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16 The Regulation of the Maritime Industry

Whosoever commands the sea commands the trade; whosoever commands the trade of the world commands the riches of the world and consequently the world itself.

(Judicious and Select Essays and Observations by the Renowned and Learned Knight Sir Walter Raleigh, upon the First Invention of Shipping, H. Moseley, 1650)

16.1 HOW REGULATIONS AFFECT MARITIME ECONOMICS

Shipowners, like most businessmen, find that regulation often conflicts with their efforts to earn a reasonable return on their investment. When Samuel Plimsoll first started his campaign against the notorious 'coffin ships' in the 1870s, British shipowners argued that the imposition of load lines would put them at an unfair competitive advantage. Fayle, writing in the 1930s, observed that:

> In their efforts to raise both the standard of safety and the standard of working conditions afloat, the Board of Trade frequently found themselves, during the last quarter of the nineteenth century, at loggerheads with the shipowners. They were accused of cramping the development of the industry by laying down hard-and-fast rules which in effect punished the whole of the industry for the sins of a small minority, and hampering British shipping in international competition, by imposing restrictions from which foreign ships were free, even in British ports.[1]

The same, sometimes legitimate, resistance to regulation is found in most industries, but the world's oceans provide the shipping industry with an unrivalled opportunity to bypass the clutches of regulators and gain an economic advantage. The goal of maritime regulators is to close the net and ensure that shipping companies operate within the same standards of safety and environmental responsibility which apply on land. As a result, in the last 50 years the regulatory regime has played a significant part in the economics of the shipping market.

It would, however, be wrong to think that the regulatory process is only concerned with pursuing villains. A few regulations are made in response to particular incidents.

The *Titanic*, the *Torrey Canyon*, the *Herald of Free Enterprise*, the *Exxon Valdez*, the *Erica* and the *Prestige* all provoked a public outcry which led to new regulations. But these are the exceptions. Over the last century the shipping industry and the maritime states have gradually evolved a regulatory system covering all aspects of the shipping business. Ship design, maintenance standards, crewing costs, employment conditions, operating systems, company overheads, taxation, oil pollution liability, environmental emissions and cartels are all subject to regulation in one way or another. However, the emphasis changes and during the last decade the environment, emissions by ships, ballast water, and ship recycling have all received more attention. Needless to say, all of this has economic consequences and a knowledge of maritime regulation is an essential part of the maritime economist's toolkit.

16.2 OVERVIEW OF THE REGULATORY SYSTEM

The aim of this chapter is to discuss the international regulatory system and the legal and political issues that have influenced, and in some cases dominated, the maritime scene since the mid-1960s. The chapter seeks to answer three questions: *Who* regulates shipping and commerce? *What* do they regulate? *How* do regulations affect shipping economics?

The first step is to identify the regulators more precisely. In an ideal world there would be a supreme legislative body which makes a single set of international laws, with an international court that tries cases and an enforcement agency. Reality does not live up to this ideal, and some experts doubt whether what passes for international law is really 'law' at all.[2] There is an International Court of Justice, but its rulings on shipping matters are purely advisory. We should not be surprised at this state of affairs. Each of the 166 countries with an interest in shipping has its own priorities. Gaining agreement on a body of international law, far less approving an international executive to enforce the laws, is hardly likely to succeed.

Maritime regulation is currently organized through the more pragmatic system set out in Figure 16.1. The difficult task of coordinating the many interests and gaining agreement to a consistent body of maritime law falls to the United Nations. The United Nations Convention on the Law of the Sea (UNCLOS 1982) sets the broad framework, whilst the task of developing and maintaining workable regulations within this framework is delegated to two UN agencies, the IMO and ILO. The IMO is responsible for regulations on ship safely, pollution and security and the ILO is responsible for the laws governing the people on board ships. These two organizations produce 'conventions' which become law when they are enacted by each maritime state.[3] The enactment of the maritime conventions is in some cases patchy because not all the 166 states sign up to some conventions, but the major ones such as SOLAS and MARPOL (see Table 16.5 below) have been made law by every significant flag state.

Each maritime state has two different roles, first as a 'flag state' and second as a 'coastal state' (see centre of Figure 16.1). As a 'flag state' it makes and enforces laws governing ships registered under its flag. For example, as a flag state Greece is legally

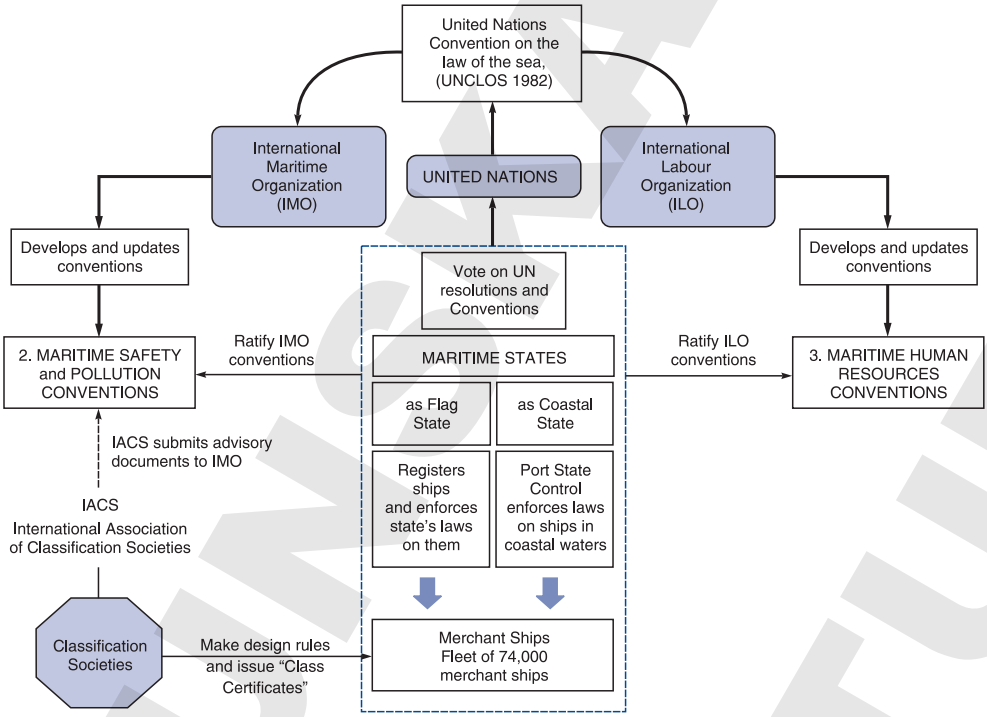

Figure 16.1
The maritime regulatory system showing the role of the 166 maritime states
Source: Martin Stopford 2007

responsible for ships flying the Greek flag, wherever they are in the world, whilst as a coastal state it enforces maritime laws on ships in Greek territorial waters. This is known as 'port state control'. Generally the laws maritime states enforce comply with maritime conventions, but not always. For example when the USA passed the Oil Pollution Act (1990), a law designed to phase out single-hull tankers in US waters, there was no maritime convention on this issue.

The other major 'players' in the regulatory process are the classification societies. Most major maritime nations have their own classification society and they are, in effect, the technical advisers to the maritime regulators. Over the last decade their role as recognized organizations (ROs) has increased and they assist the regulators in making and implementing maritime laws with a technical, human or environmental focus. In addition, they develop technical standards in their own right and award the classification certificate which is required by insurance underwriters. They are paid for these services, but have no legal powers of enforcement beyond withdrawing their services.

In summary, the regulatory system discussed in this chapter involves six principal participants in the regulatory process:

- The *classification societies*: the shipping industry's own system for regulating the technical and operational standard of ships. The classification societies make rules

for ship construction and maintenance and issue a classification certificate to reflect compliance.
- The *United Nations*, which sets the broad framework of maritime law.
- The *flag states*. The primary legal authority governing the activities of merchant ships is the state in which the ship is registered, the flag state. By custom this state is responsible for regulating all aspects of the commercial and operational performance of the ship. International laws are developed by the participation of flag states in treaties or conventions.
- The *coastal states*. A ship is also subject to the laws of the coastal state in whose waters it is trading. The extent of each state's territorial waters and the scope of regulation vary from one country to another.
- The *IMO*, the UN agency responsible for safety, the environment and security.
- The *ILO*, responsible for regulations governing people on board ship.

In the following sections we will consider each of these regulatory regimes.

16.3 THE CLASSIFICATION SOCIETIES

The shipping industry's own regulatory system arose from the efforts of insurers to establish that the vessels for which they were writing insurance were sound. In the mid-eighteenth century they formed the first classification society and during the intervening period their activities have become so closely involved with the regulatory activities of governments that it is often difficult for laymen to understand the difference between the two. In this section we will focus on the role of classification societies and explain why they were set up, how they have evolved, the functions they undertake today and their impact on maritime regulation.

Origin of the classification societies

Like many other shipping institutions, the classification societies are the product of their past, so knowing something of their history helps to explain the current structure. Lloyd's Register of Shipping, the first classification society, can trace its origins back to Lloyd's Coffee House in the early 1700s. The proprietor, Edward Lloyd, presumably in an effort to attract clients, started to circulate lists giving details of vessels which might appear for insurance.[4] The next step came in 1764 when a committee of London insurers and insurance brokers compiled a book containing details of ships that might require insurance. When published the book was known as *Lloyd's Register*. This register classified ships according to their quality, listing a grade 'conferred on the ship by the Committee's appointed surveyors'.[5] The condition of the hull was classified A, E, I, O or U, according to the excellence of its construction and its adjudged continuing soundness (or otherwise). Equipment was graded G, M or B – good, middling or bad. Any ship classified AG was thus as sound as it could be, whilst one rated UB was obviously a bad risk from the underwriter's point of view. In time, G, M and B were replaced by 1, 2 or 3.[6]

The 'green book', as it was known, was compiled by insurers for the sole use of members of the society and contained details of 15,000 ships. All went well until the 1797–8 register introduced a new grading system which based the ship's class on its river of build, favouring ships built on the Thames. This was disputed by many shipowners, and in 1799 a rival register was published, the *New Register Book of Shipping*, known as the 'red book'. A period of punitive competition followed, bringing both registers close to bankruptcy. In 1834 the differences were settled and a new society was set up to produce a shipping register which was acceptable to all sections of the industry. The new publication was Lloyd's *Register of British & Foreign Shipping* and its governing body had 24 members, eight each from the merchants, the shipowners, and the underwriters. This made it representative of the shipping industry as a whole.[7]

The new society had 63 surveyors and a system of regular inspection for ships was instituted. The main function continued to be the production of a register grading ships, but a new classification system was introduced. Under this system, ships that had not passed a prescribed age and had been kept in the highest state of repair were classed A; ships which, though not fit for carrying dry cargo, were considered perfectly safe for carrying cargoes not damaged by the sea were classed E; and ships unsuitable for dry cargo, but fit for short voyages (not out of Europe) were classed I. The condition of the anchor cables and stores when satisfactory was indicated by 1 and when unsatisfactory by 2. This system gave rise to the familiar expression 'A1 condition'. In the first five years 15,000 vessels were surveyed and 'classed'.

As the class movement developed in the nineteenth century, the role of classification societies changed. At first the main job was to grade ships. As time passed they started to set the standards to which ships should be built and maintained. Blake comments:

> As its authority grew, the Committee took upon itself something like disciplinary powers. Any new vessel for which an A1 classification was sought must undergo *a survey under construction*, which meant in effect that its progress was closely inspected at least three times while the hull was still on the stocks.

A1 became a requirement rather than a grade in a scale.

Technical committees were set up to write rule books setting the precise standards to which merchant ships should be built and maintained. These rules set the standards and the society policed them through their network of ship surveyors.

Other classification societies were set up in the nineteenth century. The American Bureau of Shipping (ABS) has its origins in the American Ship Masters Association which was organized in 1860 and incorporated in 1862 through an Act of Legislature of the State of New York. Like Lloyd's Register of Shipping it is a non-profit making organization with general management vested in the membership comprising individuals prominent in the marine and offshore industries and related fields. Most class societies today are managed by a Board drawn from all parts of the maritime industry – shipbuilders, shipowners, insurers, etc. Although underwriters still participate in general management through membership of these boards, the classification societies can no longer be seen as acting exclusively for the insurers.

The classification societies today

There are currently more than 50 classification societies operating world-wide, some large and prominent, others small and obscure. The list of the ten larger societies and the number of cargo ships they class, shown in Table 16.1, gives a rough idea of the relative prominence of the various institutions. These are all well-known names in shipping circles and together they cover over 90% of the cargo and passenger fleet (note that these numbers do not include the many small non-cargo-carrying vessels which the societies also class).

Today the main job of the classification societies is to 'enhance the safety of life and property at sea by securing high technical standards of design, manufacture, construction and maintenance of mercantile and non-mercantile shipping'. The classification certificate remains the mainstay of their authority. A shipowner must class his vessel to obtain insurance, and in some instances a government may require a ship to be classed. However, the significance of the classification certificate extends beyond insurance. It is the industry standard for establishing that a vessel is properly constructed and in good condition.

In addition to their role as regulators, the major classification societies also represent the largest single concentration of technical expertise available to the shipping industry. For example, Lloyd's Register, the largest classification society, has over 5,400 people, of whom half are qualified engineers, operating from 240 offices in 80 countries world-wide. They class ships against their own rules (around 6600 ships annually),

Table 16.1 The major classification societies, November 2006

		Fleet classed		Average ship	
		Number	Million gt	Thousand gt	Age
IACS members					
Nippon Kaiji Kyokei	NK	6,494	142.9	22.0	12.8
Lloyd's Register (LR)	LR	6,190	125.8	20.3	18.4
American Bureau of Shipping	ABS	6,292	103.2	16.4	19.6
Det Norske Veritas	DNV	4,010	102.0	25.4	16.5
Germanischer Lloyd	GL	4,712	54.9	11.7	16.5
Bureau Veritas	BV	4,877	46.6	9.5	18.9
Korean Register	KR	1,648	21.9	13.3	17.4
China Classification Society	CCS	1,897	21.6	11.4	19.4
Russian Register	RS	3,174	12.5	3.9	25.2
Registro Italiano	RINA	1,345	12.0	9.0	23.8
Others					
Indian Register		352	1.5	4.2	17.6
11 Others (under 1,000 ships)		1,819	5.3	54.6	24.8
Total		42,810	650.2	15.2	0

Note: The statistics cover only vessels included in Clarkson Registers

carry out statutory certification against international conventions, codes and protocols, and offer a range of quality assurance, engineering and consultancy services. In 2007, ABS and its affiliated companies had a global staff of more than 3,000 people, primarily surveyors, engineers and professionals in the areas of risk assessment and mitigation. ABS maintains offices or is represented in more than 80 countries. To put this into perspective, the IMO has a permanent staff of about 300 and many important bulk shipping companies have fewer than 100 shore-based staff. In these circumstances it is easy to see why, in addition to the classification role, the class societies have a major role as technical advisers to shipowners and undertake technical inspection work on behalf of governments. Since government regulations cover much of the same ground as classification rules, this sometimes leads to confusion over the role of the classification societies and government regulators.

Although the major societies do not distribute profits, they depend on selling their services to cover their costs and are subject to commercial pressures. As self-funding organizations, their survival depends on maintaining a sufficiently large fee-paying membership to recover their costs. There is, therefore, intense competition between classification societies to attract members, leaving them in the tricky position of competing for the business of shipowners on whom they will often have to impose financial penalties as a result of their regulatory inspections.

The regulatory activities of the classification societies

The role of the class societies today has two fundamental aspects, developing rules and implementing them.

Developing rules includes both new initiatives and the continuous updating of existing rules to reflect changes in marine technology and conventions. Procedures vary, but most societies develop their rules through a committee structure, involving experts from various scientific disciplines and technical activities including naval architects, marine engineers, underwriters, owners, builders, operators, materials manufacturers, machinery fabricators and individuals in other related fields. This process takes into account the activities of IMO and IACS unified requirements.

The second stage involves applying the rules to practical shipbuilding and shipping activities. This is a four-step procedure:

1. *Technical plan review*. The plans of new ships are submitted to the classification society for inspection to ensure that the structural details in the design conform to the society's rules. If the plans are found satisfactory they are passed and construction can proceed. Sometimes modifications are required, or explanations required on certain points. Alternatively, the society may be asked by the shipyard to help out in developing the design.
2. *Surveys during construction* to verify that the approved plans are implemented, good workmanship practices are employed and rules are followed. This includes the testing of materials and major components such as engines, forgings and boilers.

3. *Classification certificate*. On satisfactory completion of the vessel the class is assigned and a certificate of classification is issued.
4. *Periodic surveys* for the maintenance of class. Merchant ships are required to undergo a scheme of surveys while in service to verify their acceptability for classification. The ship's classification society carries out these inspections and keeps records which, for example, a prospective buyer of the ship may ask to inspect.

The classification procedures for existing ships are, in general terms, agreed by IACS for its members and associates. The regulations typically require a hull and machinery annual survey, a hull and machinery special survey every 5 years, a dry-docking survey every 2½ years, a tail shaft inspection every five years, and a boiler survey every 2½ years. The hull and machinery survey is very demanding, involving detailed inspection and measurement of the hull.

As the ship grows older, the scope of this inspection widens to cover those areas of the ship which are known to be most vulnerable to ageing. For example, as oil tankers grow older the area of the deck plates subject to tests for corrosion increases. To avoid the lengthy time out of service, the classification societies allow owners to opt for a *continuous survey* consisting of a programme of rolling inspections covering one-fifth of the ship each year.

As more governments have become involved in flag state regulation over the last 30 years, the activities of classification societies as government representatives has increased. The most common authorizations are in connection with tonnage measurement and load lines, SOLAS, MARPOL and IMO set standards on the transportation of dangerous goods. In carrying out statutory work, the classification society applies the standards relevant to the country of registry.

Finally, it is worth mentioning the vetting inspections carried out by charterers of ships, particularly corporations in the oil and steel industries.

The International Association of Classification Societies

Over the last thirty years classification societies have been under pressure from shipowners and regulators to standardize their rules. Non-standard rules mean design work classed by one society may not be acceptable to another, causing unnecessary cost and inconvenience. For regulators legislating on the technical standards of ship construction, particularly through the IMO, the lack of a common standard complicates their job. To address this problem, in 1968 the International Association of Classification Societies was set up. Its ten members are listed in Table 16.1 and account for about 90% of world classification activity. The IACS has two main aims: to introduce uniformity into the rules developed by class societies and to act as the interface between class societies. A related function is to collaborate with outside organizations and in particular IMO. In 1969 IMO granted IACS 'consultative status'. The fact that it is the only non-governmental organization with observer status at the IMO neatly illustrates the position of the classification societies as intermediaries between the commercial shipping industry and governments.

Over the last 30 years IACS has developed more than 160 sets of unified requirements. These relate to many factors, of which a few are minimum longitudinal strength, loading guidance information, and the use of steel grades for various hull members. However, a significant step forward came in December 2005 when the IACS Council adopted Common Structural Rules for tankers and bulk carriers. For the first time this integrated the rule-making activities of the societies into a single design standard. The Common Structural Rules were implemented on 1 April 2006.

16.4 THE LAW OF THE SEA

Why the law of the sea matters

Since maritime law is made and enforced by nation states, the next task is to examine the legal framework which determines the rights and responsibilities of nations for their ocean-going merchant ships. There are two obvious questions. First, which nation's law applies to a ship? Second, what legal rights do other nations have over that ship as it moves about the world? The answers were not developed overnight, they were evolved over the centuries as a set of customary rules known as the *law of the sea*.

The law of the sea: flag state versus coastal state

The debate over the legal responsibility for ships stretches back to the days when naval power was the deciding factor. A country's navy protected the ships flying its flag and this established the principle, which survives today, of flag state responsibility. However, coastal states also had a claim over ships visiting their ports or sailing in their coastal waters, if only because they could sink them with their cannons if they did not behave. Indeed, early writers suggested that the distance controlled by shore-based cannons should be the criterion for determining the extent of the coastal seas. In a world of rapidly growing commerce, agreeing the rights of the flag and coastal states has become a major issue. Can a country ban alcohol on board foreign ships in its territorial waters? If it considers a foreign ship unsafe, has it the right to detain it? The answers to these questions, in so far as there are answers, are to be found in the UN Convention on the Law of the Sea (UNCLOS 1982), the culmination of three Conferences on the Law of the Sea, referred to as UNCLOS I (1958), UNCLOS II (1960) and UNCLOS III (1973).

The process of developing these conventions started in 1958 when the United Nations called the UNCLOS I. Eighty-six states attended. The aim was to define the fundamental issues of the ownership of the sea, the right of passage through it and the ownership of the sea bed. The latter issue was becoming increasingly important as offshore oilfields started to be developed. Four conventions were eventually finalized, dealing with the Territorial Sea and Contiguous Zone, the High Seas, the Continental Shelf, and Conservation of Fisheries.

A second conference, UNCLOS II, was called in 1960 to follow up on some items not agreed in UNCLOS I. In the 1960s the growing awareness of the mineral wealth on

the sea bed placed new significance on the law of the sea, and in 1970 the United Nations convened a third conference to produce a comprehensive Convention on the Law of the Sea. Work started in 1973 (UNCLOS III), attended by 150 states. With so many participants, discussion was extended. It was not until 1982 that the UNCLOS 1982 was finally adopted, to enter into force 12 months after it had been ratified by 60 states. It finally came into force on 16 November 1994, at last providing a 'comprehensive framework for the regulation of all ocean space … the limits of national jurisdiction over ocean space, access to the seas, navigation, protection and preservation of the marine environment'.[8]

As far as the flag of registration is concerned, UNCLOS 1982 endorses the right of any state to register ships, provided there is a 'genuine link' between the ship and the state. Since the flag state can define the nature of this link, in practice it can register any ship it chooses. Once registered, the ship becomes part of the state for legal purposes. The flag state has primary legal responsibility for the ship in terms of regulating safety, labour laws and on commercial matters. However the coastal state also has limited legal rights over any ship sailing in its waters.

The rights of the coastal states are defined by dividing the sea into the 'zones' shown in Figure 16.2, each of which is treated differently from a legal point of view: the

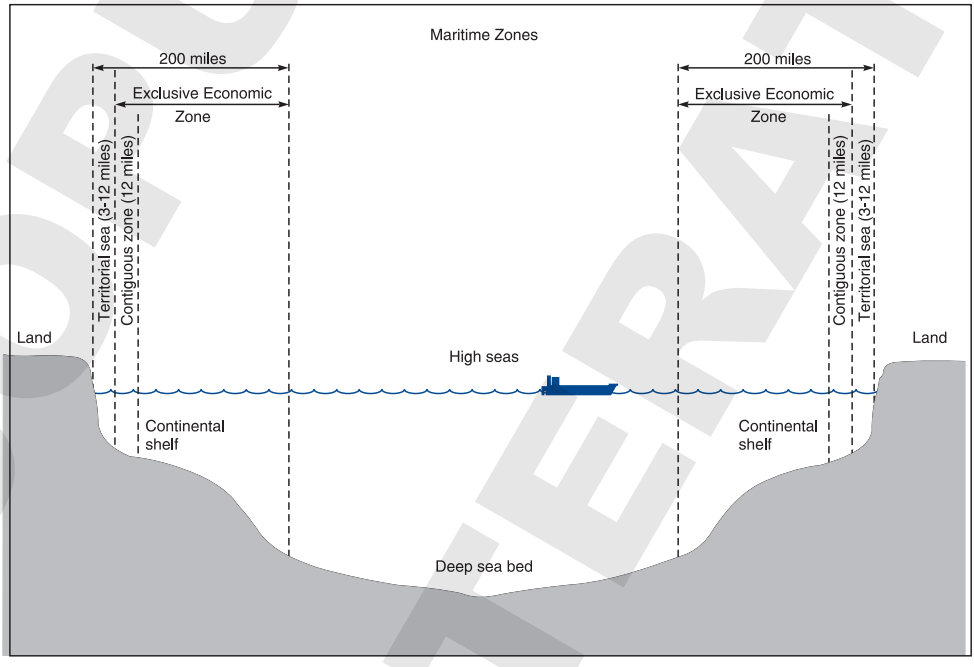

Figure 16.2
Maritime zones
Source: Martin Stopford 2007

BOX 16.1 MARITIME ZONES RECOGNIZED BY THE UN CONVENTION ON THE LAW OF THE SEA 1982

The territorial sea

This is the strip of water closest to the shore. UNCLOS recognizes a maximum width of 12 nautical miles, but in practice countries use many different limits, as can be seen in Table 16.2. Three miles is the smallest limit, 12 miles the most common, while 200 miles is the furthest. Ships have the right of innocent passage through territorial waters. Coastal states only have the right to enforce their own laws relating to specific topics listed in Article 21 such as safe navigation and pollution. They are entitled to enforce international laws.

The contiguous zone

This is a strip of water to the seaward of the territorial sea. It has its origins in the eighteenth-century 'Hovering Acts' enacted by Great Britain against foreign smuggling ships hovering within distances of up to 8 leagues (i.e. 24 miles) from the shore. Coastal states have limited powers to enforce customs, fiscal, sanitary and immigration laws.

The exclusive economic zone

The exclusive economic zone (EEZ) is a belt of sea extending up to 200 miles from the baseline (i.e. the legally defined shoreline). It is mainly concerned with the ownership of economic resources such as fisheries and minerals. Within this zone third parties enjoy freedom of navigation and the laying of cables and pipelines. From a shipping viewpoint the EEZ is more like the high seas. However, the exception concerns pollution. Article 56 confers on the coastal state 'jurisdiction as provided for in the relevant provisions of this convention with regard to the protection and preservation of the marine environment'. The 'relevant provisions' relate to the dumping of waste and other forms of pollution from vessels. This gives the coastal state the right to enforce oil pollution regulations in the EEZ, a matter of major economic importance for shipowners.

The high seas

The high seas are 'all parts of the sea that are not included in the exclusive economic zone, in the territorial sea or the internal waters of a state'. In this area vessels flying a particular flag may proceed without interference from other vessels. This convention establishes the basis on which nationality can be granted to a merchant ship and the legal status of that ship. Article 91 of the 1982 Convention on the High Seas states that:

> Each state shall fix the conditions for the grant of its nationality to ships, for the registration of ships in its territory, and for the right to fly its flag. Ships have the nationality of the state whose flag they are entitled to fly. There must exist a genuine link between the state and the ship.

This paragraph was unchanged from the 1958 Convention and was the end-product of a heated debate about whether countries such as Liberia and Panama had the right to establish open registries. Since the Convention does not define what constitutes a 'genuine link' between state and ship, it was left to each state to define this link for itself.

territorial sea (the strip closest to land); the contiguous zone; and the exclusive economic zone. The fourth zone is the high seas, which nobody owns. None of the zones are precisely defined. Although the 1982 Convention fixes the limit to the territorial sea at 12 miles, Table 16.2 shows that many different limits are in use. The most common is 12 miles, but a few countries have adopted much more extensive limits. The contiguous zone and the exclusive economic zone are mainly of interest to shipowners because pollution control and prevention rights are granted to the coastal states in these areas. These zones are briefly defined in Box 16.1.

Table 16.2 Limits of the territorial sea

Distance miles	Number countries
3	20
4	2
6	4
12	81
15	1
20	1
30	2
35	1
50	4
70	1
100	1
150	1
200	13
None	5
Total	137

Source: Churchill and Lowe, (1983, Appendix)

16.5 THE REGULATORY ROLE OF THE FLAG STATE

Economic implications of flag state regulation

In recent years the flag state issue has been crucial for maritime economics because it provided shipowners with a way of reducing their costs. When a ship is registered in a particular country (the flag state), the ship and its owner must comply with its laws. The unique feature of shipping is that because the ship moves around the world anyway, it is easy to change legal jurisdiction. For a shipowner there are four principal consequences of choosing to register a ship in one state rather than another:

1. *Tax, company law and financial law*. A company that registers a ship in a particular country is subject to that country's commercial laws. These laws will determine the company's liability to pay tax and may impose regulations in such areas as company organization, auditing of accounts, employment of staff and limitation of liability. All of these affect the economics of the business.
2. *Compliance with maritime safety conventions*. The ship is subject to any safety regulations the state has laid down for the construction and operation of ships. Registration under a flag that has ratified and rigidly enforces the 1974 Safety of Life at Sea (SOLAS) Convention means complying with these standards. Conversely, registration under a flag state that has not ratified SOLAS, or does not have the means to enforce it, allows shipowners to set their own standards on equipment and maintenance (but they are still subject to port state regulation).

3. *Crewing and terms of employment*. The company is subject to flag state regulations concerning the selection of crew, their terms of employment and working conditions. Some flag states, for example, insist on the employment of nationals.
4. *Naval protection and political acceptability*. Another reason for adopting a flag is to benefit from the protection and acceptability of the flag state. Although less important today, there were examples during the war between Iran and Iraq in the 1980s when shipowners changed to the US flag to gain the protection of US naval forces in the Gulf.

Any of these factors may be sufficient to motivate shipowners to seek a commercial advantage by changing their flag of registry. Table 16.3 shows that this has a long history, and one that gathered momentum during the twentieth century as taxation and regulation came to play an increasing part in the shipowner's commercial operations. This naturally raises the question whether a shipowner is free to change his flag. To answer this question we must look at how ships are registered. In some countries the shipowner is subject to the same legal regime as any other business, while in others special legislation is introduced covering merchant shipping companies.

Registration procedures

A ship needs a nationality to identify it for legal and commercial purposes, and it is obtained by registering the ship with the administration of a national flag. The way registration works varies from one country to another, but the British regime provides an illustration.

Under the Merchant Shipping Act 1894, British ships must be registered within Her Majesty's dominions (in practice, because of the constraints presented by the legislation of UK Dependent Territories, that registration may have to be in the UK). A peculiarity of British registration is that the ship is registered as 64 shares, at least 33 of which must be owned by a British subject or a company established under the law of some part of Her Majesty's dominions and having its principal place of business in those dominions.[9] Under the UK Companies Acts, any person of any nationality may register and own a company in the United Kingdom, so a national of any country may own a British ship.

Interestingly, there are no legal penalties for failing to register a ship, possibly because it was felt that the practical penalties are such that no legal enforcement is required to provide an additional inducement. A ship registered in the UK can fly the British flag, i.e. the Red Ensign, but is not obliged to do so. Nor is there any legal constraint on a British subject or British companies registering ships outside Britain if they wish to do so. All that is necessary is for the requirements of the recipient register to be met.

There is much variation in the requirements for registration. Some flag states require the ship to be owned by a national. This is the case in Liberia, but nationality is easily established by setting up a Liberian company, which qualifies as a national for the purposes of registration. Panama has no nationality requirements, while the Greek flag falls

Table 16.3 History of ship registration and port state control

Period	Flag of registry	Motivation
16th century	Spanish	English merchants circumvented restrictions limiting non-Spanish vessels from West Indies trade.
17th century	French	English fishermen in Newfoundland used French registry as a means to continue operation in conjunction with British registry fishing boats.
19th century	Norwegian	British trawler owners changed registry to fish off Moray Firth.
Napoleonic War	German	English shipowners changed registry to avoid the French blockade.
	Portuguese	US shipowners in Massachusetts changed registry to avoid capture by the British.
1922	Panamanian	Two ships of United American Lines changed from US registry to avoid laws on serving alcoholic beverages aboard US ships.
1920–1930	Panamanian	US shipowners switched registry to reduce operating costs by employing cheaper shipboard labour.
1930s	Panamanian	Shipowners with German-registered ships switched to Panamanian registry to avoid possible seizure.
1939–1941	Panamanian	With encouragement from the US government, shipowners switched to Panamanian registry to assist the Allies without violating the neutrality laws. European shipowners also switched to Panamanian registry to avoid wartime requisitioning of their vessels.
1946–1949	Panamanian	More than 150 ships sold under the US Merchant Sales Act of 1946 were registered in Panama - as it offered liberal registration and taxation advantages.
1949	Liberian	Low registration fees, absence of Liberian taxes, absence of operating and crewing restrictions made registry economically attractive.
1950–late 1970s	Flags of convenience develop as preferred registration for the independent shipping industry	As registry in USA and other countries became increasingly uneconomical, many countries competed to become 'flags of convenience' for ship registrations; only a few succeeded in attracting significant tonnage.
1982–2007	National flags start to enforce regulations on ships in their coastal waters	1982 Paris Memorandum of Understanding in which 14 European states agreed to work together to ensure that ships visiting their ports complied with international conventions on safety and pollution. Others followed.

Source: Cooper (1986)

somewhere between the two, requiring 50% ownership by Greek citizens or legal entities.[10] Dual registration is also possible to deal with situations where, for example, the ship is financed under a different jurisdiction from its legal ownership (dual registration is discussed below).

In 2004 the IMO adopted a scheme for issuing a unique number to each company and registered owner. Its purpose is to assign a permanent number for identification purposes to each company and/or registered owner 'managing ships of 100 gross tonnage and inwards … involved in international voyages'.[11]

Types of registry

Ship registers can be broadly divided into three groups: national registers, international registers and open registers.

- *National registers* treat the shipping company in the same way as any other business registered in the country. Certain special incentives or subsidies may be available but, broadly speaking, the shipping company is subject to the full range of national legislation covering financial, company and employment regulations.
- *International registers* were set up by some national flag administrations to offer their national shipowning companies an alternative to registering under open registries. They treat the shipping company in broadly the same way as an open register, generally charging a fixed tax on the tonnage of the ship (tonnage tax) rather than taxing corporate profits. The aim is to provide a national flag environment which offers shipowners the commercial advantages available under an open register. In 2005 there were eight international registers, of which Singapore, Norwegian International Registry, Hong Kong, Marshall Islands and the Isle of Man were the biggest.
- *Open registers (flags of convenience)* offer shipowners a commercial alternative to registering under their national flag, and they charge a fee for this service. The terms and conditions depend on the policy of the country concerned. The success of an open register depends on attracting international shipowners and gaining the acceptance of the regulatory authorities. In 2005 there were 12 open registries, which are listed in Table 16.4. Panama, Liberia, Bahamas, Malta and Cyprus were the biggest.

The distinction has more to do with how registered ships are treated than access to the flag. Most national registers are open to any shipowner, whatever his nationality, who wishes to apply for registration and satisfies the necessary conditions. For example, the United Kingdom is open to any Greek, Norwegian or Danish shipowner who wishes to register his vessels under the UK flag, provided he satisfies certain requirements.[12] Confronted with a choice of flags under which to register, the shipowner must weigh up the relative advantages and disadvantages of each of the alternatives.

Table 16.4 World merchant fleet by ownership and registration, January 2005

(1)	(2)	(3)	(4)	(5)
Flag state		**'000 dwt**		
1. NATIONAL REGISTERS				
		Registered		**% on home**
	Home	**Overseas**	**Total**	**register**
Greece	50,997	104,147	155,144	33%
Japan	12,611	105,051	117,662	11%
Germany	9,033	48,878	57,911	16%
China	27,110	29,702	56,812	48%
United States	10,301	36,037	46,338	22%
Norway	14,344	29,645	43,989	33%
Hong Kong	17,246	23,747	40,993	42%
Republic of Korea	10,371	16,887	27,258	38%
United Kingdom	10,865	14,978	25,843	42%
Singapore	12,424	9,909	22,333	56%
Russian Federation	6,845	10,022	16,867	41%
Denmark	8,376	8,491	16,867	50%
India	11,729	980	12,709	92%
Sweden	1,530	3,889	5,419	28%
Others	70,915	80,963	151,877	47%
Total national registers	274,697	523,326	798,022	
2. INTERNATIONAL REGISTERS				
		Fleet Owned by		**% owned by**
	Total	**Nationals**	**Foreigners**	**nationals**
Singapore	40,934	12,424	28,510	30%
Norwegian Int. Registry	21,262	12,424	8,838	58%
Hong Kong (China)	43,957	17,246	26,711	39%
Marshall Islands	38,088	10,828	27,260	28%
Isle of Man	12,073	4,700	7,373	39%
Danish Int. Ship Registry	8,859	8,330	529	94%
French Antarctic Territory	5,427	1,769	3,658	33%
Netherlands Antilles	2,132	616	1,516	29%
Total international registers	131,798	55,913	75,885	42%
3. OPEN REGISTERS ('FLAGS OF CONVENIENCE')				
		Fleet Owned by		**% owned by**
	Total	**Nationals**	**Foreigners**	**nationals**
Panama	177,866	0	177,866	—
Liberia	76,372	0	76,372	—
Bahamas	41,835	0	41,835	—
Malta	30,971	0	30,971	—
Cyprus	31,538	459	31,079	1%
Bermuda	6,206	—	6,206	—
St Vincent & Grenadines	6,857	0	6,857	0
Antigua & Barbuda	8,383	0	8,383	0
Cayman Islands	4,040	0	4,040	0
Luxemburg	794	0	794	0
Vanuatu	2,077	0	2,077	0
Gibraltar	1,281	0	1,281	0
Total open registers	388,220	—	387,761	0%
World total* (sum of col 2)	794,715			

Source: United Nations Review of Maritime Transport, 2005. Section 1 "National Registers" is from Table 16, p. 33; Sections 2 "International Registers" and 3 "Open Registers" are from Table 18 p. 37

* Of which: National registers 35%; International registers 17%; Open registers 48%

The economic role of open registers

The movement towards open registers started in the 1920s, when US shipowners saw registration under the Panamanian flag as a means of avoiding the high tax rates in the United States, while at the same time registering in a country within the stable political orbit of the United States. There was a spate of registrations during this period, but the real growth came after the Second World War when the US government sold off Liberty ships to US owners. Anxious to avoid operating under the American flag, US tax lawyers approached Liberia to set up a ship register designed to attract shipowners to register under that flag on the payment of an annual fee.[13] Shortly afterwards, Panama adapted its laws to attract shipowners from anywhere in the world, and thus the two major international open registers were established.

The use of an open register generally involves payment of an initial registration fee and an annual tonnage tax, which enables the register to cover its costs and make a profit. In return, the register offers a legal and commercial environment tailored to the requirements of a shipowner trading internationally. There are major differences in the way registers approach this task, but in general the areas addressed are:

- *Tax*. There are generally no taxes on profits or fiscal controls. The only tax is the subscription tax per net registered ton.
- *Crewing*. The shipping company is free to recruit internationally. There is no requirement to employ nationals either as officers or crew. However, international conventions dealing with crew standards and training may be enforced, depending on the policy of the register.
- *Company law*. As a rule, the shipping company is given considerable freedom over its corporate activities. For example, ownership of the stock in the company need not be disclosed; shares are often in 'bearer' form, which means that they belong to the person who holds them; liability can be limited to a one-ship company; and the company is not required to produce audited accounts. There are generally few regulations regarding the appointment of directors and the administration of business.

In effect, open registers are businesses and the service offered is determined by the register's maritime laws and the way they are enforced. Supervising safety standards is expensive and during the 1980s recession some open registers paid little attention to this aspect of the business, but this has proved a difficult stance to maintain. To be successful an open register's ships must be acceptable in the ports of the world and to bankers lending against a mortgage on the ship. As the scrutiny of ships by shippers and port authorities has increased it has become more important for open register flags to comply with international conventions, and most open registries, whilst offering shipowners freedom in the areas of taxation and company law, enforce legislation regarding the operational and environmental safety of ships registered under their flag.

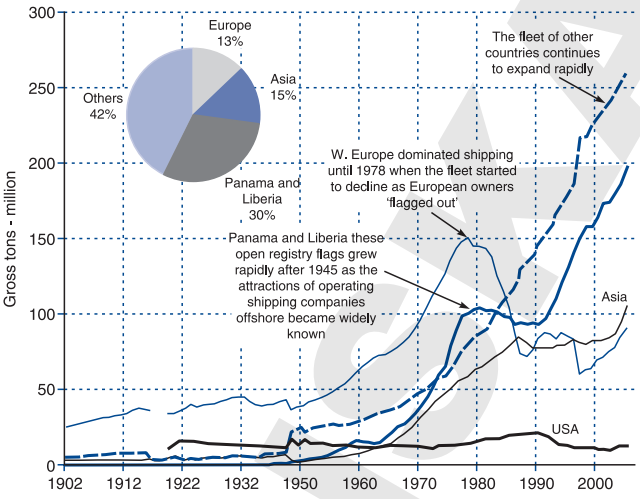

Figure 16.3
World merchant fleet by flag, 1902–2006
Source: Lloyd's Register of Shipping and CRSL

Figure 16.3 shows that by the late 1950s the Panamanian and Liberian fleets had reached 16 million grt and open registers were becoming a major issue for the established shipping states. Inevitably the question was raised whether a country such as Liberia has the right to offer registry to a shipowner who is not a national of that country. This issue was discussed at UNCLOS I in 1958 and put to the test in 1959 when the newly formed Inter-governmental Maritime Consultative Organization (IMCO) met in London and elected its Maritime Safety Committee. The terms of the election of the Committee stated that eight members of the committee should be the largest shipowning nations. Initially the eight nations elected were the USA, UK, Norway, Japan, Italy, the Netherlands, France and West Germany. However, objections were raised that Liberia, which ranked third in world tonnage, and Panama, which ranked eighth, should have been elected instead of France and Germany.

The dispute was submitted to the International Court of Justice for an opinion on whether the election was legal in terms of the 1948 Convention that established the IMCO.[14] It was argued by the European shipowners that for a ship to register in a country there had to be a 'genuine link' between registration and ownership, and that in the case of international open registry flags this link did not exist. Predictably Liberia, Panama, India and the USA took the opposite view. The European argument was not accepted by the Court which by a 9–5 vote held that, by not electing Liberia and Panama to the Maritime Safety Committee, the IMCO assembly had failed to comply with Article 28(a) of the 1948 Convention. As a result, international open registry flags were legitimized in international law.

In a world of high taxation, offshore registration was enormously attractive, and once this facility became available it was widely adopted. Today about half the world merchant fleet is registered under open registers. The principal open registry flags, Panama, Liberia, Bahamas, Malta, Cyprus, and Bermuda, plus half a dozen smaller flags including St Vincent and Antigua, are listed in Table 16.4. The fact that so few ships under these flags are owned by nationals confirms their status as open registries (see Table 16.4.3, column 3). Because in addition to tax concessions open registers allowed freedom in crew selection, in the 1980s and 1990s many large shipping corporations bowed, often reluctantly, to commercial pressures and abandoned their national flag in favour of open registers.

Although open registers acquired a mixed reputation in the 1980s, their success could not be overlooked and several established maritime nations set up their own 'international registry', designed to offer similar conditions and bring shipowners back under the national flag. The eight listed in Table 16.4 show that by 2005 these international registers had been successful in attracting 17% of the world fleet, though the fleet under open registers is considerably bigger and many shipowners in Greece, Japan, and the USA continue to register under their domestic flags. In the meantime the open registers have, in the main, fallen in line with regulatory practice and this form of ownership has become less controversial than it was a decade ago.

Dual registration

In some circumstances it is necessary for a shipowner to register a ship under two flags. For example, the owner may be required to register the ship under his domestic flag, but this flag may not be acceptable to the financing bank, so for mortgage purposes it is registered under a second jurisdiction. The way this works is that the ship is first registered in country A and its owning company then issues a bare boat charter which is registered in country B where it enjoys the same rights, privileges and obligations as any other ship registered under the flag. Obviously this only works if the registration authorities in country B are prepared to accept a bare boat charter, but several flags such as Malta and Cyprus are willing to do so for registration purposes, provided the registers are compatible.[15] Separating ownership from operation in this way can be used, for example, to allow the company to register in country A to maintain the nationality of the ship, whilst using the second register to circumvent restrictive national regulations such as crewing or to gain access to certain ports.

Company structures associated with ship registration

The use of open registers in shipping has given rise to a distinctive structure of company organization designed to protect the 'beneficial owner'. A typical company structure is shown in Figure 16.4. There are four active components:

1. *The beneficial owner*. The ultimate controlling owner who benefits from any profits the ship makes. He may be located in his home country or an international centre such as Geneva or Monaco.

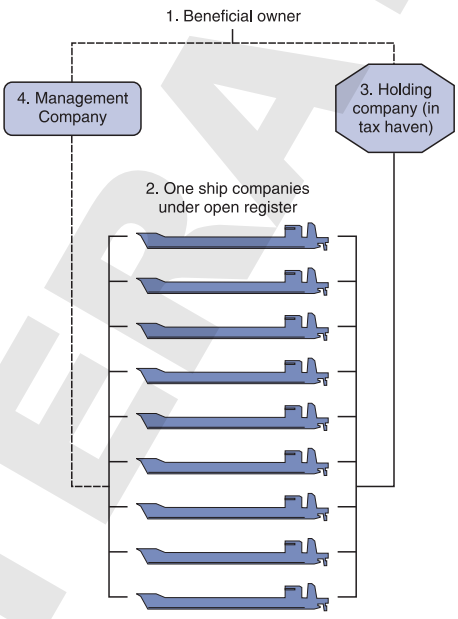

Figure 16.4
Shipping company ownership structure
Source: Martin Stopford, 2007

2. *One-ship company*. A company, usually incorporated in an open registry country, set up for the sole purpose of owning a single ship. It has no other traceable assets. This protects the other assets of the beneficial owner from claims involving the one-ship company.[16]
3. *Holding company*. A holding company is incorporated in a favourable tax jurisdiction for the purpose of owning and operating the ships. The only assets of this company are the shares in each one-ship company. The shares in this company are held by the beneficial owner, which could be a company or an individual.
4. *Management company*. Day-to-day management of the ships is carried out by another company established for this purpose. Usually this company is located in a convenient shipping centre such as London or Hong Kong.

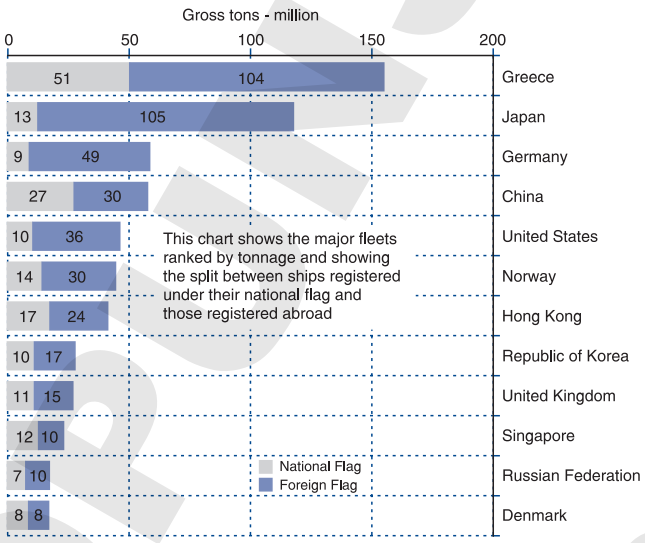

Figure 16.5
National merchant fleets using open registry flags, 2005
Source: Table 16.4

Beneficial ownership of the shipowning, management and holding companies takes the form of bearer shares. This device is used to insulate the beneficial owners of the ships from authorities seeking to establish tax and other liabilities. Its use is not universal and depends on the relative merits of the domestic flag. If we take the largest shipowning nations in 2005, we find that most had some vessels registered under foreign flags (Figure 16.5). For example, Greece, the nation with the biggest merchant fleet, had 67% of the tonnage registered abroad, leaving 33% under the domestic flag, whilst Japanese and US owners, both exceptionally high-cost flags, had had 89% and 78% registered abroad respectively. Germany had over 80% of its fleet flagged out. Norway had 67% flagged out, but many Norwegian owners use the Norwegian International Ship Register (NIS). In 1987 the Norwegian government, concerned about the trend towards flagging out, set up the NIS to give Norwegian owners most of the benefits they would receive under an international flag. Several other countries followed suit and their 'international flags' are listed in Table 16.4, including the Danish International Registry, Singapore, Hong Kong, Marshall Islands (the United States), Isle of Man (UK), French Antarctic Territory, Netherlands Antilles, and Belgium. All of these were established with the specific intention of providing a national alternative for domestic shipowners on commercial terms comparable with

those available from open registries. There is a stark contrast between the open registries, which have few nationals using their flag, and the national registers shown at the top of Table 16.4 where most of the registered tonnage belongs to domestic shipowners (though more is flagged out).

16.6 HOW MARITIME LAWS ARE MADE

The role of maritime laws

There are good practical reasons for developing an internationally accepted body of maritime law. It is common sense that if ships are to trade efficiently, the maritime states they trade between should have the same regulations on such matters as safety and the environment. Different rules about, for example, how hazardous cargoes should be stowed or the hull design mean that a ship complying with one country's rules could not trade with another, wasting economic resources. It would also make designing specialized ships more difficult because the designer needs to know precisely where it will trade. But an enforceable body of maritime law must also be seen as just by the various maritime interests involved in carrying world trade, and the institutions which enforce those laws must be accepted as satisfying the same principles of justice.[17] History proves that the shipping industry is too diverse to police autocratically, so the regulatory process must carry the shipping industry as well as the regulators with it.

Persuading maritime states to agree the conventions which are the framework of maritime law will never be easy. The issues dealt with are often controversial, emotional and involve commercial interests, especially those triggered by a particular maritime incident, so developing a workable solution calls for patience and pragmatism. In the nineteenth century, British law was widely used as the framework for national maritime law, providing a common base. More recently, governments of maritime nations have taken more formal steps to standardize maritime law. This is achieved by means of international 'conventions', which are jointly drawn up between maritime states, setting out agreed objectives for legislation on particular issues. Each country can, if it wishes, introduce the measures set out in these conventions into its own national law. All nations that do this (known as signatories to the convention) have the same law on the subject covered by the convention.

The topics covered by maritime law

Today's body of maritime law has evolved gradually. Taking Britain as an example, in the mid-nineteenth century there were few rules and regulations and virtually no construction or safety standards for merchant ships. Many were sent to sea badly built, ill found, grossly overloaded and often over-insured. These 'coffin' ships 'frequently took their unfortunate crews to the bottom of the oceans of the world'.[18] As a result of the agitation for reform from a Member of Parliament called Samuel Plimsoll, the

'Plimsoll Act' became law in 1876 and the Board of Trade was empowered, as the responsible government department, to survey ships, pass them fit for sea, and have them marked with a load line indicating the legal limit to which they could be submerged.

In due course other laws were introduced as they became necessary, and the UK built up a body of maritime law which was specifically geared to tackling the problems that arise when operating an extensive merchant shipping fleet. As other countries developed their own laws they often drew on British practical experience as a basis for drafting their legislation. The first step towards a system of internationally accepted regulations (conventions) came in 1889 when the US government invited 37 states to attend an international marine conference. On the agenda at this conference was a list of problem areas in the maritime industry where it was felt that the standardization of the international regulations would be an advantage, including:

- rules for the prevention of collisions;
- regulations to determine the seaworthiness of vessels;
- draught to which vessels should be restricted when loaded;
- uniform regulations regarding the designation and marking of vessels;
- saving life and properties from shipwrecks;
- necessary qualifications for officers and seamen;
- lanes for steamers and frequented routes;
- night signals for communicating information at sea;
- warnings of approaching storms;
- reporting, marking and removing dangerous wrecks and obstructions to navigation;
- notice of dangers to navigation;
- the uniform system of buoys and beacons;
- the establishment of a permanent international maritime commission.[19]

In fact the conference succeeded in dealing with only the first item on the agenda, but the full agenda neatly illustrates the areas that were thought to be important and that were addressed by subsequent international conferences and conventions. But the most important outcome was to set the pattern for the present system under which maritime laws are developed by consensus between maritime states.

Procedures for making maritime conventions

The conventions which form the building blocks of maritime law are not laws; they are internationally agreed 'templates' which maritime states use as a base for enacting their national maritime legislation. This does not guarantee that every country will have exactly the same maritime law since some modify it and others do not even sign up. But it helps to avoid badly thought-out and inconsistent maritime legislation and on important issues such as safety, most maritime countries now have the same maritime law. The procedure for making or changing a maritime convention involves four steps, which are broadly summarized in Box 16.2.

BOX 16.2 FOUR STEPS IN MAKING A MARITIME CONVENTION

Step 1: *Consultation and drafting convention*. The issue requiring legislation is identified by interested governments and a conference is called to discuss it, at which written submissions from various interested states and parties are discussed. If there is enough support the agency (e.g. IMO or ILO) drafts and circulates to member states a convention setting out in detail the proposed regulation or an amendment or annex to an existing regulation.

Step 2: *Adoption of draft convention*. The conference is reconvened to consider the draft regulation, and when agreement has been reached on the text, it is adopted by the conference. The discussion serves the dual purpose of showing whether or not there is a consensus that the regulation is required and, if so, refining the form it should take.

Step 3: *Signature*. The convention is 'opened for signature' by the governments; by signing, each state indicates its intention to ratify the convention by making it legally binding in its own country.

Step 4: *Ratification*. Each signatory country ratifies the convention by introducing it into its own domestic legislation so that it becomes part of the law of the country or dominions, and the convention comes into force when the required number of states (usually two-thirds) have completed this process – the precise conditions of entry into force form part of the original adoption of the convention. Once the necessary conditions have been met, the convention has the force of law in those countries that have ratified it. It does not apply in countries where it has not been ratified and any legal cases must be tried under the prevailing national law.

An example of this process is provided by UNCLOS 1982 discussed in section 16.4. This was instigated by UN General Assembly Resolution 2749, which noted the 'political and economic realities' of the preceding decade and 'the fact that many of the present State Members of the United Nations did not take part in the previous United Nations Conferences on the law of the sea'. It called for a new conference on the law of the sea. The conference was convened in 1973, and discussions continued until 30 April 1982 when the draft convention was adopted by vote (130 in favour, 4 against, with 17 abstentions). The convention was opened for signature in Montego Bay, Jamaica, on 10 December 1982. On the first day signatures from 117 states were appended. In addition, one ratification was deposited.

Considerable time and effort is required to organize conferences, draft conventions and resolve differences and misunderstandings. This work is carried out by the IMO and the ILO. Each deals with a particular range of maritime affairs, as detailed in the following sections.

16.7 THE INTERNATIONAL MARITIME ORGANIZATION

History and organization of IMO

The IMCO came into operation in 1958, with responsibility for adopting legislation on matters relating to maritime safety and pollution prevention on a world-wide basis and acting as the custodian of a number of related international conventions. Subsequently, in 1982, the IMCO changed its name to the International Maritime Organization (IMO). It has been responsible for developing a large number of conventions, ranging from the Convention for the Safety of Life at Sea (SOLAS) to conventions on tonnage measurement and oil pollution.

The IMO has 166 member states and two associate members. Its governing body is the Assembly, which meets every two years. In between Assembly sessions a Council, consisting of 32 member states elected by the Assembly, acts as the governing body. The technical and legal work is carried out by five committees:

- The *Maritime Safety Committee* deals with a whole range of issues concerning safety at sea. Sub-committees deal with a wide range of issues which cover safety of navigation; radio communications and life-saving; search and rescue; standards of training and watch keeping; ship design and equipment; life-saving appliances; fire protection; stability and load lines; fishing vessel safety; carriage of dangerous goods, solid cargoes and containers; carriage of bulk liquids and gases; and flag state implementation.
- The *Marine Environment Protection Committee* deals with all issues relating to pollution, particularly oil.
- The *Technical Co-operation Committee* handles the technical cooperation programme which is designed to help governments implement the technical measures adopted by the organization.
- The *Legal Committee* is responsible for considering any legal matters within the scope of the organization.
- The *Facilitation Committee* is concerned with easing the flow of international maritime traffic by reducing the formalities and simplifying the documentation required of ships when entering or leaving ports or terminals.

To support these committees the IMO has a secretariat of about 300 staff located in London.

In its early years the IMO developed a comprehensive body of maritime conventions, codes and recommendations which could be implemented by member governments. The 16 most important conventions are listed in Table 16.5 along with a brief summary of their scope and the percentage of world tonnage which has ratified each one. Its most important convention, SOLAS, is now accepted by countries whose combined merchant fleets represent 98.8% of the world total. Although the initial emphasis was on drafting conventions, since the 1980s the focus has changed. By then the IMO had developed a comprehensive series of measures covering safety, pollution

Table 16.5 Major IMO conventions relating to maritime safety and pollution prevention for merchant shipping

No.		Instrument	Entry into force	
			Date	% fleet
1	SOLAS	International Convention for the Safety of Life at Sea, 1974* as amended, and its Protocols (1978, 1988)	25/05/80	99
2	SAR	International Convention on Maritime Search and Rescue, 1979	22/06/85	52
3	INTERVENTION	International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969, and its Protocol (1973)	06/05/75	73
4	MARPOL	International Convention for the Prevention of Pollution from Ships, 1973, and its Protocol (1978) Annex I (2 Oct. 1983); Annex II (6 April 1987) Annex III (1 July 1992); IV; Annex V (31 Dec. 1988)	02/10/83	98
5	CSC	International Convention for Safe Containers (1972)	06/07/77	62
6	OPRC	International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990	13/05/95	65
7	LC	Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 as amended, and its Protocol (1996)	30/08/75	69
8	COLREG	Convention on the International Regulations for Preventing Collisions at Sea, 1972, as amended	15/07/77	98
9	FAL	Convention on Facilitation of International Maritime Traffic, 1965, as amended	05/03/67	69
10	STCW	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended	28/04/84	99
11	SUA	Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, 1988, and its Protocol (1988)	01/03/92	92
12	LL	International Convention on Load Lines, 1966, as amended, and its Protocol (1988)	21/07/68	99
13	TONNAGE	International Convention on Tonnage Measurement of Ships, 1969	18/07/82	99
14	CSC	International Convention for Safe Containers, 1972 as amended	06/09/77	62
15	SALVAGE	International Convention on Salvage, 1989	14/07/96	38
16	ISM Code	Management Code for the Safe Operation of Ships and Pollution Prevention	01/12/09	

Status as at October 2006

Source: International Maritime Organization (London)

prevention, liability and compensation. It was recognized that legislation is of little value unless it is enforced so, in 1981, the Assembly adopted Resolution A500(XII) which redirected activity towards the effective implementation of the conventions. This resolution was reaffirmed for the 1990s and 'implementation' has become the major

objective of IMO.[20] To promote the task the Maritime Safety Committee established a flag state implementation subcommittee.

The coverage of the conventions is briefly described in the following paragraphs.

The Safety of Life at Sea Convention (SOLAS)

The first conference organized by the IMO in 1960 adopted the International Convention for the Safety of Life at Sea 1960, which came into force in 1965 and covered a wide range of measures designed to improve the safety of shipping. This important convention has 12 chapters dealing with:

Chapter I – General Provisions
Chapter II:1 Construction: subdivision and stability, machinery and electrical installations
Chapter II:2 – Fire protection, fire detection and fire extinction
Chapter III – Life-saving appliances and arrangements
Chapter IV – Radio communications
Chapter V – Safety of navigation
Chapter VI – Carriage of cargoes
Chapter VII – Carriage of dangerous goods
Chapter VIII – Nuclear ships
Chapter IX – Management for the safe operation of ships
Chapter X – Safety measures for high-speed craft
Chapter XI:1 – Special measures to enhance maritime safety
Chapter XI:2 – Special measures to enhance maritime security
Chapter XII – Additional safety measures for bulk carriers.

SOLAS was updated in 1974 and now incorporates an amendment procedure whereby the convention can be updated to take account of changes in the shipping environment without the major procedure of calling a conference. The 1974 SOLAS Convention entered into force on 25 May 1980, and by October 2006 had been ratified by states representing 99% of the registered merchant fleet. A protocol relating to the Convention in 1978 entered into force on 1 May 1981.

With the growing recognition that loss of life at sea and environmental pollution are influenced by the way companies manage their fleets, in the 1990s the IMO took steps to regulate the standards of management in the shipping industry. At the SOLAS Conference held in May 1994, the International Safety Management (ISM) Code was formally incorporated into Chapter IX of the SOLAS regulations. The Code requires shipping companies to develop, implement and maintain a safety management system which includes:

- a company safety and environmental protection policy;
- written procedures to ensure safe operation of ships and protection of the environment;
- defined levels of authority and lines of communication shore and shipboard personnel;

- procedures for reporting accidents and non-conformities (i.e. errors which occur);
- procedures to prepare for and respond to emergency situations.

The ISM Code became mandatory for tankers, bulk carriers and passenger ships over 500 gross tons on 1 July 1998 and for most other ships trading internationally on 1 July 2002. Approximately 12,000 ships had to comply by the first deadline and the second phase of implementation brought in another 13,000 ships.[21] Previously safety regulations had tended to focus on the physical rather than the managerial aspects of the shipping business, so the ISM Code represented a new direction in maritime regulation. Inevitably it raised many new problems over the implementation and policing of such a complex system.

Collision avoidance at sea

Collisions are a common cause of accidents at sea. Measures to prevent these occurring were included in an Annex to the 1960 Safety of Life at Sea Convention, but in 1972 IMO adopted the Convention on the International Regulations for Preventing Collisions at Sea (COLREG). Included in this convention were regulations to introduce traffic separation schemes in congested parts of the world. These 'rules of the road' have substantially reduced the number of collisions between ships.[22]

Ships' load lines

The problem of dangerously overloading ships encountered in the nineteenth century was referred to earlier in the chapter. In 1930 an International Convention on Load Lines was adopted, setting out standard load lines for different types of vessels under different conditions. A new updated convention was adopted in 1966 and came into force in 1968.

Convention on Tonnage Measurement of Ships, 1969

Although this might seem an obscure subject for an international convention, it is one of great interest to shipowners because ports, canals and other organizations fix their charges on the basis of the ship's tonnage. This created an incentive to manipulate the design of ships in such a way as to reduce the ship's tonnage while still allowing it to carry the same amount of cargo. Occasionally this was at the expense of the vessel's stability and safety.

In 1969 the first International Convention on Tonnage Measurement was adopted. It proved to be so complex and so controversial that it required 25 states with not less than 65% of the world's gross merchant tonnage to ratify it before it became law. The required number of acceptances was not achieved until 1980 and the Convention came into force in 1982. The Convention established new procedures for computing the gross and net tonnages of a vessel and for the allocation of an IMO number to each ship, so that vessels could be uniquely identified.

Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978

The aim of this Convention was to introduce internationally acceptable minimum standards for the training and certification of officers and crew members. It came into force in 1984. Amendments in 1995 complemented the ISM Code initiative by establishing verifiable standards, structured training and shipboard familiarization.

International Convention for the Prevention of Pollution from Ships

This convention, knowns as MARPOL, is the main international convention covering the prevention and minimization of pollution of the marine environment by ships from operational or accidental causes. It is a combination of two treaties adopted in 1973 and 1978 and updated by amendments through the years. It currently has six technical annexes which set out the detail of the regulations:

Annex I: Regulations for the Prevention of Pollution by Oil
Annex II: Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk, including a list of 250 regulated substances
Annex III: Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form (shipped in drums, etc.)
Annex IV: Prevention of Pollution by Sewage from Ships
Annex V: Prevention of Pollution by Garbage from Ships
Annex VI: Prevention of Air Pollution from Ships.

As the volume of oil shipped by sea increased in the 1950s and 1960s, regulations on marine pollution were needed. A conference to discuss the matter was held in London in 1952 and this resulted in the 1954 Convention for the Prevention of Pollution of the Sea by Oil (OILPOL). The main problem addressed by this convention was the uncontrolled discharge of oily ballast water. At the time tankers generally carried ballast water in their cargo tanks and discharged it outside the loading port. Because the ballast water contained small amounts of crude oil, it polluted the sea and beaches in these areas. To prevent this pollution OILPOL established 'prohibited zones' extending at least 50 miles from the nearest land. These regulations were progressively updated during the next 20 years.

During the 1960s, it became evident that there was a need for a wider-ranging convention on marine pollution, and in 1973 MAPROL was adopted. This convention applies to all forms of marine pollution except land-generated waste and deals with such matters as: the definition of violations; certificates and special rules on the inspection of ships; enforcement; and reports on incidents involving harmful substances. It required all tankers to have slop tanks and be fitted with oil discharge and monitoring equipment, whilst new oil tankers over 70,000 dwt must be fitted with segregated ballast tanks large enough to hold all ballast water for normal voyages – oil tanks could only be used for water ballast in extreme weather. At the next international conference on tanker safety and pollution prevention in 1978 additional measures were added in the form of a

Protocol to the 1973 Convention. The lower limit for tankers to be fitted with segregated ballast tanks was reduced from 70,000 dwt to 20,000 dwt and existing tankers were required to fit crude oil washing equipment.

Following a number of major oil pollution incidents, in particular the *Exxon Valdes*, in the early 1990s attention turned to tanker regulations to reduce the risk of oil spills resulting from tanker collisions and groundings. A new Annex I to MARPOL (73/78) was drafted, introducing two new regulations designed to reduce oil spills of this type. Regulation 13F required new tankers ordered after 6 July 1993 to have double hulls built to specified design parameters including a requirement that vessels over 30,000 dwt have a two-metre space between the cargo tanks and the hull. Regulation 13G created two age 'hurdles' for existing single hull tankers. As a defensive measure, at 25 years 30% of the side or the bottom area must be allocated to cargo-free tanks; and at 30 years all tankers must comply with Regulation 13F by fitting a double hull. The Annex was adopted on 1 July 1992.

Two major oil pollution incidents in European waters, the *Erika* in 1999 and the *Prestige* in 2002, resulted in the IMO Marine Environmental Protection Committee making further amendments to Annex 1 of MARPOL 73/78.

Firstly, the phasing-out of single hull tankers was accelerated. Under a revised Regulation 13G of Annex I of MARPOL, which entered into force in April 2005, the final phasing-out date for Category 1 tankers (pre-MARPOL tankers) was brought forward from 2005 to 2007. The final phasing-out date for Category 2 and 3 tankers (MARPOL tankers and smaller tankers) was brought forward from 2015 to 2010, though they were permitted to trade beyond the anniversary date of their delivery in 2010 at the discretion of port state administrations (double-bottomed and double-sided vessels were allowed to trade to 25 years or 2015). This was controversial because some single hull tankers would only be 15–20 years old in 2010. Secondly, it adopted the Conditional Assessment Scheme requiring a more detailed inspection of Category 2 (non-MARPOL compliant) and Category 3 (MARPOL compliant) single-hull tankers. Thirdly, a new Regulation 13H prohibited single hull tankers over 5,000 dwt from carrying heavy grades of oil from 5 April 2006 and smaller tankers of 600–5,000 dwt from 2008. These amendments entered into force on 5 April 2005. Note that in January 2007 the names of the regulations changed – Regulation 13F became Regulation 19, Regulation 13G became Regulation 20, and Regulation 13H became Regulation 21, all in MARPOL Annex 1.

In addition to oil pollution, in the late 1990s the IMO started to focus on the environmental impact of emissions from ships, including air emissions and ballast water. MARPOL Annex VI sets limits on sulphur oxide and nitrogen oxide emissions from ship exhausts and prohibits deliberate emissions of ozone-depleting substances. The annex includes a global cap of 4.5% on the sulphur content of fuel oil by weight and requires IMO to monitor the worldwide average sulphur content of fuel. In 2007 air emissions by ships were at the top of the IMO's agenda and were being studied by a working group on air pollution. Their agenda included nitrogen (NOx) emission limits for new and existing engines; sulphur and fuel oil quality; emission trading; and emissions of volatile organic compounds from tankers. The aim was to propose amendments to existing regulations for implementation in 2008.

16.8 THE INTERNATIONAL LABOUR ORGANIZATION

Since the 1920s the terms and conditions of employment for seafarers have been dealt with by the International Labour Organization (ILO), making it one of the oldest intergovernmental agencies now operating under the United Nations. Its principal concern is with the welfare of the 1.2 million people who work at sea. It was originally set up in 1919. During the twentieth century it developed 32 maritime labour conventions and 25 maritime labour recommendations dealing with working and living conditions at sea, manning, hours of work, pensions, vacation, sick pay and minimum wages.

By the end of the twentieth century the maritime industry and governments were finding this complex body of maritime conventions difficult to ratify and enforce, and it became apparent that the industry needed a more effective system if it was to eliminate substandard ships. In 2001 the international seafarers' and shipowners' organizations presented a joint resolution at ILO calling for 'global standards applicable to the entire industry'. As a result, the ILO was charged with developing 'an instrument to bring together into a consolidated text as much of the existing body of ILO instruments as it proves possible to achieve'. The comprehensive new Maritime Labour Convention for the maritime industry was adopted in 2006 and comes into force after being ratified by 30 ILO member states with a total share of at least 33% of world gross tonnage. By mid-2008 it had been ratified by Liberia, Bermuda and the Marshall Islands and was expected to be in force by August 2011 (this section focusses on the new regulations, but a list of the existing regulations can be found in *Maritime Economics*, second edition, Table 12.6 or on the ILO website).

The 2006 Consolidated Convention aimed to maintain existing maritime labour standards, while giving countries more discretion to establish national laws adapted to local circumstances. It applies to all publicly or privately owned commercial ships, but excludes traditional vessels (e.g. dhows and junks), warships, naval auxiliaries and ships under 200 gross tons in domestic trades. Fishing boats are covered in a separate convention.[23] A 'seafarer' is defined as 'any person who is employed, engaged or works in any capacity on board a ship that is covered by the Convention'. Much of the new convention is devoted to a more structured version of the existing 68 ILO maritime conventions and recommendations, and gives countries flexibility to harmonize the new maritime legislation with national labour laws.

The convention has five 'titles', summarized in Table 16.6, setting minimum standards for seafarers, including conditions of employment, hours of work and rest, accommodation, recreational facilities, food and catering, health protection, medical care, welfare and social security protection. It sets legally binding standards but also incorporates guidelines, a significant departure from traditional ILO conventions. It also introduces procedures to simplify amending the regulations, allowing amendments to come into effect within three to four years from the proposal date.

A major innovation is Title 5, which deals with compliance and enforcement of the regulations. Any ships over 500 gross tons trading internationally must carry a maritime labour certificate and a declaration of maritime labour compliance, setting out the shipowner's plans for ensuring that national regulations are complied with. The ship's

Table 16.6 ILO Consolidated Maritime Labour Regulations, 2006*

Title 1. Minimum requirements for seafarers to work on a ship
- Minimum age
- Medical certificate
- Training and qualifications
- Recruitment and placement

Title 2. Conditions of employment: seafarers' employment
- Wages
- Hours of work and hours of rest; entitlement of leave
- Repatriation
- Seafarer compensation for the ship's loss; manning levels
- Career and skill development and opportunities for seafarers' employment

Title 3. Accommodation, recreational facilities, food and catering
- Accommodation and recreational facilities
- Food and catering

Title 4: Health protection
- Medical care, welfare and social security protection
- Medical care on board ship and ashore
- Shipowner's liability
- Health and safety protection and accident prevention
- Access to shore-based welfare facilities
- Social security

Title 5. Compliance and enforcement

Flag state responsibilities
- General principles
- Authorization of recognized organizations
- Maritime labour certificate and declaration of maritime labour compliance
- Inspection and enforcement; on-board complaint procedures; marine casualties

Port state responsibilities
- Inspections in port
- Onshore seafarer complaint-handling procedures
- Labour-supplying responsibilities

Note: This regulation was adopted in 2006, but is not expected to come into force until 2011 when the necessary ratifications have been achieved

master is responsible for carrying out these plans and keeping records as evidence of compliance. The flag state is responsible for reviewing the plans and their implementation. To encourage compliance by operators and owners, the Convention sets out mechanisms dealing with on-board and onshore complaint procedures; port state inspection; and the flag state's jurisdiction and control over vessels on its register.

16.9 THE REGULATORY ROLE OF THE COASTAL AND PORT STATES

The rights of coastal states over foreign ships

Now we come to the 'coastal states' and the part they play in regulating merchant shipping. UNCLOS 1982 allows coastal states to legislate for the 'good conduct' of ships in their territorial seas, but otherwise not to interfere with them. The Convention lists eight

specific areas in which legislation is permitted – the main ones are safety of navigation; protection of navigational aids; preservation of the environment and prevention, reduction and control of pollution; and the prevention of infringement of customs and sanitary laws, etc. However Article 21 of UNCLOS 1982 specifically states that the legislation of coastal states 'shall not apply to the design, construction, manning or equipment of foreign ships, unless they are giving effect to generally accepted international rules or standards'. This is intended to prevent a 'nightmare scenario' in which ships are subject to different construction and crewing standards in different territorial waters. However, it also endorses the coastal state's right to enforce international regulations in its territorial waters, and this gave rise to the port state control movement.

The port state control movement was a response to the growing number of ships registered under flags of convenience, and the recognition that some of these flags were not, for whatever reason, enforcing international maritime regulations. This made the traditional supervisory role of the flag states less reliable than previously and in response the port states started to play an increasingly important part in the regulatory system.

The port state control movement

The port state control movement started in 1978 when eight European states located around the North Sea informally agreed to inspect foreign ships visiting their ports and share information about deficiencies. In 1982 the arrangement was formalized with the signing of the Paris Memorandum of Understanding (MOU) in which 14 European states agreed to work together to ensure that ships visiting their ports comply with international conventions on safety and pollution.

Signatories to the Paris MOU undertake to maintain an effective system of port state control by ensuring that foreign merchant ships calling at their ports comply with the standards laid down in the 'relevant' maritime conventions and their protocols which they define as the Load Lines Convention 1966; SOLAS 1974; MARPOL 1973/78; STCW 1978; COLREG 1972; the International Convention on the Tonnage Measurement of Ships 1969; and the ILO Convention No. 147 Merchant Shipping (Minimum Standards), 1976. Details of the first five conventions can be found in Table 16.5, whilst ILO Convention 147 is concerned with the crew safety, employment and welfare issues dealt with under Titles 1–4 of the new consolidated regulation in Table 16.6. Each participating state undertakes to inspect 25% of the foreign merchant ships entering its ports, basing the number on the average number of port calls during the previous three years. They also agree to work together, to exchange information with other authorities and to notify pilot services and port authorities immediately if they find deficiencies which may prejudice the safety of the ship or pose a threat of harm to the marine environment.

By 2007 the number of signatories to the Paris MOU had increased to 27, stretching from Russia to Canada, and the MOU has been updated regularly. In the meantime additional port state control MOUs have been established in the following areas:

- the Mediterranean MOU (10 participating countries);
- the Tokyo MOU (18 participants);

- the Caribbean MOU (11 participants);
- the Latin American agreement (12 participants);
- the Indian Ocean MOU (11 participants).

The United States controls its own programme.

Port state control inspections

In 1995 the IMO adopted a resolution providing basic guidance on port state control inspections to identify deficiencies in ship, its equipment or its crew should be conducted. The aim was to ensure that the inspections are consistently applied across the world from port to port. These procedures are not mandatory, but many countries have followed them.[24] The range of inspections is now very broad with over 50,000 ships a year being inspected, a significant proportion of the international fleet. For example, the Paris MOU undertakes about 20,000 inspections a year, identifying an average of 3.5 deficiencies per inspection. Ships with serious shortcomings are detained and a small number are banned. Lists of detained ships are published on a website. The Tokyo MOU undertakes a similar number of inspections.

The ships to be inspected are selected from lists of vessels arriving in the port, often using statistical techniques to identify higher-risk vessels. For example, the Paris MOU uses a target factor calculator which takes into account such factors as flag, age and ship type, weighting each characteristic on the basis of previous association with defects.

The inspection has three parts: a general external inspection of the ship on boarding; a check of certificates; and a more thorough 'walk around' to inspect the condition of exposed decks, cargo-handling gear, navigation and radio equipment, life-saving appliances; fire-fighting arrangements; machinery spaces; pollution prevention equipment; and living and working conditions. Under each heading the inspector works through a detailed checklist and notes any deficiencies. A 'deficiency' exists when some aspect of the ship does not comply with the requirements of a convention. If the inspector finds significant deficiencies, a more detailed inspection may be required, and if the ship is considered too unsafe to be allowed to proceed to sea, a detention order will be made. For example, a detention could be ordered under the Load Lines Convention if some structural shortcoming is apparent such as serious pitting in the deck plating; or under MARPOL if the remaining capacity in the slop tank is insufficient for the intended voyage; or under SOLAS if the engine room is not clean, with oily water in the bilges and pipe work installation contaminated by oil.

The US Oil Pollution Act 1990

Pollution is an area in which coastal states are very active. One of the most forthright initiatives in recent years has been the US Oil Pollution Act 1990. This legislation was formulated in response to the public concern following the grounding of the *Exxon Valdez* in the Prince William Sound, Alaska, in March 1989.

The Act applies to oil spills in US inland waters; up to 3 miles offshore; and the 'exclusive economic zone' up to 200 miles to sea from the shoreline. The LOOP

Terminal is not included. It lays down wide-ranging regulations for the handling of oil spills. The 'responsible party', defined as the owner or operator of the tanker, is required to pay for the clean-up, up to a liability limit of $10 million or $1200 per gross ton, whichever is the greater. However, if there has been gross negligence these limits do not apply.

In addition to making shipowners responsible for the cost of pollution incidents, the Act laid down specific requirements for ships operating in US waters. Each ship must carry a certificate of financial responsibility, demonstrating that it has sufficient financial means to pay a claim. There was also a requirement that vessels ordered after 30 June 1990 or delivered after 1 January 1994 should have double hulls and a schedule for phasing out single-hull tankers by 2010. The coastguard is required to evaluate the manning standards of foreign vessels and to ensure that these are at least equivalent to US law. All tankers are required to carry a contingency plan for responding to an oil spill.

This legislation, particularly the requirement for double-hulled tankers, caused great controversy. However, the effect was to focus the attention of the shipping community far more rigorously on the risks associated with oil pollution. In particular, for the first time, shipowners were faced with the possibility of unlimited liability for the cost of any oil spill they are involved in. The high cost of cleaning up after the *Exxon Valdez* spill put a financial dimension on the possible scale of this problem.

16.10 THE REGULATION OF COMPETITION IN SHIPPING

The final regulatory issue we will mention in this chapter is competition. Although the shipping industry is very competitive, parts of the business have a history of collusion, notably the liner business (Chapter 13) and some of the specialist shipping segments (Chapter 12). Even bulk shipping has various pools and cartels. Most countries have some legislation dealing with these issues, but the competition policy of the European Union and the anti-trust legislation in the United States are the two areas we will concentrate on in this section.

Regulatory control of liner cartels, 1869–1983

When liner conferences were set up in the 1870s (see Section 13.10) they immediately came under attack. In 1879 the *China Mail*, a Hong Kong newspaper, set the tone for a debate which lasted a century by describing the China Conference as 'one of the most ill-advised and arbitrary attempts at monopoly which has been seen for many a year'.[25] The first legal challenge came in 1887 when the Mogul Line sought an injunction to stop the Far East Freight Conference, which had seven members, from refusing rebates to shippers using Mogul vessels. The background was that when in 1885 Mogul Line had applied for admission to the conference, it was refused because it did not bear a full share of running regular services during off-peak periods. This led to a rate war and the Conference's Shanghai agents issued a circular warning that shippers who used Mogul ships would forfeit their rebates. Mogul applied for an injunction to stop the Conference

refusing the rebates, but it was refused, confirming the legality of the Conference. Some years later, however, a British Royal Commission on Shipping Rings was set up to investigate the rebate system. Its report in 1909 again confirmed that the commercial relationship between shippers and conferences was justified and that the possible abuses of the deferred rebate system should be tolerated in the interests of achieving a strong liner system.[26]

The conference system reached its peak during the 1950s. The prominence which the liner conferences had achieved by this time is demonstrated by the UNCTAD Code of Conduct for Liner Conferences which was initiated at the first UNCTAD Conference in Geneva in 1964 (see Section 12.9). Many of the developing countries which had gained independence during the previous decade had balance of payments problems and were searching for solutions. Sea freight played an important part in the price of the primary exports on which most of them relied. In addition, the freight itself was a drain on their scarce foreign currency reserves. Setting up a national shipping line seemed the obvious solution to both problems. However, the liner conferences were not generally sympathetic and the emerging nations lacked the experience in the liner business to press their case. This led to political action by the 'Group of 77', a pressure group of developing countries within UNCTAD, the result of which was the UNCTAD Code which aimed to give each country the right to participate in liner conferences servicing their trade.

The UNCTAD Code was developed in the 1960s and 1970s and covered four major areas of liner shipping. It provided the right to automatic conference membership for the national shipping lines of the countries served by the conference. A cargo-sharing formula gave national shipping lines equal rights to participate in the volume of traffic generated by their mutual trade, with third parties carrying the residual. For example, under a 40:40:20 cargo-sharing agreement the bilateral traders reserved 40% of the cargo for their national vessels and 'cross traders' carried the remaining 20% of the cargo. Finally, shipping conferences were required to consult shippers over rates, and national lines had the right of consent on all major conference decisions affecting the countries serviced.

The Code took almost 20 years to develop and by the time it came into force in 1983 the liner business had changed out of all recognition. It has never been ratified by the USA and implementing a convention of this complexity, which involved agreeing and measuring trade shares, was too difficult. Despite this, the Code achieved two things. First, it gave rights to the emerging Third World shipping industry at a time when this recognition was needed. Second, it was the first international effort to regulate the extensive, and overly weighty, system of closed conferences. By opening the conferences to new participants, it weakened the tight control which had developed and set the scene for a new regulatory attitude towards the conference system.

US regulation of liner shipping, 1983–2006

From the 1970s onwards the USA became determined to open the newly containerized liner services to market forces and to curb, but not entirely prohibit, the activities

of conferences. Under US anti-trust laws, agreements which restrict competition are illegal, but the US Merchant Shipping Act 1984 excluded liner conferences from US anti-trust legislation and allowed inter-modal rate making. However, the legislation placed severe limitations on conference activities, making closed conferences and loyalty rebates illegal. In addition, tariffs fixed by conferences operating into the USA were required to be filed with the Federal Maritime Commission FMC along with all service contracts, and made public. This changed the nature of the conferences operating on the Atlantic and the Pacific, producing the various alliances discussed in Section 13.10. The Ocean Shipping Reform Act which took effect on 1 May, 1999 was another step towards making the liner shipping industry more market-driven. The new law retained the antitrust exemption for the ocean liner industry and still required service contracts to be filed, but allowed their terms to remain confidential. A subsequent study found that as a result most shippers negotiated one-on-one confidential service contracts with individual carriers, instead of negotiating with rate-setting conferences or groups of carriers. In the two years following the regulation the number of these service contracts and amendments increased by 200%.[27]

European Union regulation of shipping competition

European regulations governing competition are set out in Articles 81 and 82 of the Treaty of Rome (1958). Article 81 makes it illegal for companies to cooperate to 'prevent, restrict or distort' competition by fixing prices, manipulating supply or discriminating between parties. Article 82 makes it illegal for a company to use its dominant position to undermine free competition by price fixing, manipulating supply or other abuses. In 1962, Regulation 17 gave the EU powers to enforce these articles but specifically excluded the transport industries, and it was not until 1986 that the EU Regulation 4056/86 set out 'detailed rules for the application of Articles 81 and 82 of the Treaty to maritime transport'. This regulation excluded tramp shipping because prices were 'freely negotiated on a case by case basis in accordance with supply and demand conditions'. Liner shipping was included, but, like most regulators before them, the EU accepted that conferences were in the interest of consumers, providing stability. As a result, the liner companies were given a 'block exemption' from Article 81, permitting them to fix rates, regulate capacity and collude in ways which would otherwise be illegal under the Treaty of Rome (although some shipping companies were fined for fixing prices outside liner conferences).

In 2004 the EU launched an initiative to review this special treatment received by the tramp shipping and liner industries. After consultation with the liner and tramp shipping industries, the EU concluded that:

> no credible consideration has been put forward in response to the consultation to justify why these services would need to benefit from different enforcement rules than those which the council has decided should apply to all sectors. On that basis the intention would be to bring maritime cabotage and tramp vessels services within the scope of the general enforcement rules.[28]

In September 2006, Regulation 4056/86 was repealed. The tramp shipping exemption lapsed on 18 October 2006, facing companies with the possibility that Articles 81 and 82 of the Treaty of Rome might be enforced against shipping pools, of which a number were operating in the tanker, dry bulk and specialist markets.

For the rapidly growing container industry the Commission's discussion paper published in 2005 argued that

> even if conferences were to provide for pro competitive effects in terms of e.g. price stability, reduced uncertainty about trade conditions, possible more accurate forecasts of supply and demand, reliable and adequate services, this would appear in itself not to be sufficient to conclude that the second condition of Article 81(3) on the treaty is fulfilled, since it has not been established that the net effect on consumers (transport users and end consumers) is at least neutral.[29]

After a lengthy investigation they ruled that price agreement was no longer necessary and that the industry and consumers would benefit from free competition. The repeal of Regulation 4056/86 removed the block exemption with effect from 18 October 2008. From this date all shipping companies operating on routes into and out of Europe cannot operate in conferences that fix price and capacity. This will apply equally to EU and non-EU based carriers. Liner shipping conferences outside of Europe are not affected but are subject to their own anti-trust laws.

EU regulation of tramp shipping pools

For tramp shipping the loss of the exemption from Articles 81 and 82 raised questions about the legality of the pools operated in the tanker and bulk carrier markets. Tramp shipping pools bring together similar vessels under different ownership. They are placed under a single pool manager, though the ships generally continue to be operated and crewed by the owners. The nature of pool agreements in tramp shipping varies widely, but the main principles were discussed in Section 2.9.

Article 81(1) of the Rome Treaty explicitly prohibits price fixing and sharing markets between competitors, unless the pool produces genuine benefits as defined in Article 81(3). In effect, pool members must be able to demonstrate: that their pool produces efficiency gains; that these benefits are passed on to transport users, for example as lower transport costs or new logistic solutions; that there is no less restrictive way of obtaining these efficiencies; and that the pool does not have an unreasonably large market share which inhibits free market competition.

Generally the EU took the view that tramp pool agreements that have very low market shares are unlikely to raise competition problems, provided the agreement does not contain provisions regarding joint price fixing and/or joint marketing or if the participants cannot be considered actual or potential competitors.[30] In September 2007 the EU published draft guidelines setting out the principles that the EU will follow when defining markets and assessing cooperation agreements in the maritime transport services sectors affected by the repeal of Regulation 4056/86.[31]

16.11 SUMMARY

In this chapter we have moved outside the conventional framework of market economics to examine the regulatory system that plays such a vital part in the economics of the shipping industry. We started by identifying three regulatory regimes which operate in the shipping industry: the classification societies, the flag states and the coastal states.

The classification societies are the shipping industry's internal regulatory system. The mainstay of their authority is the classification certificate which is issued when the ship is built and updated by means of regular surveys throughout the life of the ship. Without a class certificate a ship cannot obtain insurance and has little commercial value. But they are also the industry's largest technical resource, and in their role as recognized organizations they play an increasingly important part in the regulation of safety and security.

Flag states make the laws which govern the commercial and civil activities of the merchant ship. Because different countries have different laws, the flag of registration makes a difference. Registers can be subdivided into national registers, which treat shipping companies in the same way as other national industries; open registers (flags of convenience) such as Liberia and Panama, which are set up with the specific objective of earning revenue by offering commercially favourable terms of registration as a service to shipowners; and international registers set up by maritime states to offer their domestic shipowners comparable commercial terms to the open registers. With the increasing globalization of the maritime industry, open registers have become more prominent and half the world merchant fleet is now registered under a foreign flag, which in practice usually means a flag of convenience.

Although each nation makes its own maritime laws, on matters such as safe ship design, collision avoidance, load lines, pollution of the sea and air, tonnage measurement and certificates of competency it would be hopelessly impractical if each country had different laws. Developing a framework of international law which avoids this problem is achieved by means of international conventions. Maritime nations meet to discuss the draft convention, which is finally agreed. Each country then ratifies it and in doing so undertakes to incorporate the terms of the convention into its own national legislation. International conventions drawn up since the mid-1960s cover a wide range of different subjects including the safety of life at sea, load lines, crew training, tonnage measurement, terms and conditions of employment of crew, oil pollution and the conduct of liner conferences. The organizations active in developing these conventions are the International Maritime Organization and International Labour Organization.

Although major conventions such as SOLAS (1974) are ratified by 99% of the eligible countries, others are controversial and some countries choose not to ratify them, or allocate sufficient administrative resources to enforcing them, leaving 'loopholes' in the system.

Shipowners registered in these countries are, in principle, able to operate outside the convention, but they are still subject to a third form of regulation, by the coastal state in whose waters their ship is trading. The Law of the Sea permits coastal states to pass legislation concerning the 'good conduct' of ships in its territorial waters. One important

area of legislation is pollution control, notably the US Oil Pollution Act 1990. In addition, since the 1970s there has been a trend towards 'port state control'. The movement started with the Paris MOU under which a group of European states agreed to work together to ensure that ships visiting their ports complied with international conventions on safety and pollution. There are now similar MOUs covering most parts of the world and over 50,000 ships a year are inspected.

Finally, the competitive practices of the shipping industry are also subject to regulation, and the United States and Europe are particularly active in this area. The principal area of concern is the liner conferences which fix prices and capacity levels. During the cargo liner era this was accepted as necessary to provide stable services and pricing, but with the advance of containerization the regulatory authorities are less willing to exempt the liner and tramp shipping industry from anti-trust regulations, and in 2006, for example, the EU made liner conferences and tramp shipping pools subject to its competition laws.