of insured workers has been reduced from 320,000 in July 1924 to 265,000 in July 1930. Real wages are lower than in pre-war days and ship-building can no longer be considered a high wage industry, as it was then. At present the outlook is gloomy." [2]

[1] Cf. *post*, Appendix, Section II, Table IV.

[2] Cf. G. C. Allen, *British Industries*, First Edition, p. 156.