Sadržaj osnovne literature:

Dopunska literatura:

- Benford, H. (1983a) A Naval Architect's Introduction to Engineering Economics (Ann Arbor, Mich.: University of Michigan, College of Engineering) No. 282.

- Čekić, Š., I. Bošnjak, MENADŽMENT U TRANSPORTU I KOMUNIKACIJAMA, Fakultet za saobraćaj i komunikacije Univerziteta u Zagrebu, Fakultet prometnih znanosti Sveučilišta u Zagrebu, Sarajevo, Zagreb, 2000.

- Dundović, Č., POMORSKI SUSTAV I POMORSKA POLITIKA, Pomorski fakultet u Rijeci i Glosa Rijeka, Rijeka, 2003.

Glavan, B., POMORSKI BRODAR – ORGANIZACIJA I POSLOVANJE, Istarska naklada, Pula, 1984.

- Hampton, M.J. (1989) Long and Short Shipping Cycles (Cambridge: Cambridge Academy of Transport), 3rd edition 1991.
- Haws, D. and Hurst, A.A. (1985) The Maritime History of the World, 2 vols (Brighton: Teredo Books Ltd).

- Jones, J.J. and Marlow, P.B. (1986) Quantitative Methods in Maritime Economics (London:
Fairplay Publications).

- Stopford, R.M. and Barton, J.R. (1986) 'Economic problems of shipbuilding and the state', Journal of Maritime Policy and Management (Swansea), Vol. 13(1), pp. 27–44.

- Volk, B. (1994) The Shipbuilding Cycle-A Phenomenon Explained (Bremen: Institute of Shipping Economics and Logistics).

7 Financing Ships and Shipping Companies

For the ordinary investor, the tramp company remains a form of investment to be avoided. It is a very special business and at its best financed and managed by those who are versed in its difficulties.

(A.W. Kirkaldy, *British Shipping*, 1914)

7.1 SHIP FINANCE AND SHIPPING ECONOMICS

Ships tie up a lot of capital. Container-ships and tankers can cost up to $150 million each, about the same as a jumbo jet, while LNG tankers, the most expensive ships, cost $225 million each. In 2007 investment in new ships reached a new record of $187.5 billion,[1] and second-hand sales reached $53.5 billion (see Figure 7.1). As a result, capital can account for up to 80% of the costs of running a bulk shipping company with a fleet of modern ships, and decisions about financial strategy are among the most important that shipping companies make. But shipping has distinctive characteristics which make financing different from other asset-based industries such as real estate and aircraft. Broadly speaking, bankers like predictable earnings, well-defined corporate structures, high levels of disclosure and well-defined ownership, whilst investors look for consistent growth and high yields. However, many shipping companies do not meet these criteria. Because the ships are internationally mobile and their owners can choose their legal jurisdiction, shipping companies are able to adopt less formal corporate structures than are found in most other businesses employing such large amounts of capital. In addition the revenue flows are highly volatile, as are asset values. This history of volatility was described in Chapter 3. Thus, a ship is not just a transportation vehicle, it is a speculation. This makes life interesting for shipowners but difficult for potential lenders and investors who are used to dealing with more stable businesses. As a result, ship finance is generally regarded as a specialist business and, for example, the rating agency Moody's classifies it as 'exotic' finance.

This brings us face to face with a paradox. Given all these difficulties, raising finance should be difficult, but historically the industry has generally suffered from too much finance. In 1844 George Young complained to a British House of Commons Select

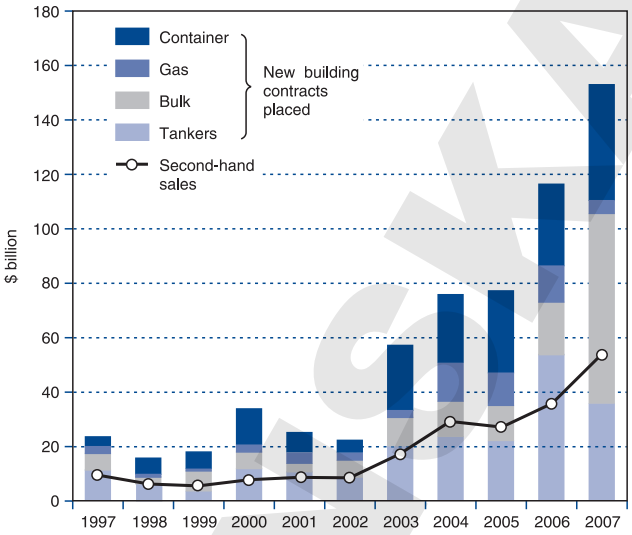

Figure 7.1
Investment in merchant ships, 1997–2007
Source: CRSL

Committee that during the period 1836–41 mortgages for the purchase of ships had led to an increase in the supply of shipping 'inducing persons without capital or with inadequate capital to press into shipowning, to the injury of shipowners in general'.[2] One hundred and sixty years later the same complaint could still be heard and even the bankers were complaining about the intense competition, with 150 banks targeting the ship finance market. There have been times when the industry has indulged in phases of wild speculation, often using borrowed money, but it would be wrong to say that ship finance drives the market – that responsibility lies firmly with the shipping investors. It does, however, help to grease the tracks of the shipping roller-coaster.

Our aim in this chapter is to explain the role of ship finance in the shipping market from the shipowner's and the ship financier's point of view. We will start by looking at how ships have been financed in the past, and then we will explain how ship finance fits into the world financial system alongside other forms of investment. Then, we will examine the options open to shipping companies wishing to raise finance. Finally we will draw some conclusions about the interplay between the activities of bankers on the shipping markets discussed in Chapter 4 and the way in which bankers should approach this form of lending.

7.2 HOW SHIPS HAVE BEEN FINANCED IN THE PAST

Ship finance in the pre-steam era

Although the history of ship finance can be traced back to the joint stock companies of the sixteenth century, the logical starting point for a discussion of modern ship finance is the 1850s when steamships started to appear in significant numbers. A widely used technique was the 'sixty-fourth' company. In the United Kingdom a ship is registered as 64 shares, so an investor could buy part of a ship as a standalone investment. An investor who bought 32 sixty-fourths owned half the ship, while to hold 64 equal shares was to be a sole owner. Legally shareholders were tenants in common, each having a separate interest which could be sold or mortgaged without reference to other owners of the vessel.[3]

There were three ownership structures. Shares could be held by individuals on their own account, by individuals organized into partnerships, or by investors in a joint stock enterprise. However, most ships were owned by one person. According to records for ships registered in the City of London in 1848, out of 554 vessels, 89% were owned by individuals and 8% by trading partnerships. The remaining 3% were owned by joint stock companies. Only 18% of the vessels were mortgaged, mainly to cover the cost of repairs.[4] Where partnerships were used, they were generally limited to only two or three partners, possibly reflecting the difficulty of managing larger groups.

The evolution of the shipping corporation

As ships grew in size during the second half of the century, the joint stock company rapidly became the preferred financial vehicle for raising the large sums of money required. A major factor in this development was the Companies Act 1862, which protected investors from liability claims by company creditors. This opened the way for small investors whose other assets were now protected, though share ownership in such a risky and individualistic business tended to be restricted to family and friends.

A good example is the Tyne Steam Shipping Company which was formed as a joint stock company with limited liability on 1 July 1864. The company was to carry the growing bulk export trade of bulk coal from Newcastle on Tyne. It owned the first bulk carrier, the *John Bowes* (see Chapter 10). The nominal capital of the company was set at £300,000 in 12,000 shares of £25 each. Initially 10,100 shares were issued on which £18 was paid up, raising £181,800. This was used to purchase 10 vessels for £150,000, leaving £30,000 working capital. Approximately one-quarter of the shares were taken by previous owners of the new company's steamers and the rest were sold, as far as possible, to the public locally because 'a shareholder at London, Liverpool or Manchester brings little business to the company'.[5] This company is typical of many others in the international shipping industry at this time. A few such as Cunard (now part of Carnival Cruise Lines) and Hapag-Lloyd are still in operation.

Although these companies were capitalized with equity raised from the public, share ownership was often closely controlled and many companies relied on self-financing or borrowing rather than share capital to finance expansion. For example, share ownership in the Charente Shipping Company Ltd, which was set up in 1884 with share capital of £512,000 and a fleet of 22 vessels, was 'limited to a small and closely-knit family group'.[6] In each subsequent year, with only two exceptions, the company ordered at least two new ships, and by 1914 the fleet had increased from 22 ships to 57. No further capital was raised and investment was paid for from cashflow, and despite the many cycles adequate investment funds were always available from internal funds (see Chapter 3 for a review of these cycles). Majority ownership remained with three families, the Harrisons, the Hughes and the Williamsons.

Other companies were less conservative. In the nineteenth century borrowing was common. According to Sturmey, during the long recession of 1904–11 many heavily indebted lines failed and 'the financially conservative men who controlled the major shipping lines observed the failure and took the lesson to heart'. For the next 50 years

British shipowners stuck firmly to the policy of financing investment from accumulated depreciation reserves. 'Borrowing became anathema'.[7] In 1969 the Rochdale Committee of Inquiry into Shipping found that only £160 million out of over £1,000 million capital employed by British owners was represented by loans, a 16% gearing rate.[8] The same financial conservatism was shared by many of the older established Greek names.

Although this policy provided protection against recessions, earnings were never strong enough to fund expansion or attract external equity. Between 1950 and 1970 the return on British shipping shares averaged only 6% per annum compared with 15% per annum for all companies. As a result, although most of the larger shipping companies were publicly listed, no cash was raised by issuing equity capital to the public[9] and the British fleet played little part in the post-war bulk shipping boom.

Charter-backed finance in the 1950s and 1960s

In the 1950s the balance of financial conservatism, with its protection from market cycles and high leverage which boosts the return on equity, took a new turn. The rapidly growing industrial economies in Europe and Japan needed cheap raw materials. Industrial shippers, particularly oil companies and steel-makers, started to look abroad for new supply sources. As a result an important new player entered the ship financing game, the industrial shipper. As more raw materials were sourced abroad, shippers needed the cheapest possible transport, using very big ships operating between specialized terminals. Oil companies and steel mills offered shipowners time charters as an incentive to order these large ships, and the owners would raise a loan to buy the ship against the security of the time charter.

This was known as charter-backed finance and it typically involved ordering a new ship, obtaining a long-time charter for the ship from a creditworthy organization such as an oil company, and using the time charter and a mortgage on the hull as security to obtain a bank loan covering a high proportion of the purchase price of the ship. This allowed shipowners to expand their fleets with little equity and it played a major part in building up the independent bulk shipping fleet. It originated in the 1920s when the Norwegians started to build up a tanker fleet. In 1927, as part of their fleet replacement programme, Anglo Saxon Petroleum Ltd offered 37 ten-year-old tankers at between £60,000 and £70,000 each with 10-year time charters. The financing terms were 20% cash down and the balance over 5 years at 5% interest.[10] Twenty-six were bought by Norwegians, mostly newcomers to the business, who were able to borrow against the time charters. The process took another step forward after the Second World War when Norwegian owners could only obtain licences to order ships abroad if the vessels were 100% financed abroad. Soon adept Norwegian brokers perfected borrowing techniques based on pre-construction time charters. This initiated the great expansion of the Norwegian fleet which, during the 1950s, almost trebled in size, drawing heavily on finance raised from American banks.[11]

Greek shipowners were also quick to exploit this opportunity. A high proportion of tanker construction was financed with American loan capital and 'Greek owners appear to have operated largely on the basis of securing a time charter for 7 or even 15 years

from an oil company, a 95 per cent mortgage from American financiers on the security of the time charter, then building to fit the charter and finally sitting back to enjoy the profits'.[12] US shipowners were equally active, though the charter-back system was refined to its most sophisticated form in the *shikumisen* arrangements developed between Japanese charterers and Hong Kong shipping entrepreneurs.

The one-ship company

The aim of the time-charter system was to reduce transport costs and this led to a different form of legal and business organization. The most important innovation was the single-ship company. Using the flags of convenience developed for this purpose (see Chapter 16, Section 16.5), these one-ship companies became the building-blocks for complex shipowning empires. Each ship was registered as a separate company, with ownership vested in the group and management handled through an agency. This suited bankers because for financing purposes the ship could be treated as a separate company, secured by a mortgage on its hull and a time charter. Although organization structures were loose, with few published financial accounts and little financial transparency, very high leverage rates could be achieved because the bank had the security of both the hull and the time charter.

This phase of charter-backed finance dominated ship finance for about 20 years, but during the 1970s and 1980s gradually shrank in importance. There seem to have been three reasons. First, the charters had been made available during a period of structural change when charterers needed to encourage owners to order the large vessels they needed. By the early 1970s economies of scale had been pushed to their limit and it was no longer necessary for shippers to make this onerous commitment in order to secure the ships they needed. Second, after two decades of headlong growth in the bulk trades, there was a change of trend and the crude oil and iron ore trades stopped growing (see Chapter 4). Third, some shipowners who had expected to 'sit back and enjoy the profits' found themselves locked into contracts whose small profit margins were eaten away by inflation. Worse still was the failure of several charterers to honour their commitments, notably Sanko in the mid-1980s. As the market and the needs of charterers changed in the following decades, time charters became much more difficult to obtain and the financing structures used by the shipping industry changed.

Asset-backed finance in the 1970s

In the early 1970s, after two decades of highly leveraged charter-backed finance, shipping bankers started to revise their lending policies. Instead of securing the loan against a long-term contract, for a brief but disastrous spell in the early 1970s many bankers were prepared to rely on the first mortgage on the hull, with little additional security. A prominent banker summarized the reasons for this change as follows:

> A long-term charter-party with no or few escalation clauses built into it can be disastrous to the shipowner … Inflation, engine breakdowns and other accidents as well as changes in currencies can very quickly alter or wipe out the best

> planned cash flows … On the other hand, shipowners who run vessels on the spot market have recently been better off … Many bankers have objected to a gearing of 1 to 5, or lending of up to 80 per cent of the cost price or market value of the vessel… I believe that from a commercial bank's point of view this form of lending has caused no major disasters, and the main reason is perhaps that good, well maintained modern ships have retained their value or even appreciated.[13]

In short, bankers started to see shipping as a form of 'floating real estate'.

This was a fundamental change of policy because it removed the link between supply and demand. During the period of charter-backed finance, newbuilding was restricted by the availability of charters. If the hull was regarded as acceptable collateral, there was no limit to the number of ships which could be ordered from the slimmest equity base. When, in 1973, petrodollars flooded into the world capital markets, shipping seemed an obvious target. The tanker industry was swept away on a tidal wave of credit which allowed 105 million deadweight of tankers, representing 55% of the fleet, to be ordered in a single year. In the stampede for business, financing standards became so casual that loan syndications could be arranged by telephone with little documentation and few questions asked.[14] It took the tanker market 15 years to recover.

Unfortunately, that was not the end of the story. In the 1980s the shipping industry experienced its worst recession for fifty years just at a time when the capital markets were again awash with petrodollars, generated by oil at $40 per barrel, and desperate shipbuilders started to use credit as a thinly disguised way of building for stock. Mortgage-backed debt underpinned orders for 40 million deadweight of bulk carriers in 1983–4 when freight rates were at rock bottom. The rationale was counter-cyclical ordering, but the volume of orders was so great that the cycle did not turn. With so many deliveries, the recession dragged on through 1986 and the owners could not service their debt, causing many defaults and reducing second-hand ship prices to distress levels as owners were forced to sell ships to raise cash.

Financing asset play in the 1980s

As the shipping market cycle bottomed out in the mid-1980s, the distress sales created opportunities for 'asset play' (i.e. buying ships cheaply and selling them at higher prices). The problem was that conventional sources of equity and debt had no interest in additional shipping exposure, so new sources of finance were required. One of the first devices to emerge was the self-liquidating ship fund. Bulk Transport, the first of these schemes, was set up in February 1984 and proved very successful, with assets appreciating to four times their purchase price during the following four years. As the success of the early schemes filtered into the market place, imitators appeared, using the same basic structure and offering equity to non-shipping investors. Ironically, as the market cycle matured and asset values increased it became progressively easier to place the equity. Eventually, a total of about $500–600 million was raised and invested in ships purchased at higher prices towards the top of the cycle. As a result few investors made a commercial return and some lost their money.

A parallel development was the re-emergence of the Norwegian K/S limited partnership as a vehicle for financing speculative investment in second-hand ships. K/S partnership structures were similar to ship funds, or indeed the trading partnerships of the 1840s, but had the added advantage that profits earned by investors were tax-free, provided they were reinvested within a specified period. At a time of high personal tax rates in Norway this was very attractive to private investors, many of whom invested in K/S companies set up to buy ships. Perhaps the most significant development was not so much the K/S structure, which had been available for many years, but the growth of the Norwegian banks during this period. At the beginning of the 1980s the Norwegian banks carried a shipping portfolio, variously estimated at around $1 billion. During the 1980s it grew to a peak of around $6–7 billion in 1989. The availability of this finance and the willingness of Norwegian banks to make advances to the K/S companies, despite their unconventional structure, must surely be one of the key factors in determining the phenomenal success of this market (see page 306 below for more details of the K/S structure).

Developments of corporate finance in the 1990s

After the lengthy financial crisis of the 1980s, when financing had mainly been limited to small mortgage loans, in the 1990s the ship finance industry had to rediscover many of the more conventional ship finance techniques. Syndication of shipping debt is a good example of how things had changed. During the early 1970s large shipping loans were often syndicated, but this practice had lapsed during the recession, due mainly to the difficulty of placing assets trading in such a disturbed market. The widely publicized difficulties of mid-1970s syndications did not help. During the intervening period the value of shipping transactions was so low or so dubious that syndication virtually disappeared and had to be rediscovered by the new generation of shipping bankers who had taken over in the late 1980s. There was also a wave of KG companies set up in Germany to finance container-ships. These structures, based on German private partnerships, began to be used extensively in the early 1990s as a way of providing cost-effective and secure ‘off balance sheet’ finance for container-ship operators at a time when the fleet was expanding rapidly. Many of the costs of raising the finance are borne by private shareholders.[15]

After the disappointing performance of the ship funds, a few of which were public offerings, in the early 1990s there was little activity as the market weighed up the liability implications of the US Oil Pollution Act 1990 and the tightening regulatory environment. These developments probably encouraged a more corporate approach as a way of protecting the interests of high net worth shipping families operating tankers. In addition corporate structures began to look more acceptable to shipping companies operating at the quality/industrial end of the shipping market. This case was strongly argued by shipping experts such as Peter Stokes. From 1993 onwards there were a series of important IPOs including Teekay, Frontline and General Maritime, all of which grew into substantial public shipping companies. High-yield bonds also appeared in 1993, marking a major development in the ship finance business. Bankers who had learned

their trade during the 1980s could hardly imagine that a bulk shipping company would be able to apply for a credit rating and issue bonds, but by the late 1990s they were doing so with regularity and even a few more exotic structures such as synthetic securitizations put in an appearance. So by the early years of the twenty-first century ship finance had become more sophisticated, though commercial bank debt continued to predominate.

Shipbuilding credit

Finally, a source of ship finance available throughout the period was shipbuilding credit. During each of the recessions reviewed in Chapter 3 shipyards would compete by offering shipowners favourable credit. This practice was already common in the nineteenth century when some UK shipbuilders would, out of their own funds, allow a reliable client 25–30% credit for 3–5 years to tide them over a period of low freight rates. By the early twentieth century governments had decided that shipbuilding was an important strategic industry and became involved in the provision of subsidized credit. In the 1920s the German and French governments offered favourable credit terms to help their yards win business against the then dominant British shipbuilding industry. During the recession of the 1930s, the Danish, French and German governments all offered government credit schemes to owners. The practice of subsidizing credit reappeared in the first major post-Second World War recession of 1958–63 and was regulated by the OECD Understanding on Export Credit in 1969. The provision of credit is generally coordinated by a government-controlled credit agency (the Export Credit Guarantee Department in the UK, Hermes in Germany, COFACE in France, KEXIM in Korea, EXIM Bank in Japan, etc.). These agencies are responsible for coordinating the credit on behalf of the government and providing financial guarantees and interest rate support when appropriate.

7.3 THE WORLD FINANCIAL SYSTEM AND TYPES OF FINANCE

Where does the money to finance ships come from?

This brief historical review has touched on many ways of financing shipping, showing how the financial techniques employed have changed from one decade to another. We now turn to a more rigorous discussion of the financial structures currently in use. Raising ship finance is essentially a matter of persuasion, so a good starting point is to return to two basic questions: 'where does the money to finance ships come from', and what do businessmen have to do to get it?

To answer these questions we need to look at the world financial system as a whole. The flow chart in Figure 7.2 shows how the different parts of the system fit together. Column 3 on the right shows the *source* investment funds; column 2 shows the markets where these funds are traded, while column 1 shows the arrangers who act as intermediaries and risk-takers in providing businesses needing capital, including the shipping companies, with access to the pool of funds in columns 2 and 3.

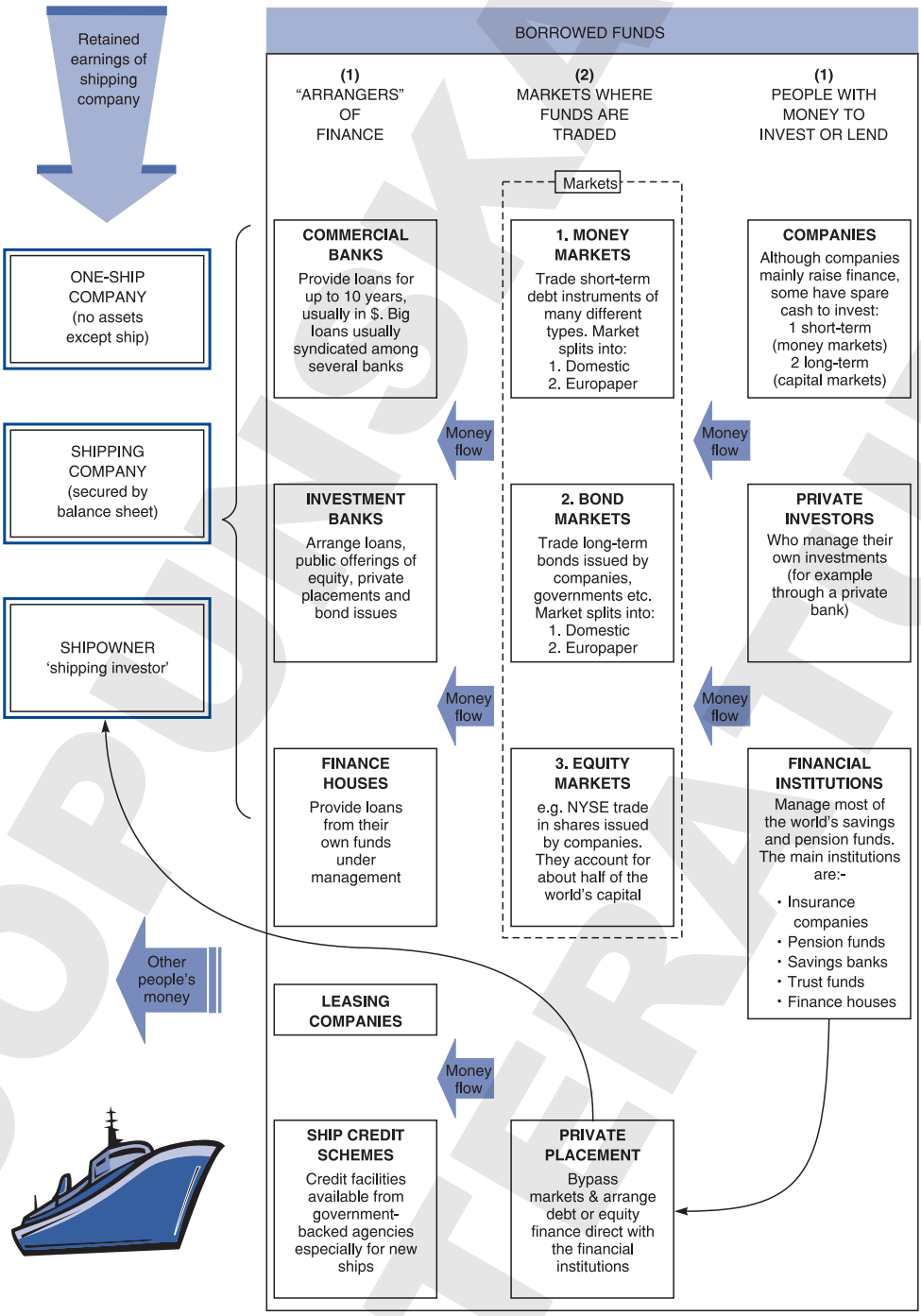

FIGURE 7.2
Where the money comes from to finance ships
Source: Martin Stopford 2007

Investment funds come from savings

First the source: the money comes from corporate or personal savings which need to be invested. Some corporations and individuals handle the investment themselves. For example, an individual might buy a house as an investment and let it out. But nowadays about 80% of savings end up in the hands of professional investment managers such as insurance companies, pension funds, savings banks, finance houses, trust funds, mutual funds and commercial banks which take money on deposit, so-called 'institutional investors'.[16]

Investors and lenders

These professional fund managers in column 3 of Figure 7.2 have two options. They can invest the money or they can lend it. The investor commits funds to a business venture in return for a share of the profits. Usually the only way to get this money back is to sell the 'equity' stake in the business to someone else (if the equity in the company is traded on an exchange it is called a public company and its shares can be bought or sold on the stock market where they were issued). In contrast, the lender advances money for a predetermined period in return for regular interest payments and a predetermined schedule for the repayment of the principal so that by the end of the agreed period the 'debt' has been repaid in full. This is an important distinction for anyone trying to raise finance because investors and lenders see the world from a very different perspective.

Investors take risk for profit, so they are interested in the upside. How profitable could the investment be? Is this a business which could make a 30% return? Is there a convincing reason why profits will be high? Lenders just get paid interest, so they want to be sure they will be repaid. This makes them more interested in the downside. Is the business sound? Could it survive in an adverse market? Are the borrowers taking risks that might damage their ability to repay? Since lenders do not share the profits they are less interested in this aspect of the business. Shipowners are often puzzled about why bankers are more interested in recessions than booms. This is the reason.

Private placement of debt or equity

One method open to fund managers is to place the funds directly with companies which need finance. This is known as private placement and it is shown at the bottom of column 2 in Figure 7.2. The lender, which might be a pension fund or an insurance company, negotiates a financial agreement to suit both borrower and lender. The structure of this agreement could be either debt or equity. Whilst private placement is quite widely used, especially for long-term loans, as a general technique for managing investment, it presents practical difficulties. Fund managers face the administrative task of analysing detailed investment proposals. More importantly, the loan or investment is not liquid. Once the transaction is placed, there is little the investor can do to adjust his portfolio of such loans and investments. In practice this market is only accessible to shipping companies of investment-grade quality.

The financial markets buy and sell packaged investment funds

An alternative is to use the financial markets. Ingeniously, the world financial system has succeeded in developing three markets which trade investments which have been processed as standard packages known as 'securities', a term used to refer to all standard investment instruments. The two main types of securities are 'stocks' which are packaged equities, and 'bonds' which are packaged loans. Packaging investment into securities is rather like containerizing cargo. It takes a unique investment package and processes it into a unit which conforms to rigid standards, making it easy to buy and sell without specialized knowledge. The capital markets where securities are traded are strictly regulated to ensure that the rules are followed. Each of the three markets shown in column 2 of Figure 7.2 trades in a different type of security.

- *Money markets* trade in short-term loans (less than a year). The 'market' consists of a loose network of banks and dealers linked by telephone, e-mail and computers (rather like the voyage charter market) who deal in any short-term debt securities such as bankers' acceptances, commercial paper, negotiable certificates of deposit, and Treasury bills with a maturity of 1 year or less and often 30 days or less.[17] It is where the banks trade with each other, but companies use it too. For example, a shipowner with spare cash who wants to keep his funds liquid can purchase 'commercial' paper which gives him a slightly better return than he would get on deposit. The markets trade funds held in local currency by local investors (the domestic market) and funds held outside the issuing country (in Europe the eurocurrency market). These markets have a different interest rates structure,[18] the eurodollar interest rate being the London Interbank Offered Rate (LIBOR).
- *Bond markets* trade in interest bearing securities with a redemption date of more than a year, often 10 or 15 years. Companies issue bonds or debentures (bonds not secured by collateral), via a dealer, and to make it tradeable a bond must have a credit rating (see Box 7.1). For example, bonds rated less than BBB– by Standard & Poor's (S&P) or Baa3 by Moody's are known as 'high-yield' bonds. Interest is obtained by redeeming coupons attached to the bonds and the rate of interest reflects the credit rating. For example, a bond rated AAA will pay lower interest than a bond rated BB. The bond is subject to a deed of trust between issuer and bondholder, known as the 'indenture'. This is designed to protect the bondholder with property pledges, protective covenants and working capital requirements, and it also sets out redemption rights. Dealings in off-shore funds are referred to as the 'eurobond' market.
- *Equity markets* trade in equities (also known as securities or stocks). This allows creditworthy companies to raise capital by means of a 'public offering' on the stock market. To raise capital in this way a company must follow regulations (e.g. laid down by the SEC in the United States) and convince the shareholder that the investment will be a good one.[19] Issues are made through an investment bank and the cost of underwriting, legal and auditing fees is usually about 7–9% of the sum raised.

BOX 7.1 BOND RATINGS AND APPROXIMATE INTERPRETATION

Moody's	S&P	Approximate interpretation	
Aaa	AAA	Capacity to service debt extremely strong in all forseeable circumstances	Investment Grade
Aa1	AA+		
Aa2	AA		
Aa3	AA–		
A1	A+	*Getting more risky*	
A2	A		
A3	A–		
Baa1	BBB+	Debt service will be met, barring some serious and unpredictable catastrophe	
Baa2	BBB		
Baa3	BBB–	*Medium grade*	
Ba1	BB+	Judged to have speculative elements	Speculative Grade
Ba2	BB		
Ba3	BB–	Acceptable for now but easily foreseeable adverse conditions could impair capacity to service debt in future	
B1	B+		
B2	B		
B3	B–		
Caa	CCC		
Ca	CC	Highly vulnerable to non-payment	
C	C		
	D	Payment is in default	

Source: Compiled from rating agency material

Checked against

Standard & Poor's investment grade ratings in order from the highest to the lowest are: AAA, AA+, AA, AA–, A+, A, A–, BBB+, BBB and BBB–. Standard & Poor's non–investment grade ratings in order from the highest to the lowest are: BB+, BB, BB–, B+, B, B–, CCC+, CCC, CCC– CC, C, D and SD.

Moody's Credit Ratings - Moody's investment grade ratings in order from the highest to the lowest are: Aaa, Aa1, Aa2, Aa3, A1, A2, A3, Baa1, Baa2 and Baa3. Moody's non-investment grade ratings in order from the highest to the lowest are Ba1, Ba2, Ba3, B1, B2, B3, Caa1, Caa2, Caa3, Ca and C.

http://www.quantumonline.com/RatingsNotes.cfm

Over half the world's capital is held as investments traded in the securities markets, and in 2005 the world equities market totalled $55 trillion and corporate bonds about $35 trillion. That compares with $38 trillion of bank deposits, so the capital markets are the first choice of global investors.[20] Shipping only accounts for a small proportion of these funds. To put the annual financial requirements of the shipping industry into context, if the total world capital were $100, the transport industry, which includes airlines, shipping, ports, etc., would need to raise 18 cents. Obtaining even such a small sum is not easy. The job of the markets is to channel funds to where they can be used

most productively. There are many other industries fishing in the same pool, so borrowers must offer a competitive rate of return. Raising money in the equity markets generally involves issuing a prospectus and selling the 'story' to investors. In the capital markets the main preoccupation of institutions buying the bonds is the risk that the company will be unable to repay the money it has borrowed, so to raise capital a shipping company must achieve recognized standards of credit-worthiness. It does this by obtaining a 'credit rating' from one of the credit rating agencies. This opens the door to the bond markets and determines the cost of finance to the borrower.

The role of the credit rating agencies

For a bond to be placed by the issuer, the financial institutions which buy it must have a reliable indication of whether the yield (i.e. the coupon divided by the price) reflects the risk and whether the principal is likely to be repaid on time. To address this need a shipping company issuing bonds must obtain a credit rating for the transaction from one or more of the credit rating agencies. In return for a fee the credit rating agency evaluates the issuing company's credit history and its ability to repay, and issues a credit rating which provides a current opinion on the creditworthiness of the obligor with respect to the specific financial obligation, including an estimate of the risk of default. The credit rating generally takes the form of a letter to the bank handling the issue.

The four main credit rating agencies are Standard & Poor's, Moody's, Fitch, and Duff & Phelps, and there is generally a requirement to obtain a rating by at least two of these. The slightly different rating systems used by the two largest agencies are shown in Box 7.1 with a rough definition of what they mean. AAA ('triple A') is the best, and Baa3/BBB– and above are 'investment grade'. Investment-grade rating characteristics are such factors as reliability, strong debt cover, a strong market position for the company's products and the scale of the business. To get this rating the company must be strong enough to survive almost any imaginable crisis. In contrast, bonds with lower ratings have 'significant speculative characteristics'[21] and are referred to as 'high yield' because they require higher interest rates (they are also known as 'junk bonds'). In this way investments are 'packaged' before they are offered to the market. Because of the volatility of revenues and the competitiveness of the market, shipping companies are rarely awarded investment-grade ratings, though a few large and diversified shipping companies have achieved that distinction.

Definition of 'shipowner' and 'shipping company'

Before proceeding with the discussion of financing techniques, we should clarify the distinction between a 'shipowner' and a 'shipping company'. These terms are used interchangeably in the business, but when we discuss finance it makes life much easier if we define them precisely.

A *shipowner* is an individual who owns a controlling interest in one or more ships. Part A of Figure 7.3 shows a typical structure. The ships are usually registered as one-ship companies in which the owner has the controlling interest, whilst the cash and other

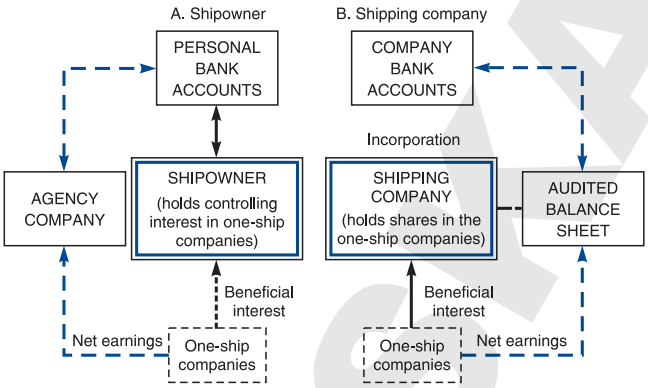

Figure 7.3
Definition of shipowner and shipping company
Source: Martin Stopford, 2007

assets associated with the shipping business are held separately, usually in bank accounts in tax-efficient locations. The two are quite separate, and an independent agency or management company is generally set up to deal with the day-to-day operations. Since this structure is not transparent to third parties, in order for the ships to trade, the owner and the agency must establish their creditworthiness. Hence the importance of the good name of a shipowner trading in this way. But the fact remains that the assets are dispersed and potential financiers have little control.

In contrast a *shipping company* of the type shown in part B of Figure 7.3 is a legal organization which owns ships. It may be a legal partnership, company or corporation in a jurisdiction with enforceable laws of corporate governance, with an audited balance sheet showing its controlling interest in the ships it operates and the status of its other assets, liabilities and bank accounts. Its executive officers are responsible for running the business and taking investment decisions. This distinction between the proprietor and the company exists in all businesses, but in shipping it is crucial and gives ship finance its unique flavour. As we saw in Chapter 2, *shipping businesses* (i.e. shipowners and shipping companies) vary enormously in size. In 2004, 32 had more than 100 ships, while 256 had 20–49 ships, 460 had 10–19 ships, and over 4,000 had fewer than five ships.

The main methods of raising ship finance are summarized in Figure 7.4 and include private funds, bank loans, the capital markets, and special purpose companies SPCs. *Private funds* include cash generated by the business, which is important during booms, and loans or equity from friends, relatives or venture capitalists. It is often the only source available to start-up businesses. *Bank loans* are a major source of finance for shipowners and shipping companies, with four types listed in Figure 7.4: mortgage loans secured against the ship; corporate loans secured against the company balance sheet; shipyard credit; and mezzanine finance. The market for commercial bank loans is very competitive and it is also flexible because the loans can easily be refinanced if circumstances change. Private placements with financial institutions are included under this heading. *Capital markets* can provide shipping companies with equity through an initial public offering (IPO) of shares or debt by issuing bonds. They work best for larger shipping companies, especially those with over $1 billion net worth. A final option is to use a special purpose vehicle (SPV) to own the ships and raise the finance. This technique is often used when shipping companies want the use of ships without having them on the balance sheet or when tax allowances are available. For example, UK tax leases and German KG partnerships fall into this category.

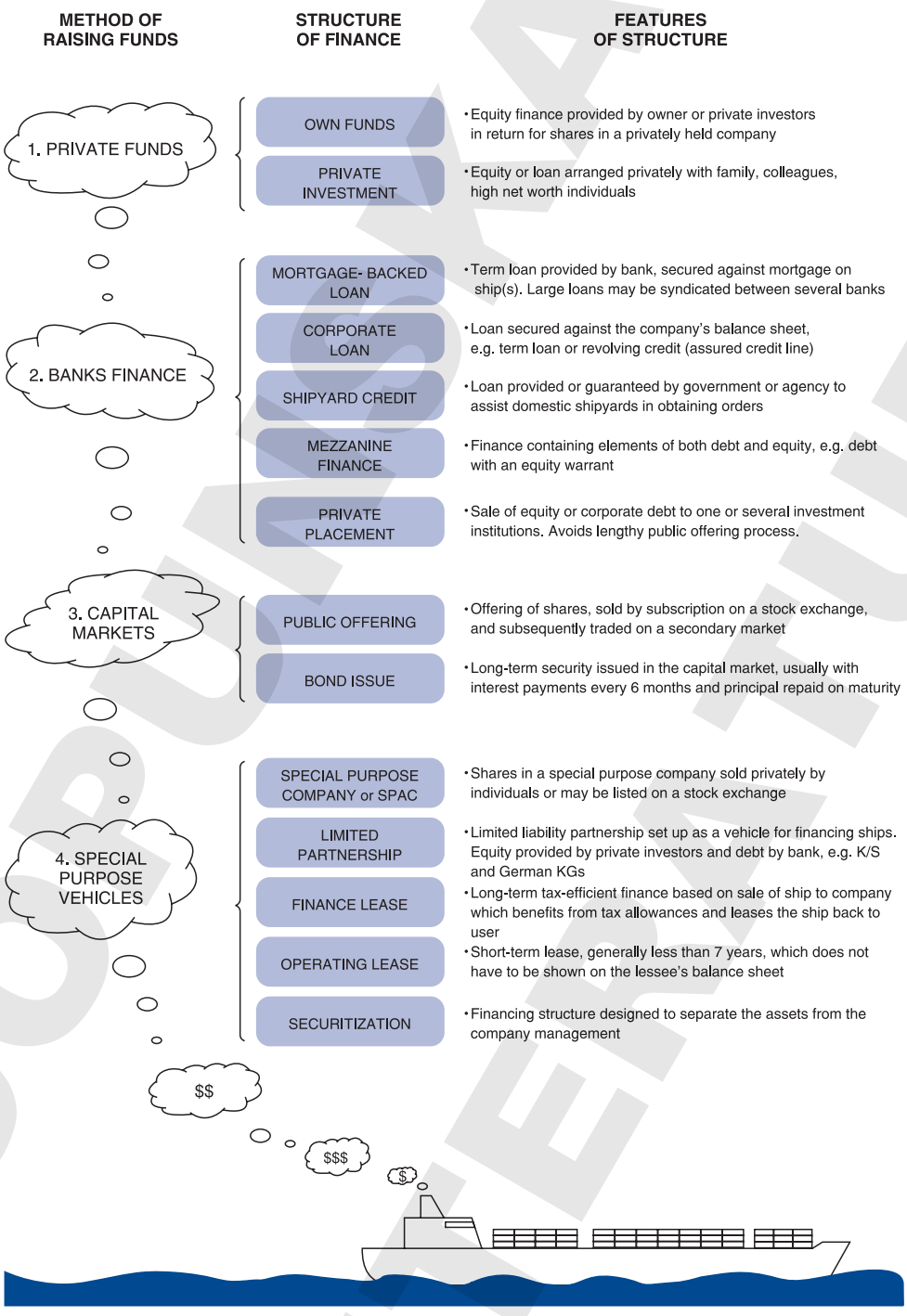

Figure 7.4
Fourteen options for financing merchant ships
Source: Martin Stopford, 2007

BOX 7.2 INSTITUTIONS PROVIDING OR ARRANGING SHIP FINANCE

Commercial banks: These are the most important source of debt finance for the shipping industry. Many have dedicated ship finance departments. They offer term loans of 2–8 years which they mainly finance by borrowing from the capital and money markets. This short-term funding limits the tenor of loans commercial banks are willing to take onto their balance sheet and most are uncomfortable with more than 5–6 years. A balloon payment is often used to lower the debt servicing burden on modern ships, but borrowers who want longer-term finance must look elsewhere such as the capital markets or leasing companies. Loans are generally quoted at a margin over LIBOR. Typical spreads range from 60 basis points to 200 basis points (a basis point is one hundredth of a percentage point). Sums of more than $100 million are generally syndicated between several banks. In addition to loans, banks now offer many other services, including risk management products, mergers and acquisitions, financial advisory services etc.

Investment banks: These arrange and underwrite finance but do not generally provide capital themselves. They will arrange loan syndications, public offerings of equity, bond issues in the capital market and the private placement of debt or equity with financial institutions or private investors. Some of the large Investment banks have specialist shipping expertise and a few smaller ones, such as Jefferies, specialize in this area.

Ship credit banks: In some countries credit is provided by specialist shipping banks which either obtain their funds in the market or issue bonds which have tax concessions for local investors.

Finance houses and brokers: Some financial institutions (GE Capital, Fidelity Capital, etc.) which have substantial funds under management have specialist shipping departments which lend direct to the industry. In addition there are a number of organizers and brokers of ship finance who specialize in putting together inventive financing packages.

Leasing companies: These specialize in leasing assets and some will arrange long-term leasing of ships. In addition, in Japan leasing companies are significant lenders. Since they are subject to different regulations they can offer long-term finance which commercial banks could not take onto their balance sheets.

Shipbuilding credit schemes: Some countries offer shipbuilding credit to domestic and foreign owners. The terms of export credit are agreed under the OECD Understanding on Export Credit and currently are set at 80% advance for 8.5 years (see page 296 which discusses newbuilding finance).

Larger companies have more options because they can access the capital markets, and investment banks help them to issue bonds, equity and private placements, whilst smaller shipping businesses mainly rely on loans from the commercial banks. There are at least 200 institutions world-wide with specialist expertise in some aspect of ship finance, usually through shipping departments. A brief description of the main ones and their activities is given in Box 7.2. In what follows we will go through the four ways shipowners and shipping company can raise finance, following the structure set out in Figure 7.4. We start with the two main sources of finance for established shipping companies, private equity (Section 7.4) and bank loans (Section 7.5), then we move on to capital markets (Section 7.6) and finish up with the various SPC financing structures (Section 7.7).

7.4 FINANCING SHIPS WITH PRIVATE FUNDS

The first and most obvious way of financing ships is with the owner's private resources, the earnings of other ships he owns, or an investment or loan from friends or family. This source of finance was widely used in the nineteenth century when investment by family members dominated many companies that were nominally public, and it is still the main source of start-up capital today. For example, Sir Stelios Haji-Ioannou, the well-known entrepreneur who founded Stelmar Tankers and Easyjet, got started in 1992 with $30 million capital from his father[22] which he paid back in 2004. Most shipping businesses finance at least part of their activities from internally generated equity, and family ownership remains a common form of finance in Greece, Norway, Hong Kong and other countries with a seagoing tradition. The advantage is that close friends and relations who understand shipping are more likely to tolerate the volatility of its returns. Occasionally companies may place equity privately on a broader basis, gathering together a group of investors who take a significant share in the business.

On a broader note, during the 2003–8 shipping boom private equity firms started to show more interest in the shipping business, primarily in more specialized sectors where cashflow volatility is seen to be lower than in mainstream bulk and container shipping. In the European ferry sector, for example, there was considerable amount of private equity activity: Grandi Navi Veloci was bought by Permira and then sold on to Investitori Associati; Scandlines was bought by 3i, Allianz Capital Partners and DSR; UN RoRo was bought by KKR; and Marfin purchased the Panagopulos stake in Attica Group. Elsewhere, 3i bought Dockwise and, in the services sector, Istithmar bought Inchcape Shipping Services from Electra and Exponent bought V Holdings from Close Brothers Private Equity.[23]

7.5 FINANCING SHIPS WITH BANK LOANS

Bank loans are the most important source of ship finance. They provide borrowers with quick and flexible access to capital, while leaving them with full ownership of

the business. This is also an important business for banks, and in 2007 the various institutions lending to the shipping industry had loan portfolios ranging in size from $1 billion to $20 billion. Because ship finance is specialized (it has to cope with all those cycles we discussed in Chapter 3!), it is usually managed by a separate department. Typically the head of ship finance has a group of marketing officers who know the business; administrative staff to handle the portfolio; and credit officers who report to the credit side of the bank, but understand the shipping business. There are three main types of loans available to shipowners: *mortgage-backed* loans, *corporate* loans, and loans made under *shipyard credit* schemes. Occasionally a bank will arrange mezzanine finance.

Loans of this sort have three limitations. Firstly, banks will only advance limited amounts, so large loans must be syndicated amongst a group of banks. Managing large syndications can be difficult when the shipping market is poor. Secondly, loans are usually restricted to 5–7 years and an advance rate of 70–80%, both of which are limiting. Thirdly, the bank requires a mortgage against the ship, and restrictive covenants. This can become complex and inconvenient for large companies with many ships. In effect this is retail finance, with the commercial banks acting as the intermediaries between the capital markets and the small shipping companies.

Mortgage-backed loan

A mortgage-backed loan relies on the ship for security, allowing banks to lend to one-ship companies which would not otherwise be creditworthy for the large loans required to finance merchant ships. As we noted in the previous section, there are many shipping businesses whose assets are held privately, with no audited accounts and no reliable way for the banker to access company funds in the event of a default. This sort of transaction will generally use a structure of the type set out in Figure 7.5. The borrower is a one-ship company registered in a legally acceptable jurisdiction such as Liberia. This structure isolates the asset from any claims arising elsewhere in the owner's business. Security may be sought both from the borrower and the owner.

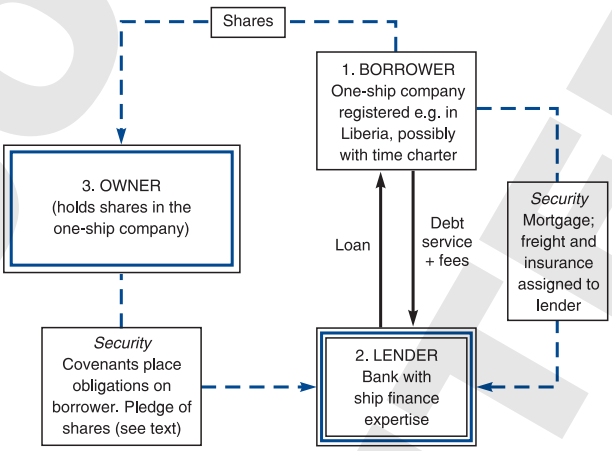

Figure 7.5
Mortgage-backed bank loan model
Source: Martin Stopford, 2007

To raise a loan the shipowner approaches the bank and explains his requirements. If the bank is prepared to consider a loan, the bank

officer draws up a proposal, discusses it with the borrower and negotiates any points which are not acceptable. Negotiating terms is an important part of the lending process. The lender obtains a valuation of the ship offered as collateral (see Section 6.8 for valuation methods) and decides what proportion of its current market value can safely be advanced. This will depend on the age of the ship and the state of the market. Some bankers consider that loans should not exceed 50% of the market value of the vessel unless additional security is available. Additional security in the form of a time charter, mortgages on other ships, a personal guarantee from the owner or a history of successful business with the owner, may persuade the bank to increase the loan to 60–80% of the ship's current value. In some exceptional circumstances bankers may lend 100%. However, there are no firm rules. Banking, like shipping, is a competitive market. If a competitor offers 80% against a first mortgage, that is the market rate.

A credit judgement must be made on whether the risk is acceptable to the bank. It is here that the real skill of ship finance lies. From the shipowner's point of view higher leverage is generally better, but only if the return on equity is higher than the cost of borrowing. If, for example, the business earns 10% per annum but borrows at 7% per annum, leveraging increases the return on equity. But if the average return is less than 7%, leverage actually reduces the return on equity. In shipping the return on assets is often dangerously close to the cost of funds, so borrowers walk a fine line.

Another consideration for the bank is the security of the transaction if things go wrong for the borrower. This involves a mortgage on the ship, assignment of insurance and earnings (freight) to the lender and various other covenants designed to ensure that the assets held as security are adequate if sold, to cover the outstanding loan. This includes covenants covering such issues as the loan to value ratio, conditions precedent to drawdown, and restrictions on dividends. They will also define the events which constitute a default.

The loan proposal, which is generally set out in a letter with a *term sheet* attached, generally covers the seven key issues listed below, with a disclaimer making it clear that the offer is subject to various conditions such as credit committee approval. The bank officer's challenge is to find a combination of terms which are acceptable to the customer and the bank's credit officer.

1. The *amount*, or maximum size of the loan. This depends on security (i.e. the value of the ship, etc.) and the other factors listed below. Normally the advance will be 50–80% of the market value of the ship, depending on its age and the security available. The purpose of the loan and terms on which it can be drawn down are defined.
2. The *tenor (term)*, the period over which the loan is to be repaid. Banks prefer to lend for no more than 5–7 years, since the bank funds its loans by borrowing short (see below), but longer terms may be approved for strong credits.
3. The *repayment*, which determines how the loan is repaid. This is usually by equal instalments, probably every 6 months. For modern ships a 'balloon' repayment may

be used to reduce the annual principal repayments (e.g. repay half the principal at the end) and possibly a grace period at the start.

4. The *interest rate*: loans are generally made at a 'spread' over the bank's funding cost, for example, LIBOR for a dollar loan. Spreads range from 0.2% (20 basis points) to 2% (200 basis points)
5. The *fees* that are charged to cover the bank's costs in arranging and administering the loan. For example, a 1% arrangement fee, charged when the loan is drawn, and a commitment fee to cover the cost of tying up the bank's balance sheet, even if the loan is not drawn.
6. The *security*: the loan agreement requires assets to be pledged as collateral to which the bank has legal access if the borrower defaults. This is usually a mortgage on the vessel, but other security may be sought.
7. The *financial covenants*: the borrower pledges to do certain things and not to do others. Affirmative covenants pledge to comply with laws, maintain the condition and class of vessels held as collateral and maintain the value of collateral relative to the loan. Restrictive covenants limit third-party debt, cash dividends and the pledging of assets to third parties.

The term sheet only deals with the key issues, and once these are agreed a detailed loan agreement must be drawn up, which is likely to lead to more negotiations over the precise terms and the wording of covenants. Finally, before a firm offer can be made the bank officer must obtain *credit approval* from the bank's credit department. For a client well known to the bank, this will only take a few days, but for difficult or risky loans obtaining credit approval can be a lengthy process. The credit officers or credit committee review the borrower's ability to service the loan in all foreseeable circumstances and the security available in the event of a default. Cashflow projections will probably be used to review debt service obligations under different market scenarios. It simplifies the review if the ship has a time charter, provided the charterer is creditworthy. A shipbrokers' valuation is obtained to establish the ship's market value, and other security is reviewed, along with the covenants. The credit officer may ask for some terms to be revised, and this will need to be agreed with the borrower. When credit approval is obtained and the offer accepted, a closing is arranged at which evidence of security is provided, the papers are signed and the funds transferred. Repayment then proceeds in accordance with the loan agreement.

The structure of commercial bank lending

In most businesses loans are made to a company, but shipping banks generally use the model shown in Figure 7.5. The ship to be financed is registered as a one-ship company under a flag (i.e. in a country) with well established and enforceable maritime law. The bank makes the loan to this company, taking a mortgage on the ship. Freight and insurances are assigned to the bank with a 'dividend stopper' to ensure that funds remain within the company and the bank takes a pledge of shares from the owner. In addition to giving the bank control in the event of a default, this insulates the ship

from other claims on the owner's fleet. It suits the shipowner because the major flags of convenience are acceptable to most banks, so the ship can be registered in a low cost tax-free environment (see Chapter 16).

Since bank loans play such a big part in financing the shipping industry, it is worth spending a little time understanding the economics which drive commercial bank lending. The basic model is shown in Figure 7.6. The capital the bank lends to the shipping industry comes from two sources: the bank's equity and bonds issued by the bank. By financing part of its loan portfolio with equity the bank ensures that it can absorb bad debts and still meet its obligations to bondholders. However, the bank's equity caps the amount of loans it can commit to at any time. During the last twenty years the international banking industry has been trying to establish minimum requirements for equity. In 1988 The Bank for International Settlements (BIS), which is located in Basel, established a guideline that 8% of the bank's portfolio must be funded with equity. This became known as BASEL I. Sixteen years later BASEL II introduced a more sophisticated guideline which took the riskiness of the bank's portfolio into account in arriving at its required equity. Under the new system some high-risk loans could require equity cover of up to 12%.

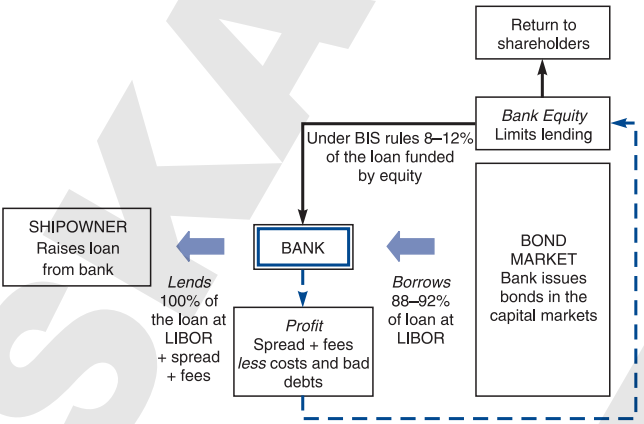

Figure 7.6
Bank funding model for ship loans
Source: Martin Stopford, 2007

The bank makes a profit on loans in two ways. Firstly, it lends to shipowners at a 'spread' which is typically in the range 20–200 basis points over its financing cost, depending on the customer and the risk. Secondly, the bank charges fees for arranging and administering the transaction. On the cost side, the bank must pay its overheads and the cost of any loans which have to be written off. What is left after these charges is profit on equity. Clearly it is a very tightly balanced equation, with the bank juggling the potential revenues from interest and fees against the cost of overheads and the risk of bad debt. An example in Table 7.1 illustrates the economics for a $100 million loan.

The loan of $100 million is repaid in five $20 million instalments (row 2) and the bank receives a payment of 1% spread over LIBOR (row 3). LIBOR payments (row 3) are only shown on the equity portion of the loan because the remainder is paid out by the bank to service its bonds. An arrangement fee of 1% is charged in the first year (row 5). Administration expenses, shown in row 6, are $500,000 million in the first year, and thereafter $100,000 a year. The bank's net earnings are shown in row 7, which is the sum of interest and fees, less administration expenses.

Table 7.1 Bank funding calculation on $100 million ship loan

		$ million				
		1	2	3	4	5
1	Loan outstanding, 31 Dec	100	80	60	40	20
2	Principal repayment, 31 Dec	20	20	20	20	20
Bank receives revenue from:						
3	Interest spread over LIBOR (1%)	1.0	0.8	0.6	0.4	0.2
4	LIBOR paid on the 8% of the loan covered by equity (1)	0.5	0.4	0.3	0.2	0.1
5	Arrangement Fee (1%)	1.0				
Bank incurs costs on:						
6	Bank administration expenses	0.5	0.1	0.1	0.1	0.1
7	Net earnings, after costs	2.0	1.1	0.8	0.5	0.2
	Return on capital calcualtion					
8	Bank equity committed	8	6.4	4.8	3.2	1.6
9	Return on bank equity (before debt provision)	24.8%	16.9%	16.4%	15.4%	12.3%
Risk calculation						
10	Bad debt provision	0.5%	0.5%	0.5%	0.5%	0.5%
11	Return on bank equity (after provision)	18.5%	10.7%	10.2%	9.1%	6.0%

Note 1: LIBOR assumed at 6% pa

Percentage of bank's equity reserved:	Return on bank's equity				
4%	37.0%	21.4%	20.3%	18.3%	12.0%
8%	18.5%	10.7%	10.2%	9.1%	6.0%
12%	12.3%	7.1%	6.8%	6.1%	4.0%

Bad debt provision:	Return on bank's equity				
0.1%	23.5%	15.7%	15.2%	14.1%	11.0%
0.3%	21.0%	13.2%	12.7%	11.6%	8.5%
0.5%	18.5%	10.7%	10.2%	9.1%	6.0%
0.7%	16.0%	8.2%	7.7%	6.6%	3.5%

Size of the loan	Return on bank's equity (before provision)				
$100 million	24.8%	16.9%	16.4%	15.4%	12.3%
$50 million	18.5%	15.4%	14.3%	12.3%	6.0%
$25 million	6.0%	12.3%	10.2%	6.0%	–6.5%

Source: Martin Stopford 2005

Next we come to the return on capital calculation. Under Basel I the bank must cover 8% of the loan from equity, which in this case is $8 million in the first year. As the loan is paid down, the allocation of equity also reduces. The return on equity (ROE) is calculated by dividing earnings (row 7) by equity (row 8), giving 24.8% in year 1, falling to 12.3% in year 5 (row 9). The return falls because the loan reduces in size, but the administration cost does not, which is probably a realistic assumption. In fact many shipping loans are paid down long before their full term. Although this is an impressive return we have not factored in the bank's risk. If any loans in the bank's shipping portfolio are not repaid, earnings are reduced. To deal with this we need to set aside a 'bad debt provision' reflecting the probability of the loan being written off. In this example a provision of 0.5% is shown in row 10. After deducting this provision the ROE in the first year falls to 18%. Still a pretty good return, but by year 5 it is down to just 6%.

Three ROE sensitivity analyses are shown at the bottom of Table 7.1. The first shows the effect of varying the bank's equity contribution between 4% and 12%. Clearly this has a massive effect on profitability, producing returns ranging from 37% to 12% in year 1. The second sensitivity table shows the effect of changing the bad debt provision. Reducing the provision to 0.1% (a one in one thousand chance of write-off) increases the return from 18.5% to 23.5%. Conversely increasing the bad debt provision from 0.5% to 0.7% reduces the return from 18.5% to 16%. Thirdly, we see the relationship between ROE and the size of the loan. The $100 million loan makes four times the ROE in the first year as the $25 million loan.

This analysis highlights three economic characteristics of commercial ship lending. Firstly it shows the importance of economies of scale in banking. The administrative work does not vary significantly with the size of the loan, so small loans are much less economic than big loans. Syndications are commercially attractive because the lead bank is paid for the administrative work, but only retains a small proportion of the loan on its balance sheet. This means that the fee revenue is high relative to the size of the loan actually booked. Secondly, the profitability of the loan diminishes with time because the sum outstanding reduces relative to the administrative cost. This suggests that the bank has an interest in recycling loans as quickly as possible. It also suggests that from the bank's point of view a balloon payment (e.g. a large lump-sum repayment at the end of the loan period) gives a better return because the sum outstanding remains higher. Thirdly it illustrates how sensitive the profitability of the loan is to risk management. A shipping bank which reduces its annual write-off to 0.1% of the portfolio can make a profit, whilst a bank with a higher write-off rates will consistently lose money (these are hypothetical examples). If nothing else, this emphasizes the importance of managing the portfolio in a way which ensures that even if there are defaults, there are few write-offs.

Corporate bank loans

For large shipping companies, borrowing against individual ships is inconvenient because any change in the fleet involves a time-consuming loan transaction. For this

reason large companies with well-established financial structures often prefer to borrow as a company, using their corporate balance sheet as collateral. Most liner companies and a few bulk shipping companies are able to access this type of finance. Mitsui OSK, OSG, General Maritime, A.P. Møller and Teekay are examples.

An example of a corporate loan is provided by a $300 million credit facility raised by General Maritime in June 2001. This credit facility consisted of two parts, a $200 million 5–year term loan and a $98.8 million 'revolving credit' allowing the borrower to draw up to the limit at any time. The term loan was to be repaid in equal quarterly instalments over the 5 years, whilst the principal drawn down against the revolving loan was repaid at maturity. Interest was payable at 1.5% over LIBOR, with a fee of 0.625% payable on the unused portion of the revolving loan, on a quarterly basis. In this case the loan was in fact secured by 19 tankers, with a pledge of the ownership interest in the subsidiaries owning the tankers and guarantees from the vessel-owning subsidiaries. In December 2002 the market value of the tankers was $464.3 million, 50% above the committed loans.[24]

The advantage of this type of arrangement is that it gives the company a flexible source of capital. The term loan has to be paid back relatively quickly, creating a substantial negative cashflow, but the revolving credit provided an overdraft facility which offers flexibility for the business, either to allow it to make unplanned purchases or to cover cashflow fluctuations. In fact in December 2002 they had $129.4 million outstanding on the term loan and $54.1 million on the revolving loan. Large loans are usually syndicated among several banks and have covenants which ensure that the company maintains a strong balance sheet. Typically these covenants cover the leverage rate, the earnings to interest ratio and the asset cover.

Loan syndications and asset sales

Lenders like to diversify their risk and are generally unwilling to keep more than, say, $25–50 million of a particular transaction on their books. For larger loans the usual practice is to spread the risk by sharing the loan among a syndication of several banks. Asset 'distribution', as this is known, is thus used to split large loans into small packages which can be distributed around many banks. In addition to spreading the risk, it allows banks without the expertise to appraise shipping loans to participate in the business under the guidance of a lead bank that does.

Syndicating a large shipping loan of, say, $300 million is a complex task. In addition to the normal credit appraisal process, the lead bank must manage the relationship with the borrower, whilst organizing a syndicate of banks to provide the loan. The simplest way to explain the process is to work through an example of a typical syndication timetable, focusing on the key areas. The main items are as follows:

1. *Getting a mandate*. First the lead bank meets the client to discuss his financing needs. For example, a loan of $500 million might be required to finance a newbuilding programme. The bank's syndication department will be consulted about the terms on which the loan could be syndicated to other banks, and unofficial enquiries will be made to discover how difficult the loan will be to place and what

particular features in terms of pricing, etc. will be necessary. If the bankers are sure the loan can be placed they will offer to underwrite it. Otherwise the offer will be on a 'best efforts' basis. When the client is satisfied with the terms and conditions, he will issue a mandate letter.

2. *Preparation for syndication*. Next, documentation is prepared and the whole package is agreed with the client. Again this is a complex exercise involving the syndications department, the shipping department and the bank's credit control officers. It also requires skills in drafting documentation and preparing an information memorandum designed to answer the questions likely to be raised by participating banks.
3. *Syndicating the loan*. When the preparations are complete the terms will be circulated to those banks which the syndication department believes may be interested in participating. For a specialized business like shipping the list may extend to 20–30 banks which will be asked to respond by a given date, indicating their interest. In the meantime the lead bank will visit interested banks to discuss the proposal and the participating banks carry out their own enquiries, since they will have to process the loan through their own credit control system. Those banks prepared to participate will indicate the sum they are willing to take, and when sufficient commitments have been obtained a closing is arranged at which all banks and the owner sign the necessary documents.
4. *Administration, fees, etc*. The loan documentation sets out the procedures for administering the loan. As a rule the lead bank acts as agent and charges a fee for doing so. For large syndications a management group may be set up. Their task is to handle ongoing problems without the necessity for approaching every participant. The pricing of the loan and the split of fees, etc. between the lead bank and participants will form a key part of the offer documentation.

The time taken to arrange a syndication depends on its complexity. Some loans can be placed very quickly because they are readily acceptable in the market. Others may require many months to line up the full subscription. Obviously one problem to be faced is that the shipowner may not be in a position to wait many months.

Widely syndicated shipping loans can sometimes be difficult to manage. If the borrower runs into difficulties, the lead bank and management group may find it difficult to control a diverse group of participating banks, some of whom know nothing about the shipping market and its cycles. This makes borrowers uncomfortable, and it is often argued that it is better if syndication is restricted to club deals between banks that combine to offer joint financing. For example, five banks may join to finance a $150 million newbuilding programme, each taking $30 million.

Asset sales (participation agreement)

Another form of distribution commonly used by banks is asset sales. The bank books the loan in the normal way, placing it on its balance sheet. For example, it may lend $50 million to a shipowner to purchase an $80 million tanker. If at some later date the

bank decides to reduce its exposure to shipping risk, or to that particular client, it sells the loan to another bank which has room on its balance sheet for shipping risk. Large banks have an asset sales department which arranges the sale of loans. The bank officer in the asset sales department approaches banks that he knows are interested in taking shipping loans. When a buyer has been found the two banks sign a joint participation agreement, transferring a specified proportion of the loan, say $5 million, to the buyer, on agreed terms of interest and capital repayment. Naturally the bank which booked the loan will aim to sell it on favourable terms, retaining a margin for itself. The originating bank will continue to manage the loan in the normal way. In some cases the shipowner may not even be aware that his loan is now held by another bank.

Financing new ships

Now we come to debt finance for newbuildings. Although the principles of financing a new ship are generally the same as for second-hand ships, there are two additional problems to overcome. First, the capital cost of a new ship is generally too high relative to its likely spot market earnings to be financed from cashflow, especially if the loan is amortized over the short periods of 5–7 years favoured by commercial banks. Unless a time charter is available, arranging security can be difficult, especially if a one-ship company structure is used. Second, the finance is needed before the ship is built, so there is a period before delivery when part of the loan is drawn but the hull is not available as collateral.

Pre-delivery finance is usually arranged separately. Shipyards generally require their customers to make 'stage payments' to the shipyard to pay for the material and labour required to build the ship. This involves a down payment to the builder for the purchase of materials on signing the contract, with the balance being paid in roughly equal instalments on keel laying, engine delivery, launching and delivery (see Chapter 14 for a discussion of this practice).

The pattern of stage payments is negotiable. If pre-delivery credit has been arranged, the purchaser makes the first payment from his own funds and the bank makes the remaining stage payments. The risk for the lender is that stage payments are made, but the ship is not completed, either because the shipyard goes bankrupt with a partly finished ship in the yard, technical problems, or because some form of civil or political disturbance prevents completion or delivery. With no ship to act as collateral, additional security is needed, and this is generally covered by a 'refund guarantee' issued by the shipyard's bank. However, problems may arise when dealing with shipyards where bankruptcy is a risk, or located in politically unstable areas. This is where a government guarantee is particularly valuable, or possibly the purchaser can arrange political risk insurance.

Post-delivery finance is generally drawn on delivery of the vessel. It may be obtained from three sources: a shipyard credit scheme, commercial bank credit or by leasing. Bank credit, and leasing are discussed elsewhere, so here we will focus on the shipbuilding credit schemes. There is a long history of governments offering credit to assist its shipyards in obtaining orders, though the availability of this facility is

constantly changing. There are three ways in which a government can make its shipbuilding credit more attractive to the shipowner than commercial bank credit. They are:

1. *Government guarantee*. By obtaining a government guarantee of the loan, the shipowner can borrow from a commercial bank. The value of this guarantee to the borrower depends on the credit standards which the government agency applies in issuing the guarantee. Sometimes the standards are the same as those applied by commercial banks, so the guarantee has little value. If, however, the government wants to help the shipyard win the order, it may guarantee terms which the owner would not obtain from a commercial bank. In doing this the government takes a credit risk, which is in effect a subsidy.
2. *Interest rates subsidy*. Some government agencies offer subsidized interest. For example, a loan is raised from a commercial bank, which receives an interest rate make-up from the government to cover the difference between the agreed rate on the loan and the current market rate. In a low interest rate environment this is less useful.
3. *Moratorium*. In difficult circumstances the government may agree to a one-or two-year moratorium on interest or principal repayments.

Some governments have a bank – for example, the Export Credit Bank of Japan and the KEXIM bank in South Korea – which carries out credit analysis and makes the loan itself. Other governments use an agency which performs the credit analysis, but the loan is provided by local commercial banks. For example, the Export Credit Guarantee Department in the UK performs in this way, following the model illustrated in Figure 7.7.

Government credit schemes stretch back to the 1930s, but the modern shipbuilding credit regime developed in the 1960s when the Japanese shipyards took the first step by launching an export credit scheme offering customers 80% over 8 years at 5.5% interest. Fierce credit competition between Japanese and European shipyards followed, leading to the OECD Understanding on Export Credit for Ships in 1969 (see Chapter 13) which informally regulated

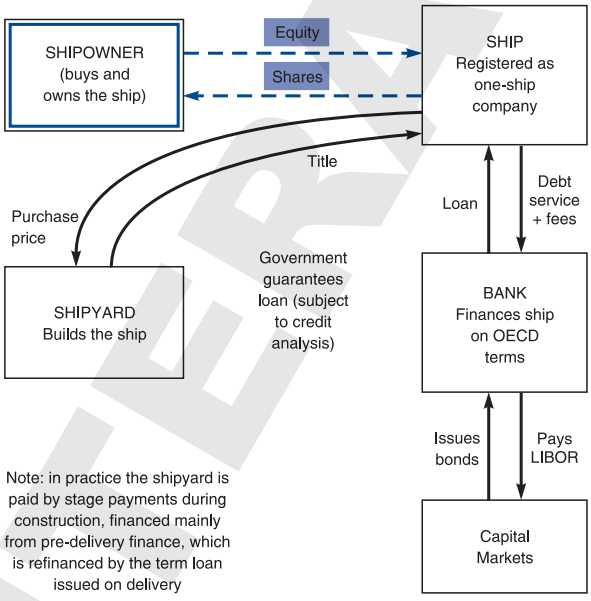

Figure 7.7
Newbuilding finance model
Source: Martin Stopford, 2007

inter-country competition in shipbuilding credit terms; this is still in force and was last updated in 2002.

The OECD Understanding defines a 'ship' as any seagoing vessel of 100 grt and above used for the transportation of goods or persons, or for the performance of a specialized service (e.g. fishing, icebreakers, dredgers). For many years the terms were capped at 80% over 8 years at 8.5% interest, but in 2002 shipbuilding export credit was brought in line with other capital goods and the new agreement approved 80% over 12 years, at the Commercial Interest Reference Rate (CIRR) plus a spread. The CIRR is based on the previous month's domestic bond rate for the appropriate term. Most European shipyards offer OECD terms, though with some local variations for domestic customers. Japan offers export finance in yen through the EXIM bank on OECD terms.

Mezzanine finance structures

Mezzanine finance is a loosely defined term which usually refers to high-yielding debt, typically priced at several percentage points above LIBOR, often with some form of equity 'kicker' attached – for example, equity warrants. One such structure involved $40 million of senior debt, topped by $26 million of mezzanine finance in the form of cumulative participating *preference shares*. These preference shares, redeemable after 5 years, paid a basic 10% per annum dividend plus an additional 20% of cashflow after interest and principal repayment. They also included detachable 5-year warrants for 25% of the company at original cost. Despite the apparent generosity of this offer it was never placed and the company resorted to more conventional financing. Mezzanine finance has not been widely used in shipping and is not easy to place.

Private placement of debt and equity

Finally, instead of borrowing from a bank it may be possible to arrange a private placement of debt or equity directly with financial institutions such as pension funds, insurance companies or leasing companies. An investment bank will normally be retained to handle the placement, which will involve the preparation of a prospectus and presentations to the potential investors. Private placements have the advantage that they do not need to be registered in the USA and avoid some of the lengthy processes required to place tradable securities. This allows established companies familiar to the financial institutions to raise funds quickly and inexpensively. Private placement of debt offers advantages such as fixed interest rate, long tenor and the corporate obligation which leaves individual assets unencumbered.

7.6 FINANCING SHIPS AND SHIPPING COMPANIES IN THE CAPITAL MARKETS

In most capital-intensive industries large companies use the capital markets to raise finance either by making a public offering of shares or by issuing bonds. The advantage

of the capital markets is that once the company is known and accepted by the financial institutions, it offers wholesale finance and a quick and relatively inexpensive way of raising very large sums of money. However, most shipping companies are too small to require funding on this scale and can end up spending a great deal of time and money raising sums that could be obtained more easily from a commercial bank. In short, the capital markets are not a source of finance to be dabbled in. They are a way of life that must be embraced and that is not always easy, given the volatile characteristics of the shipping business.

Public offering of equity

Shipping companies can raise equity by arranging a public offering of stock to be traded on one or more of the stock exchanges around the world. New York, Oslo, Hong Kong, Singapore and Stockholm are all used for public offerings of shipping stock. During the 1990s the shipping industry made real progress in developing this capital source, though it remains a minor player in ship finance. In 2007 there were 181 public shipping companies with a market capitalization (the number of issued shares multiplied by the market value per share) of $315 billion, as shown in Table 7.2. Two companies, Maersk and Carnival Corporation, accounted for $90 billion or 29% of the total market capitalization. Apart from these two, the biggest sector are 'multi-sector' companies. This sector includes large Asian conglomerates such as Mitsui OSK ($16.2 billion), NYK ($11.2 billion), COSCO ($10.5 billion) and China Shipping ($10 billion). Bulk shipping companies include Teekay ($4.2 billion) and Frontline ($3.4 billion). The liner companies include OOIL ($6.1 billion) and NOL ($6 billion). The top 20 companies account for two-thirds of the world market capitalization of shipping companies. This is a significant critical mass, and the public companies as a whole owned 472 million dwt of ships, accounting for 47% of the world fleet, so it is an important part of the shipping business.

If a private company wants to raise equity in the public markets, it must make an IPO. A prospectus is drawn up describing the company, its markets and its financial performance, and offering shares, to be listed on a specified stock exchange where they will be traded (this is important because it allows investors to get their money out whenever they wish to). For example, in 1993 Bona Shipholding Ltd issued a prospectus offering 11 million shares at a target price of $9 per share, to be listed on the Oslo Stock Exchange from 17 December 1993. Once the issue is made and trading starts, the shares are traded in the secondary market where the price is determined by supply and demand. By 1996 the stock in Bona Shipholdings Ltd was trading at $11.79, so investors had made a profit of $2.79 per share. The listing of equity allows investors to buy or sell shares at any time provided there is liquidity (i.e. buyers and sellers). For this to work the offering must be big enough to allow reasonable trading volume. Eventually the company was bought by Teekay.

A company wishing to issue a public offering of shares will first appoint an investment bank to act for it, preparing the prospectus, submitting it to the stock exchange authorities who regulate offerings on their exchange, and arranging for it to be 'placed' with financial

Table 7.2 Top 20 public shipping companies 2007

		Fleet		Market %	
Short Name	Sector	Ships	Dwt (m.)	Cap $ M.	Share
Maersk	Container	841	38.0	50,125	16%
Carnival	Cruise	102	0.7	40,821	13%
Mitsui OSK	Diversified	620	44.8	16,254	5%
NYK	Diversified	583	43.9	11,279	4%
China Cosco Holdings	Container	152	6.5	10,502	3%
China Shipping Dev.	Tanker	95	4.6	10,055	3%
Royal Caribbean	Cruise	44	0.3	9,132	3%
K-Line	Diversified	390	31.3	8,204	3%
MISC	Diversified	167	13.1	7,572	2%
OOIL	Container	95	5.0	6,115	2%
Hyundai MM	Container	109	10.4	5,965	2%
NOL	Container	117	5.5	5,802	2%
Cosco Singapore	Dry Bulk	11	0.6	5,471	2%
Teekay	Tanker	149	15.0	4,142	1%
Tidewater	Offshore	493	0.6	4,074	1%
CSCL	Container	120	4.9	4,006	1%
Bourbon	Offshore	239	0.7	3,489	1%
Frontline	Tanker	101	20.3	3,410	1%
Hanjin Shipping	Container	149	11.1	3,180	1%
Star Cruises	Cruise	26	0.1	2,746	1%
Others		4839	214.7	103,128	33%
Total		9442	472.1	315,474	100%

Source: Clarkson Research Services

institutions which buy the stock at an agreed price. A major responsibility is pricing the shares. The starting point is to value the equity stake being sold, which is done by taking the market value of the ships, adding cash and other assets, and deducting bank debt and other liabilities to arrive at a value for the company. In the example in Figure 7.8 the company has $1 billion assets ($700 million in ships and $300 million in cash) and $500 million debt, so it ought to be worth $500 million. If 50 million shares are issued they should be worth $10 each, but will investors pay more or less than this value per share? The issuer may feel the company, with its dynamic track record, is worth more and ask for $11 per share,

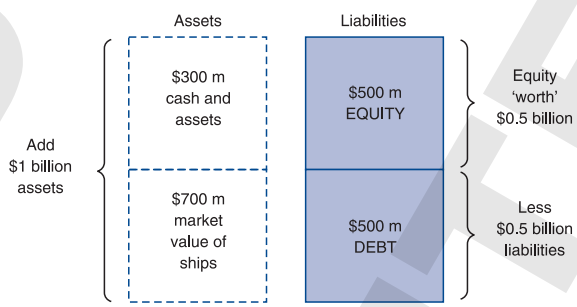

Figure 7.8
Valuing equity in shipping company
Source: Martin Stopford, 2007

but the investors may be concerned by the volatility of the shipping market and only prepared to offer $9.

Pricing an IPO is as much an art as a science, but three factors will generally be taken into account in pricing a shipping offering: the company's market-adjusted net asset value (NAV); the enterprise value based on the company's EBITDA compared to similar listed companies; and, in the case of offerings aimed at income funds and retail investors, the yields of comparable public companies. This establishes the full value of the stock but, except in a very hot new issue market, an IPO will generally have to be priced at a discount to full value in order to ensure that the offer is fully subscribed.

In the USA a preliminary prospectus, known as a 'red herring' (because preliminary portions are printed in red ink), is often issued containing all the details except the price of the shares. Feedback allows the pricing to be fine-tuned and a full prospectus can then be issued. After circulating the prospectus the shipping company generally goes on a 'roadshow' to present their company to institutional investors. These roadshows are often very demanding, involving a gruelling schedule of back-to-back investor meetings spread over one or two weeks. A successful listing depends on convincing institutions that the investment is sound, which depends in turn on the general case for investing in the shipping industry and whether the company looks well managed and has a good 'story'. Since the investors often know little about shipping, that has to be explained, as must the company strategy. A clear corporate structure, a well-defined strategy, a credible management track record, and plenty of information can all contribute to a successful outcome. Technical questions about the value of the fleet and the EBITDA levels must be answered along with more difficult questions like 'what if things go wrong – could you still carry out your plans?' The whole process including the roadshow takes about 10–15 weeks and in New York costs about 9% of the funds raised, though costs in London are closer to 7%. If enough investors are willing to purchase the stock at the offer price, the offering is a success. If not, it may be withdrawn. As the example in Box 7.3 illustrates, things do not always go smoothly. The purpose of the offering was to raise money to buy a fleet of double hull tankers. Since the shares were eventually placed at $11, well below the $13–15 per share target, the company had to borrow an additional $25 million from its bankers.

Raising shipping equity through the stock market has a mixed history, especially in bulk shipping and accessing the public equity markets is not easy. The large public shipping companies listed in Table 7.2 are mainly diversified corporates, with only three single-purpose companies. Two particular problems are the small size of many shipping companies, which excludes them from this type of finance, and the volatility of earnings and asset values. Volatility is an issue because although shipowners thrive on it, Stokes thinks that 'the essentially opportunistic nature of the tramp shipowning business somehow appears incongruous in the context of the stock market, where highly rated companies are those which are able to achieve consistent profit growth year after year'.[25] The corporate structures required by the equity markets can slow decision-making. There are also cultural issues to consider. If a shipowner has the skill to become very wealthy, why should he share his success with equity investors when cheap and flexible finance is available from commercial banks?

BOX 7.3 IPO CASE STUDY

Tough start for TOP float

By Tony Gray

THE flotation of TOP Tankers on the Nasdaq market has been successful – but at a cost. The Pistiolis family company sold the proposed 13.33m shares at $11 per share, substantially below its target range of between $13 and $15. After commencing trading on Friday afternoon [23 July], the shares closed 40 cents down at $10.60, a decline of 3.64%. The gross proceeds of the initial public offering (IPO) were $146.3m.

However, only $134.8m of this sum is to the company's account, as a shareholder sold 1.07m shares. The total could be raised by almost $22m through an underwriter's over-allotment option. The underwriters have a 30-day option to purchase up to an additional 1.54m and 454,545 shares. Based on the IPO price, TOP Tankers and its lender have agreed a $222m secured credit facility – this is $25m more than the $197m indicated in the prospectus.

TOP now intends to acquire 10 double-hull tankers for $251.2m. The 10 targeted tankers comprise eight handymaxes and two suezmaxes built between 1991 and 1992 by Hyundai Heavy Industries in South Korea and Halla Engineering & Heavy Industries respectively. This purchase will increase the size of TOP's fleet to 17 tankers of more than 1.1 m dwt, with 92% double-hulled compared with a global average of 61%.

Source: *Lloyd's List*, 26 July 2004

Despite these reservations, shipping is a key business in the world economy and financial institutions have a place in their investment portfolios for the equity of well-managed transport companies. From this perspective there is no doubt that the equity markets have a part to play in financing liner, bulk and specialist shipping.

Raising finance by issuing bonds

Another way of accessing the capital markets is to issue bonds. A bond is a debt security (known as a 'note') redeemed on a specific date, say in 10 years' time, and on which the issuer pays interest. The basic structure is illustrated in Figure 7.9. The shipping company (the 'issuer') sells bonds to financial institutions (the bondholders) and pays them interest (known as the coupon). At the end of the term the capital is repaid to the bondholder. The bonds issued may be investment grade, sub-investment grade or convertible bonds (i.e. a bond that can be exchanged for common stock). Each has a different pricing and places different demands and obligations on the issuer.

In the USA a bond issue generally obtains a credit rating which determines the interest payable – investment-grade bonds can be placed at lower rates than 'high-yield' bonds. The bond will also include an 'indenture', which is a deed of trust designed to protect the bondholders. Typically it deals with property pledges, working

capital requirements, and redemption rights. A trustee is appointed to represent the bondholders' interest and enforce the indenture.

Issuing a bond is in some ways similar to an IPO. An investment bank handles the placement, drawing up an offer document dealing with the following topics:

- overview of the company and its strategy;
- the terms of the note;
- risk sectors relating to the company and the industry;
- description of the company's business, operations and assets;
- overview of the company's market and regulatory environment;
- biographies of directors and executive officers;
- the indenture and financial tests;
- summary of financial data.

Once the offering memorandum is ready, the investment bankers and the company's top officers will go on the road to make presentations to institutional investors. Like an IPO roadshow, this often involves visiting several cities in one day and is both time-consuming and demanding. However, a well-established issuer who is well known to the investors may not need to do a roadshow. A conference call may be sufficient. Depending on the reception, the pricing and covenants are finalized and, if all goes well, finally the bond is placed.

Compared with bank debt, bonds have several advantages for established corporations. Firstly, they offer long-term finance: typically 10 years, and potentially 15 years. However, in shipping this is not necessarily an advantage since shipping companies like flexibility, and few bank loans run to their full term. More importantly, the principal is not repaid until the bond matures. This makes a difference to the cashflow of the company, especially during periods of low freight rates, as is illustrated in Figure 7.14 which compares debt service on a bond with the repayments

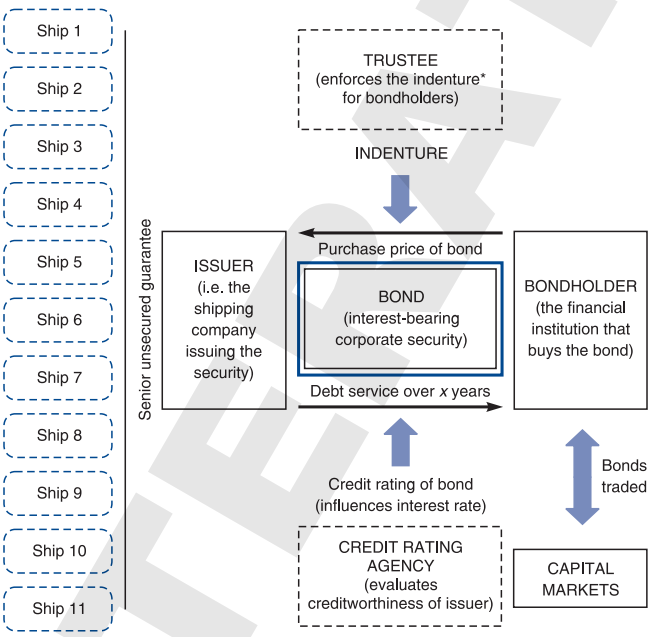

Figure 7.9
Basic structure of shipping bond issue
Source: Martin Stopford, 2007
*Indenture is the equivalent of the loan agreement, including, 'incurrence tests' and 'maintenance covenants'

Table 7.3 Shipping high-yield bond issues

	% Interest	Amount $ Million	Year	Maturity	Sector
Alpha Shipping	9%	$175	1998	2008	Multiple Sectors (5)
Amer Reefer Co. Ltd. (AMI RLF)	10%	$100	1998	2008	Reefers
American Commercial Lines (VECTUR)	10%	$300	1998	2008	Inland Barging
Cenargo Intl PLC (CENTNT)	10%	$175	1998	2008	Ferry
Enterprises Shipholding Inc	9%	$175	1998	2008	Reefers
Ermis Maritime (ERMIS)	13%	$150	1998	2006	Tanker
Gulfmark Offshore (GMRK)	9%	$130	1998	2008	Offshore Support
Hvide Marine (HMAR)	8%	$300	1998	2008	Chemical Tankers
International Shipholding (ISH)	8%	$110	1998	2007	Liner, Specialized
MC Shipping (MCX)	11%	$85	1998	2008	Gas Carriers
Millenium Seacarriers (MILSEA)	12%	$100	1998	2005	Drybulk
Pacific & Atlantic	12%	$128	1998	2008	Dry bulL, container, MPP
Premier Cruises (CRUISE)	11%	$160	1998	2008	Cruise
Sea Containers (SCR)	8%	$150	1998	2008	Diversified/Container Leasing
TBS Shipping (TBSSHP)	10%	$110	1998	2005	Break-bulk
Teekay Shipping Corp. (TK)	8%	$225	1998	2008	Tankers
Equimar Shipholdings Ltd. (EQUIMA)	10%	$124	1997		Tanker
Global Ocean Carriers (GLO)	10%	$126	1997	2007	Dry Bulk, Containerships
Golden Ocean Group (GOLDOG)	10%	$291	1997	2001	Tankers/Drybulk
Navigator Gas Iransporr (NAVGAS)	10.5%	$217	1997	2007	Gas Carriers
Navigator Gas Transport (NAVGAS)	12.0%	$87	1997	2007	Gas Carriers
Pegasus Shipping (PEGSHP)	12%	$150	1997	2004	Tankers
Stena AB (STENA)	9%	$175	1997	2007	Tankers, Rigs, Other
Trico Marine	9%	$280	1997		Offshore Support
Ultrapetrol (Bahamas) (ULTRAP)	11%	$135	1997	2008	Tankers
Sea Containers (SCR)	11%	$65	1996	2003	Diversified/Container Leasing
Transportación Maritima Mexicana (TMM)	10%	$200	1996	2006	Diversified, Container
International Shipholding (ISH)	9%	$100	1995	2003	Liner, Specialized
Pan Oceanic	12%	$100	1995	2007	Dry Bulk
Stena AB (STENA)	11%	$175	1995	2005	Tankers, Rigs, Other
Stena Line AB (STENA)	11%	$300	1995	2008	Tankers, Rigs Other
American President Lines (APL)	8%	$150	1994	2024	Container Shipping
Gearbulk Holding (GEAR)	11%	$175	1994	2004	Specialized Bulk
American President Lines (APS)	7%	$150	1993	2003	Container Shipping
Eletson Holdings (ELETSN)	9%	$140	1993	2003	Tankers
Overseas Shipholding Group (OSG)	8%	$100	1993	2003	Tankers
Sea Containers (SCR)	10%	$100	1993	2003	Diversified/Container Leasing
Transportación Maritima Mexicana (TMM)	9%	$176	1993	2003	Diversified, Container
Transportación Maritima Mexicana (TMM)	9%	$142	1993	2000	Diversified, Container
Sea Containers (SCR)	13%	$100	1992	2004	Diversified/Container Line
Total		$6,331			

Source: A. Ginsberg, 'Debt Market Re-opens', *Marine Money*, June 2003

on a bank loan, and for comparison also shows a typical freight rate cycle (of course the bond will only get a credit rating if the company can demonstrate its ability to service the cashflow in these extreme circumstances). In the example of bond finance in Figure 6.14 case D the company is committed to repaying the full principal in year 15 and this would normally be done by refinancing, provided the company is in good financial shape. Ideally the bonds are rolled forward and each new issue should be cheaper if the company is doing a good job. Finally, once a company is established the bond markets offer very fast access to finance – shipping companies have raised sums in excess of $200 million in 24 hours.

For the shipping industry bonds can be used in two ways. The first is to provide creditworthy private companies which do not wish to go down the public equity route with access to capital market funding. During the 1990s about 50 companies followed this route, raising sums of $65–200 million, and a selection of the bonds issued are listed in Table 7.3). The results were mixed and in retrospect it seems that many were over-leveraged, perhaps because they regarded the bonds as quasi-equity. Interest rates were very high, averaging around 10% per annum, and in the difficult shipping markets of the late 1990s the debt could not always be serviced. The second use of bonds is by established public shipping companies with significant market capitalization which, as mentioned above, can use their credit status and relationship with investment institutions to raise relatively large amounts of capital quickly and easily. For them, bonds offer fast and flexible finance.

7.7 FINANCING SHIPS WITH SPECIAL PURPOSE COMPANIES

So far we have discussed how shipping companies raise finance. However, in this section we take a different approach, and discuss the use of special purpose companies (SPCs) as a means of raising finance to acquire ships. The type of structure we are dealing with is shown in Figure 7.10. The SPC buys the ships and either leases or time-charters them out. A manager is appointed to operate the ships and funds are obtained from equity investors, probably supplemented by a bank loan.

There are two reasons for using SPCs. The first is as a speculative shipping investment vehicle. Ship funds and Norwegian K/S partnerships are examples of structures which have been used in the past to allow private investors to invest in shipping. The structure is set up, the funds invested, and in due course the investment is liquidated. Second, SPCs are often used for off-balance-sheet financing. For example, during the 1990s liner

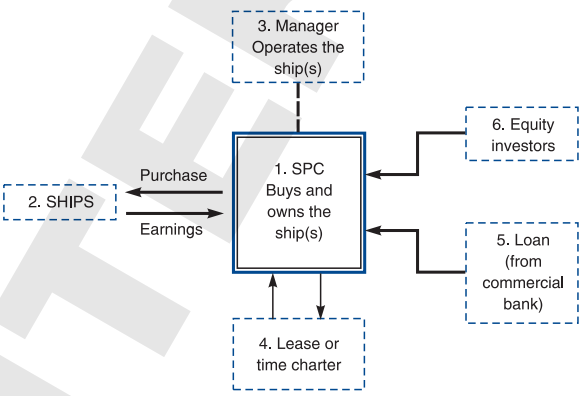

Figure 7.10
Special purpose company finance: basic model

companies preferred to charter ships rather than own them, and extensive use was made of leases and German KG partnerships as a way of securing the use of the ships without actually owning them. Finally, securitization structures take this a step further, but so far for shipping it has had limited success – there have been no securitizations of ships at time of publication, though there have been some of shipping debt.

Ship Funds and SPACs

A *ship fund* is an investment vehicle designed to allow equity investors to invest in a specific investment opportunity. For example, Bulk Transport was set up during the tanker depression in 1984–5 to take advantage of very low second-hand prices by purchasing four ULCCs at prices just above scrap.[26] As an investment it proved extremely successful, with the assets appreciating to five times their purchase cost during the following 4 years. Between 1987 and 1989 a succession of funds were organized by US commercial and investment banks. In most cases the equity raised was $30 to $50 million, often topped up with 40–60% debt in order to improve the return to the investor. In total these funds raised about $500 million of equity capital. A more recent example is Sea Production Ltd, discussed below.

The structure is usually similar to Figure 7.10. An SPC is set up in a tax-efficient location (e.g. the Bahamas, Cayman Islands) and a general manager appointed to handle the buying, selling and operating of the company's ships. For this service he is paid a management fee - for example, one fund with four ships paid $100,000 plus 1.25% of revenue earned. Because ship funds are investment vehicles rather than shipping companies, the shareholders are given the option to wind up the company after 5–7 years, thus ensuring liquidity if the shares prove not to be tradable. To improve the return on equity most funds raised debt finance, increasing the risk–reward ratio for the equity investor.

A prospectus is drawn up setting out the terms on which shares in the business are offered for sale. This document may be anything from a few pages of typescript to a glossy brochure. It sets out the business in which the company is to operate, its strategy, the market prospects, the terms on which shares can be purchased, administrative arrangements, control mechanisms and winding-up arrangements. On the basis of this prospectus shares are sold by private placement to wealthy individuals or institutions, or in a few cases by public offering (see Section 5.4). Investment institutions have limited funds for high-risk ventures of this type, so ship funds depend heavily on wealthy individuals willing to back a good sales story. When sufficient funds have been raised, management purchases ships and operates the company according to the terms set out in the prospectus.

As a 'pure' investment vehicle ship funds face two problems. First, the equity must be raised before the ships are purchased, facing the organizers with the difficult task of finding good-quality ships at very short notice. To deal with this the transaction may be initiated by a company with assets it is willing to sell to the fund. Second, their commercial and management structure is ambiguous. They are not shipping companies because they have a limited life, but they are charged with running ships over a fairly long period. Both these problems arise from the perception of ships as commodities. Although ships

are traded on the sale and purchase market as commodities, in terms of ongoing management they are complex engineering structures. Efforts to 'package' them as commodities bring a whole range of risks which need to be addressed.

But business moves on and in the more confident shipping markets of the early 2000s a new structure, the special purpose acquisition corporation (SPAC), has appeared to deal with the timing and corporate responsibility issues raised by ship funds. This is an enhanced version of the 'blind pool' in which the assets are not identified and acquired until after the funds have been raised. Corporate responsibility is provided by floating the SPAC as a fully reporting listed company, responsible for raising funds to acquire an operating business. The funds are escrowed; a proportion, say 80%, must be invested within a stipulated period, for example 18 months; and the investors must approve the acquisition. Once the ships have been acquired, the SPAC is listed on the NYSE or NASDAQ. This vehicle was used in 2005–6 by several Greek shipping companies to achieve a New York listing – for example, Navios International Shipping Enterprises (Angeliki Frangou), Trinity Partners Acquisition Company/Freeseas, Inc. (Gourdomichalis Bros and Ion Vourexakis) and Star Maritime Acquisition Corporation (Akis Tsiringakis and Petros Pappas). A transaction of this sort typically takes three to four months to complete and the fees are generally lower than for an IPO.

Private placement vehicles

Special purpose companies are also used by public companies as a way of raising private equity by private placement, prior to a market offering. For example, in the USA a private investment in public equity (PIPE) involves the sale of stock in an SPC set up by a public shipping company to accredited investors[27] at a slight discount to the market price. Typically the securities are unregistered, but the company agrees to use its best efforts to register them for resale. In the case of a 'Registered Direct' (RD) placement the securities are registered with the SEC and can be resold to the public immediately. Because the offering is restricted there are fewer disclosure requirements than for a secondary offering; there is no need for a roadshow; and adjusting pricing in response to changing market conditions is easier than in the case of a secondary offering. The cost is generally 4–6% of the gross proceeds, which is cheaper than a secondary offering. All these factors can make a private placement attractive to established small- to medium-sized public companies, which find it difficult to access more traditional forms of equity financing.[28]

An example is the private placement of equity by Sea Production Ltd, a company set up by Frontline Ltd to acquire its floating production business consisting of two floating production, storage and offloading (FPSO) systems, two Aframax tankers for conversion, and a management organization. Sea Production financed the $336 million acquisition with a $130 million bond facility, a bank loan and a $180 million private placement of equity.[29] It was registered on the Oslo over-the-counter market in February 2007 with the aim of a listing on the Oslo Stock Exchange in the autumn. The placement was managed by three investment banks and was heavily oversubscribed, with Frontline taking 28% of the equity which it sold in June 2007. For a well-established

company like Frontline the private placement was a quicker and less expensive way of raising the equity required by Sea Production Ltd than a public listing of shares. The number of shareholders is restricted by the regulatory authorities and the secondary market is generally limited.

Norwegian K/S partnership structures

During the late 1980s substantial amounts of partnership capital were raised through the Norwegian K/S limited partnerships investing speculatively in the purchase of ships. It is estimated that during this period about half of the Norwegian shipping industry operated through K/S companies and during 1987–9 investors in K/S partnerships committed equity of $3 billion.

At the time the K/S partnership, a standard form of Norwegian company, offered investors tax advantages. The K/Ss were usually set up on a one-ship basis with management subcontracted. The organizer appointed a 'general partner' and invited equity partners to commit capital.[30] At least 20% of the committed capital had to be available in cash at the time of incorporation and another 20% within 2 years. The remainder was only called if needed.

As a rule 80% of the purchase price was raised as a bank loan and the remainder with cash drawn against the committed equity. For example the purchase of a $10 million ship requiring $0.5 million working capital might be financed as follows:

	$ million
Mortgage loan (80 per cent)	8.00
Called equity capital	2.50
Uncalled capital	4.85

For tax purposes the committed capital could be depreciated at an annual rate of 25% on a declining balance basis. In addition, provisions could be made for classification costs, though allowable depreciation could not exceed the total capital committed.[31] The K/S shares could be sold, and there was a limited market within Norway through brokers or advertisements in Norwegian newspapers.

In the early 1990s these tax benefits were much reduced and the K/Ss, which had obtained a mixed reputation after a series of losses, fell out of favour, though interest has revived in recent years. They remain a fascinating example of opportunism in ship finance. The speed, flexibility, and relatively low cost of the K/S system were ideally suited to financing asset play during the period of escalating ship values in the late 1980s, allowing many small investors to become involved in shipping. Their weakness, from the investors' point of view, was the lack of the rigorous regulation which plays such an important part in protecting investors in the stock market.

German KG funds

A form of the ship finance which emerged with great success in the mid-1990s was the German KG company, the German equivalent of the Norwegian K/S company. The structure is shown in Figure 7.11. A German registered limited liability partnership

company purchases the vessel from a shipyard (or owner) and obtains a time charter. The purchase price is raised from a bank loan (usually about 50–70%), and equity raised from German high net worth investors and the general manager (usually around 30–50% between them).

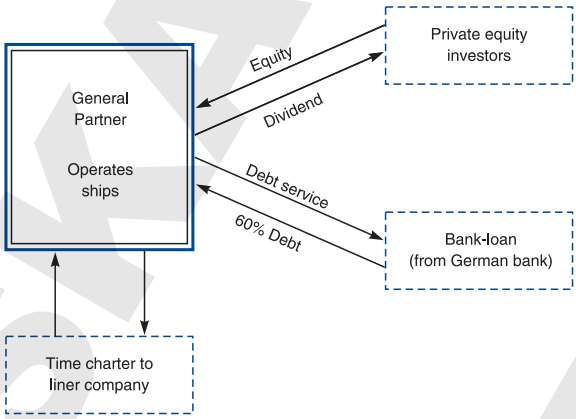

Figure 7.11
KG finance model

By 2004 over 600 ships had been financed by KGs, typically $50–100 million in size. The scheme owes its success to a combination of circumstances. Firstly, during the 1990s the liner companies were earning poor returns and used KGs to move ships off their balance sheet – between 1991 and 2004 the proportion of the container fleet chartered in by liner service operators increased from 15% to over 50%. Secondly, the German shipyards had a very strong position in the container-ship building market, supported by the strong container-ship brokerage community in Hamburg. Thirdly, Germany had a pool of high net worth individuals facing high marginal tax rates and an equity distribution system run by small investment houses. Fourthly, the German banks were in an expansionist phase and willing to provide the loans required. In these circumstances the quick and tax-efficient KG company proved to be an ideal financing vehicle, providing the liner company with container-ships which were 'off the peg' and off the balance sheet. Private investors liked the return of 8% after tax so much that ships became the most popular investment, accounting for about 20% of private funds raised in Germany in 2003.

By 2007 the KG market continued to provide ship finance, especially for the container market, but its competitive position was under pressure as a result of reduced tax benefits, higher capital costs and increased competition from the listed container-ship operators discussed in the next section.

Leasing ships

Leasing 'separates the use and ownership of the vessel'. This technique was originally developed in the property business where land and buildings are often leased. The lessor (i.e. the legal owner) hands the property over to the lessee who, in return for regular lease payments is entitled to use it as though it were his own (known legally as 'quiet enjoyment'). At the end of the lease the property reverts to the lessor. This technique is widely used for financing mechanical equipment, including ships. In arranging this sort of finance there are three main risks to consider: the revenue risk (will the lessor be paid in full for the asset he has purchased?); the operating risk (who will pay if it breaks down?); and the residual value risk (who gets the benefit if it is worth more than expected at the end of the lease?).

The two common types of leasing structures, the *operating lease* and the *finance lease*, deal with these risks in different ways. The operating lease, which is used for hiring equipment and consumer durables, leaves most of the risk with the lessor. The lease can usually be terminated at the lessee's discretion, maintenance is carried out by the lessor and at the end of the lease the equipment reverts to the lessor. This is ideal for big photocopiers where the lessor is an expert in all these practicalities and the lessee just wants to use it. Operating leases generally do not appear on the balance sheet and in shipping have been very widely used for container-ships. Finance leases are longer, covering a substantial part of the asset's life. The lessor, whose main role is as financier, has little involvement with the asset beyond owning it, and all operating responsibilities fall on the lessee who, in the event of early termination, must fully compensate the lessor. Finance leases are typically used for long-term finance of LNG tankers and cruise ships and will generally appear on the lessee's balance sheet.

The main attraction of finance leases to shipping companies is that they bring a tax benefit. Governments in some countries encourage investment by providing tax incentives such as accelerated depreciation, and companies with high profits but no suitable investment of their own can obtain tax relief by purchasing a ship, which they then lease to a shipowner who operates it as his own until the end of the lease. The lessor does not have to get his hands dirty, but, hopefully, he collects a tax benefit, some of which is passed on to the lessee in the form of reduced charter hire. Obviously this depends on the goodwill of the tax authorities. More recently leasing structures of 5–6 years have become more common.

A lease structure is shown in Figure 7.12. The ship, built to the lessee's specification, is purchased by the company providing the finance (the lessor) – a bank, large corporation or insurance company – and leased under a long-term agreement (e.g. a bare boat charter) to the shipping company (lessee). The lease gives the lessee complete control to operate and maintain the asset but leaves the ownership vested in the lessor who can obtain tax benefits by depreciating the ship against profits. Some of this benefit is passed on to the lessee in lower rental (charter) payments. A variant is the leverage lease which raises most of the cost of the ship in bank debt (e.g. 90%) and the lessor buys the equity at a price which reflects the tax benefits he gets from depreciating the whole ship.

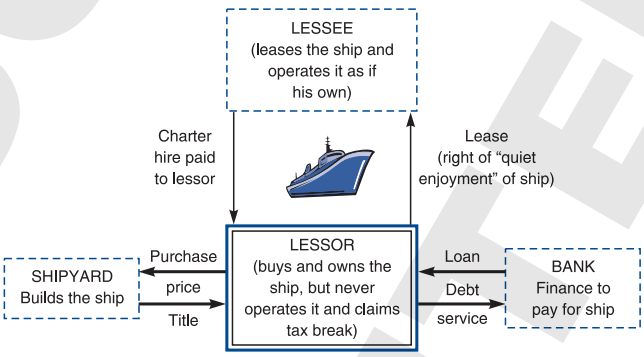

Figure 7.12
Typical lease finance model
Source: Martin Stopford, 2008

This type of finance has several advantages. It provides funding for longer periods than is available from commercial banks, possibly as much as 15 years or even 25 years. Capital costs are reduced to the extent that any tax benefits are reflected in the charter-back arrangement.

It also has drawbacks. The lessor, who has no interest in the ship, must be

satisfied that the lessee will meet its obligations under the lease. Only financially sound shipping companies are likely to qualify. The lessee is tied into a long-term transaction, which makes life much more complicated than just buying the ship and owning it. For example, if he decides after a couple of years to sell the ship, he must go through the complex business of unwinding the lease. Another problem is that, since tax laws may change, the tax benefit is never quite certain, and this must be covered in the documentation. With so many eventualities to cover, the paperwork on leasing transactions can be prodigious. For this reason leasing works best for well-established shipping companies with a well-defined long-term need for the ships, for example to service an LNG project against a long-term cargo contract.

A new development in the early 2000s was the flotation of ship leasing companies based on the model used in the aircraft industry for financing aircraft. The container-ship operator Seaspan, which was floated in August 2005, was modelled on the International Lease Finance Corporation which provides aircraft to FedEx, DHL and UPS. When floated, Seaspan had 23 container-ships leased to major liner operators such as Maersk, Hapag-Lloyd, Cosco, and China Shipping at fixed rates for periods of 10, 12 and 15 years. Operating expenses and interest rates were also fixed, insulating the company from shipping cycles.[32] In 2007 Seaspan had 55 ships and was one of the world's largest container owning companies. Several other companies have followed this model, which provides an alternative to the KG system discussed above.

Securitization of shipping assets

Asset-backed securitization is used to finance mortgage loans, auto loans, credit card receivables, and it has also been widely used in the aircraft industry, which has a similar asset base to shipping. The technique involves taking a portfolio of cash-generating assets (e.g. mortgage loans, aircraft, ships) and selling them to a bankruptcy remote trust which issues bonds serviced with the cashflow from the assets.

The process as it might apply to ships is illustrated in Figure 7.13. Step 1 is for the originator, an aircraft or shipping company, to appoint an investment bank to handle what might well be a lengthy and complex transaction. Step 2 is to set up an SPC and a trust. The trust is controlled by

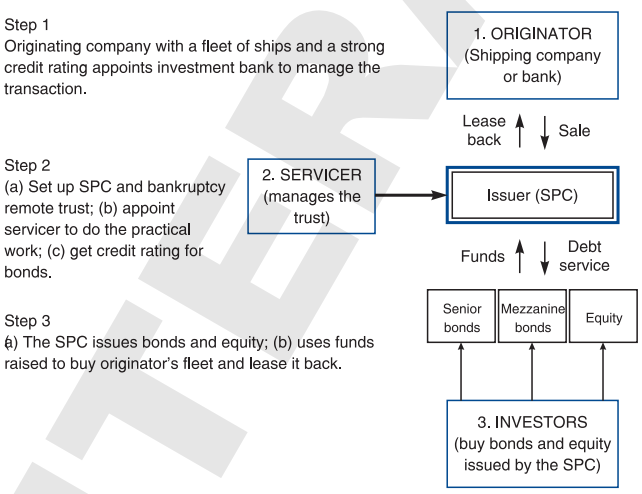

Figure 7.13
Ship securitization financial structure
Source: Martin Stopford, 2007

a board and arrangements are made for a 'back-up servicer' to manage the assets in the event of a default by the lessee. The SPC raises finance by issuing bonds backed by the assets, known as asset-backed securities. These bonds may be issued in several tranches, each with different credit ratings. For example, a senior tranche structured to obtain an investment-grade rating; a second sub-investment-grade tranche which permits repayments to be suspended during difficult periods in the market; and a tranche of equity. The ability to obtain the required credit rating is crucial. In Step 3 the bonds and equity are issued and the SPC uses the funds to purchase the originator's fleet of ships which are then leased back to the originator.

This sort of structure offers long-term finance, plus a degree of flexibility to deal with the realities of a cyclical business. Although asset-backed securitization is often used in the airline industry, the first shipping transaction was only completed in 2006 by the container company CMA CGM to finance 12 new container-ships. An SPC, VegaContainerVessel 2006-1 plc, raised three layers of finance: $253.7 million in senior AAA rated notes; $283.3 million in mezzanine finance from a syndicated bank loan; and a tranche of subordinated equity notes purchased by CMA CGM with the proceeds from simultaneously issuing a $283 million corporate bond. Vega then made loans to 12 SPCs, each of which purchased a container-ship from CMA CGM and bareboat chartered it back. Although this is the first shipping market transaction of its type, similar structures have been used in the aircraft market by flag carriers Iberia (in 1999, 2000 and 2004) and Air France (in 2003).[33]

The reason why this technique is more widely used for aircraft than ships seems to be that the financing options open to shipping and aircraft companies are very different. In the aircraft industry small airlines pay very high spreads to borrow from banks, so asset-backed securitization structures offer cheaper finance. In shipping, debt finance from commercial banks is very competitively priced and the rating agencies are cautious about rating bonds whose cashflow ultimately depends on the spot market. Add the fact that shipowners prefer flexible finance and the limited role of securitization becomes more understandable.

7.8 ANALYSING RISK IN SHIP FINANCE

The risk management options

Although we have discussed many techniques for financing ships, it is important not to lose sight of the fact that raising finance is ultimately a matter of persuasion. There are many opportunities out there and whether the investor is Aunt Sophie or a pension fund, they must be persuaded that the return justifies the risk. However, the justification required by investors and lenders is very different. Investors take a risk in the hope of making a profit. They want to be convinced about the upside potential. Lenders on the other hand, do not share the profits and just want to be repaid on time with interest, so their focus is on strategies to ensure repayment.

The starting point for any analysis, whether by an investor or a lender, is cashflow analysis. Because shipping is so capital-intensive, financial structure has a major impact

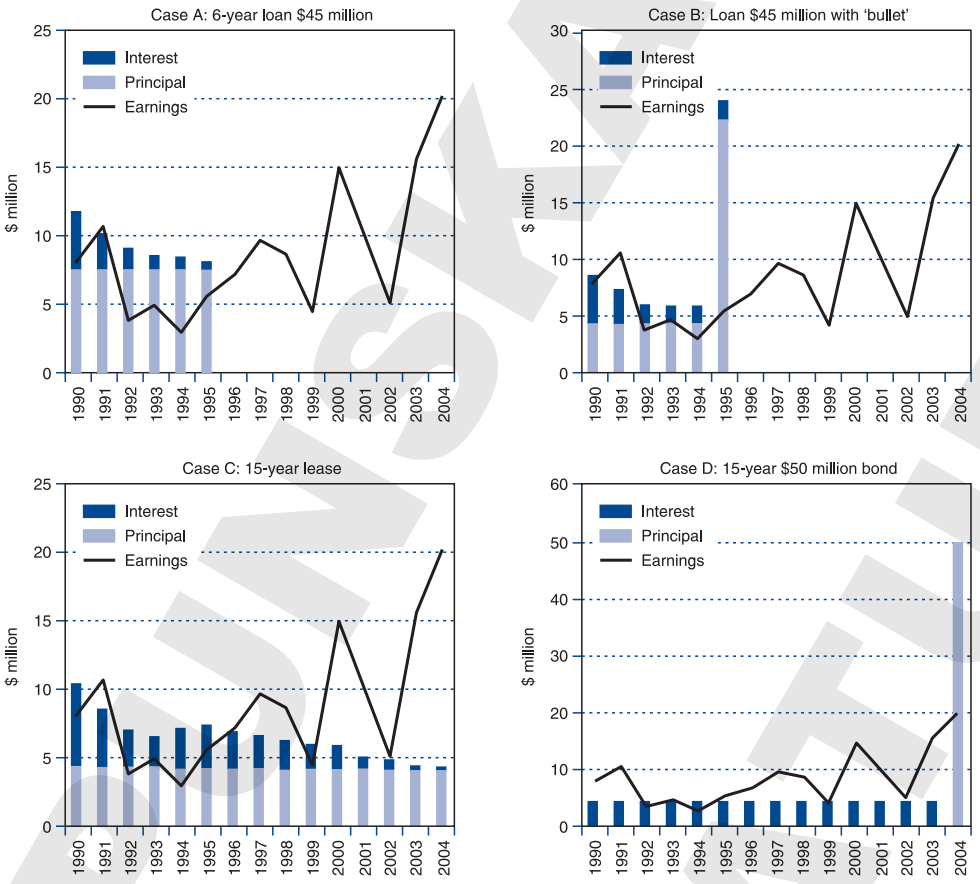

Figure 7.14
Four ship finance options for a new Aframax tanker

on the cashflow and it is only by carefully working through this that the true risks can be identified. To illustrate this point, Figure 7.14 compares four of the techniques for financing a new Aframax tanker valued at $65 million on delivery in 1990. The bars in each chart show the annual interest (at 1% over the prevailing LIBOR rate) and principal repayments, whilst the line shows the actual spot market earnings of the ship in each year, after deducting operating expenses of $6,000 a day in 1990, increasing to $7400 a day in 2004.

- Case A shows a 6-year term loan of $45 million, a 69% advance, amortized in equal payments of $7.5 million over the six years.
- Case B shows a $45 million 6-year term loan repaid at $4.5 million a year, with a $22.5 million 'bullet' payment in the last year.
- Case C shows a 15-year lease which repays the full $65 million in equal instalments of $4.3 million over 15 years and interest on a declining balance basis.
- Case D shows a 15-year bond for $50 million, a 75% advance, with the 9% coupon paid annually and the principal repaid in year 15 (i.e. 2004).

Comparing these techniques illustrates how the different structures cope with the same market cycle. The bank loan in case A is made at the top of a freight cycle, and even in the first year earnings do not quite cover debt repayments. Things get better in 1991, but from 1991 onwards they deteriorate and by 1995 earnings only cover half the debt service. The only comfort for the bank is that by 1994 over $30 million has been paid down, so the ship's market value of $20 million covers the outstanding $15 million. However, if the customer runs out of cash in 1993, that faces the bank with all the hassle and indignity of repossessing a ship, an act no banker wishes to contemplate. So a 6-year loan is not ideal for financing a new vessel.

Case B addresses the problem by introducing a bullet loan in which 50% of the principal is not repaid until the end of the term (a 'bullet loan' has a one-time re-payment of principal at its termination, in this case 50%). Debt service is much reduced and easily covered by earnings in the first two years, though there is still a small shortfall from 1992 to 1995. The problem comes when the bullet has to be repaid because the owner does not have the money – the cumulative deficit is $23 million. Of course the company could refinance, but after four years of recession the value of the ship has fallen to $18.5 million, less than is needed to cover the $23 million bullet. The new structure has 'reorganized the deckchairs', but the ship is still not generating enough cash to repay a 69% six-year term loan.

Case C takes a longer-term perspective, using a 15-year lease. This spreads the principal repayments over a much longer period. As with the bank debt, the transaction faces a problem between 1992 and 1996 when earnings are inadequate to cover lease payments. However, from 1996 to 2004 a substantial surplus is generated, and by the end of the transaction in December 2004 the obligation is fully paid down and the second-hand value of the 15-year old ship is now $20 million – a nice bonus for the lessor. Longer-term finance has evened out the long cycles, so although the market paid shipowners less revenue in the first half of the period, it came back in the second half. However, if the shipping company had no alternative source of funds, it would have defaulted on lease payments early in the period, so that is a problem. The fact that the lessor gets any residual profit is another.

Case D is a 15-year bond for $50 million. The principal is not repaid until the final year, so debt service is just the coupon which is fixed at 9%. In fact earnings are sufficient to pay interest every year except 1992 and 1995 when there is a very small deficit. Over the 15 years the ship generates $70 million after paying the coupon, enough to repay the $50 million bond and leave a $20 million surplus for the equity holders. Since the ship is now worth $20 million, this is a profitable transaction all round. So provided the company had $2 million working capital to cover the two bad years, the bond worked out pretty well, though this is just a hypothetical example. It is doubtful whether such a structure could be placed in the high-yield market without some partial amortization, due to the refinancing risk.[34]

The conclusion is simple enough. Shipping cycles cover long periods and are not always the extreme cycles of the 1980s. In this particular example earnings averaged $18,000 a day in the first half of the period and $32,000 a day in the second half, so any financial structure relying on earnings to repay interest and principal during the first half of the period was bound to run into problems (if this revenue sequence had been reversed it would have been a very different story). The bond works well because it defers repayment of principal until the end of the period, by which time in this example

BOX 7.4 SHIPPING RISK CHECKLIST

The following are some of the issues that should be considered when weighing up the risk in a shipping transaction:

1. *Market risk*. Shipping markets face cyclical revenues and prices as discussed in Part 2 of this book. Cycles vary unpredictably in length and severity, which affects a company's ability to meet obligations and the value of collateral. What is the position in the cycle and its future development?
2. *Operating risk*. Technical problems can lead to off hire, reduced earnings, repairs and poor reputation with charterers. Failure to comply with regulations relating to safety and pollution can result in port state detention and problems with classification societies, insurance, pools and conferences.
3. *Counterparty risk*. Are charterers creditworthy and is the full charter status of the vessel known? For example, a vessel may have been sub-chartered several times.
4. *Competitive risk*. Shipping companies operate in a competitive environment which may affect their financial performance. Does the company have any protection from predatory competition or overinvestment?
5. *Diversification risk*. Market segments have different cycles, customers and ship types (see Chapter 12). Diversification reduces risk if the sector cycles are not highly correlated and specialization increases it (the 'portfolio effect').
6. *Operating and voyage cost risk*. How sensitive is the business model to cost changes (e.g. fast ships use a lot of fuel)? Fuel costs, crew costs, port costs, repair costs and insurance can all change.
7. *Ship size and age risk*. Is the fleet age profile balanced and how well equipped is the company to manage it? New ships carry a high capital cost, and are vulnerable to changes in capital costs. In contrast, old ships face lower capital costs and are vulnerable to operating, repair and regulatory costs.
8. *Financial structure*. How vulnerable is the company's financial structure (e.g. debt must be serviced regardless of market circumstances)? New fleet has a high breakeven point, old fleet vulnerable to repair costs.
9. *Workout risk*. How easy would the company be to deal with in the event of a default? This involves the relationship with management and the difficulty of repossessing and operating assets depending on the type and age of ships, flag, etc.
10. *Management risk*. How does performance compare with peer group and how vulnerable is the company in terms of succession and depth of the management team?
11. *Environmental risk*. Pollution liability is a major risk and for private companies the corporate veil can be pierced, but not public shipping companies. Cargo, geography and insurance all important.

the cash has accumulated; but in such a volatile business as shipping there is a risk that repayment coincides with an adverse market when the cash is not available and refinancing is difficult, so bondholders need to be happy with the company and its management.

In these circumstances lenders offering loans in a competitive banking market have little choice but to take a view on what lies ahead, and we discuss this in Chapter 17. There are many risks to consider. Shipping is vulnerable to *economic risk* caused by volatility of the world economy. *Operating risk* arises from problems with the ships and the companies which manages them. And of course there is *shipping market risk*. These are the main risks categories, but there are plenty of others to consider and Box 7.4 provides a checklist of the most important ones, covering everything from market cycles to the environment.

7.9 DEALING WITH DEFAULT

One of the cornerstones of ship finance is the fact that the loan or investment is secured by ships which are negotiable assets, and in the event of a default or business failure can be seized by the creditors and sold. However, the realizable value of this security depends to some extent on the practical ability of the mortgagee (or bondholders) to recover the assets, and it is worth briefly considering some of the issues which this raises.[35] The following comments refer mainly to situations where a borrower defaults on its debt obligations by failing to make the payments required under the loan agreement.

Because ships trade internationally and may be in a remote part of the world when the problem arises, the first practical issue in dealing with a default is to obtain accurate information about what is actually going on. The borrower is not impartial, so other information sources are needed if only to check the accuracy of information being provided. With large sums of money at stake, the situation can also change very rapidly, especially where other creditors are involved, so prompt action can play an important part in resolving the situation favourably. Broadly speaking, there are three ways a lender can minimize this sort of risk: by monitoring the performance of the borrower to give early warning that the risk of default is increasing; by putting controls in place to protect the lender's interests when things start to go wrong; and by having a well-thought-out strategy for managing any defaults which occur.

Monitoring the performance of a borrower is a delicate matter, but early warning of problems helps because by the time a default occurs some of the options for dealing with the situation are no longer available. Regular monitoring of vessel values against a minimum value clause in the loan documentation provides a warning of market weakening and can trigger a dialogue with the borrower in a falling market, though establishing the precise value of ships held as collateral can be contentious if the valuations obtained by the owner and banker are different. Obviously this does not identify problems caused by mismanagement. Some banks routinely check the financial strength of borrowers by a periodic review of the company's whole business, especially in a weak market. This is not easy but it may give early warning signals that things

are not going well for the business as a whole. Another tactic is to inspect the ships regularly and look for signs of cash shortages – for example, a lack of spare parts or neglected maintenance. But this is expensive and requires a certain amount of tact.

Various steps can be taken to ensure that the lender has control in the event of a default. An enforceable mortgage on the ship and the assignment of all freights and insurances to the lender provide basic protection. Less common is a pledge of shares in the owning company, which the bank holds, with a letter of resignation from the directors. Or a personal guarantee from the shipowner may be requested. Guarantees of this sort are not easily obtained and can be difficult and unpleasant to enforce, but they may provide some leverage if things start to go wrong.

Once a default has occurred the lender as mortgagee must be prepared to deal with four practical issues, all of which are likely to require prompt action: the location of the ships; claims by other creditors; the condition of the ships and class; and the cargo aboard the ship.

The location of the ships is important because this determines the legal jurisdiction and, once the default has been declared, determines what the lender has a legal right to do. Some legal jurisdictions are better than others for arresting ships, so it may be advantageous to sail to a more favourable jurisdiction, if the ships can be moved. Other financial claims need to be addressed promptly because some, such as crew wages, rank ahead of the mortgagee's claim and must be settled first.

Trade creditors owed money for bunkers and stores must also be considered because if they are not paid there is the risk that these creditors will arrest the ship, creating a problem for the lender. Their services will be needed anyway if the ship is to continue trading. The third issue is the condition of the ships. Companies short of cash often defer maintenance and the supply of spares, so repairs may be needed, or worse the ship may not be in class. In that case it cannot be moved until repairs have been made. Finally, if there is cargo on board, that must be dealt with.

For all these reasons lenders often face a difficult and complex situation. Broadly speaking, there are three approaches, none of them attractive: (a) to provide the owner with the financial support to trade on; (b) to foreclose and trade on with a new company under new management; and (c) to foreclose and sell the assets either privately (which probably offers the best price) or through an Admiralty sale (which has the advantage of wiping out any claims against the ship). If the problem is market-driven and the relationship with the borrower is good, option (a) may make sense, provided there is upside in the assets, but if the problem is mismanagement, option (b) may be more appropriate. Either way, a decision to trade on means raising cash, and this can be done by selling off ships, negotiating with trade creditors to clear debts at a discount or supporting the owner until things get better. Otherwise a cash injection by the lender will be needed. The choice will depend on the circumstances. Selling ships under pressure can result in distress prices and is a poor option if the default takes place in a recession when the ships have upside potential. But if the default occurs in a normal market and assets can be sold for a fair price, this may be a more attractive option.

This is a superficial review of a difficult and complex subject but hopefully enough to demonstrate that managing default is one of the aspects of ship finance where practical skills are required, so ideally it is better for banks to choose clients who do not default!

7.10 SUMMARY

In this chapter we have discussed how the shipping industry finances its requirement for capital in a business which is volatile and historically has offered low returns. We started by reviewing the history of ship finance. This revealed that the type of finance available to the shipping industry has gone through distinct phases. As the world economy grew in the 1950s and 1960s there was a long phase of charter-backed investment, mainly initiated by the shippers. This was followed by new forms of asset-backed finance during the very volatile markets of the 1980s, notably ship funds and K/S companies. Finally, in the 1990s, shipping companies have shown more interest in corporate structures, with public offerings and corporate lending.

The money to finance ships comes from the pool of savings which are mainly held in three markets: the money markets (short-term debt), the capital markets (long-term debt) and the stock market (equity). Nowadays most of the investment is carried out by institutions such as pension funds and insurance companies, though there are a few private investors. Accessing these financial markets can be done directly by the shipping company, or indirectly through an intermediary such as a commercial bank. Direct access requires well-defined corporate structures which are less widely used in shipping than elsewhere. Shipping has traditionally relied heavily on bank debt, particularly bulk shipping. We divided the more detailed discussion of methods of ship finance into four broad groups.

Firstly, *private funds* represent an important source of financing. Initially the funds may come from a family member or a private investor, but subsequently the ships generate their own cashflow which can be used to develop the business.

Secondly, *commercial bank finance* is the most important source of funding for shipping companies. We drew the distinction between a 'shipowner' and a 'shipping company' and noted that commercial banks finance both, using the 'one-ship company' as a vehicle. Loans may be backed by a mortgage or the corporate balance sheet. For large loans a syndication can be arranged. Shipyard finance is sometimes used to finance new ships, since it addresses the difficult question of the pre-delivery guarantee, and credit terms are occasionally subsidized. Finally, we mentioned mezzanine finance, which is rarely used, and private placements, where financial institutions lend to or invest directly in shipping companies.

Thirdly, the capital markets allow established shipping companies to raise finance by issuing securities. Equity can be raised by an initial public offering of shares placed in the equity market, where the shares are subsequently traded in the secondary market. To raise debt finance a company with a credit rating from the rating agencies can issue bonds in the bond markets. These can be for 15 years or longer; the company pays

interest (coupon) to the bondholder, and the sum advanced (the principal) is repaid in full when the bond matures.

Fourthly, we discussed *standalone structures*, set up for particular transactions. These include special purpose companies, limited partnerships such as Norwegian K/Ss or German KG, finance leases, operating leases, and securitization. Leasing offers the opportunity to reduce finance costs by transferring ownership of the vessel to a company which can use its depreciation to obtain a tax break.

The discussion was rounded up with a review of risk management issues, and the implications of financial structure for the volatile earnings flow in the shipping industry. We also reviewed a risk checklist and discussed the problems which confront a lender whose borrower has defaulted (workout). The conclusion is that ship finance, like everything else in shipping, moves with the times.

Finally, we reviewed the practical problems which arise when dealing with default. This is a difficult part of the business, made all the more challenging by the fact that it occurs infrequently.