

QUALITY SHIPPING: MARKET MECHANISMS FOR SAFER SHIPPING AND CLEANER OCEANS¹

Free markets require effective government
FRANKLIN D ROOSEVELT

Professor H.E. Haralambides

Center for Maritime Economics and Logistics (MEL)
Erasmus University Rotterdam

Market Mechanisms

What people usually understand by the term “market mechanisms” has its foundation in the work of the 18th century philosopher and economist, Adam Smith. In his book *The Wealth of Nations*, published in 1776, Adam Smith argued that not only are individuals led through the pursuit of their self-interest by an *invisible hand* to pursue the nation’s interest, but this pursuit of self-interest is a far more reliable way to ensure that the public interest will be served than any alternative. Smith’s argument together with the fundamental theorems of welfare economics as articulated by Arrow² and Debreu³, provide the basis for the reliance on *market mechanisms*⁴, which was the theme of our Conference.

However, when Smith was confronted with the argument that rising wages will put a brake on profits and this will eventually halt growth, the only thing he could come up with was to say that rising wages will improve standards of living and thus reduce infant mortality. In this way, the increasing labour supply would keep a check on wages and allow the growth process to continue. That was indeed a shot in the dark even for the horrendous standards of living of the industrial revolution. Today, it would most certainly be difficult to explain the exodus of European shipping to open registries, mainly as a result of rising manning costs.

The dire consequences of the Great Depression of 1929 brought about President Roosevelt’s New Deal policy after a painful realisation that market mechanisms alone, in spite of their merits, innovation, growth, welfare, better food, medicine, education and services that they have given us, often fail to produce the textbook efficiency they proclaim. Most importantly, markets often fail to ensure equilibrium at full employment. This latter realisation was shown very illustratively by John Maynard Keynes whose seminal book *The General Theory of Employment, Interest and Money* appeared at the same time (1936). Keynes’ emphasis on fiscal policy defined the instrumental role of the government as an economic agent: a strong presence through public spending in periods of recession, but absent, as much as possible, in periods of full employment.

¹ This is the introduction to the book under the same title (Erasmus Publishing, Rotterdam 1998; available from the author. Price €140). This was the book that coined the term ‘Quality Shipping’ that has subsequently become a major trend in international shipping throughout the world. Italicized bracketed names in text refer to book contributors.

² Kenneth J. Arrow (1951) An Extension of the Basic Theorem of Classical Welfare Economics. *Proceedings of the Second Berkeley Symposium of Mathematical Studies and Probability*, J. Neyman (ed.), University of California Press, pp. 507-532.

³ Gerard Debreu (1959) *The Theory of Value*. Wiley, New York.

⁴ Joseph E. Stiglitz (1994) *Whither Socialism? (The Wicksell Lectures)*. The MIT Press, Cambridge, Massachusetts, p.7.

The inflationary pressures of the Vietnam war, coupled with the two oil crises of 1973 and 1979, brought the post-war Golden Age to an end, putting at the same time the *Synergy between Market Forces and Regulation*, the second theme of our Conference, under substantial strain and scrutiny. Indeed, the stagflation –i.e. rising prices combined with increasing unemployment- of the 1970s could not be explained by Keynes' General Theory.

The ineffectiveness of government in fine-tuning the economy resulted in a renewed interest in the sole power of *market mechanisms*: the “do nothing” doctrine of the Chicago School, compounded and articulated by the “supply-side economics” of the Reagan-Bush Administration in the 1980s had a very clear-cut prescription: less government involvement and regulation of economic activity. Governments should cut back on taxes and public spending and thus allow the springboard of free enterprise to swing and produce. This would ensure that enough income is generated to buy –perhaps with the convenient assistance of effective advertising- whatever goods and services are produced.

Monetarism and supply-side economics took their toll on US employment, income distribution, accumulation of wealth and the standards of living of low-income classes. But equally importantly they brought with them an overriding preoccupation with shareholder value. Thus, things such as social responsibility, industrial relations, community-building, funding of research and universities, arts, culture and similar attributes of West-European *corporatism*, or what some might call a “stakeholder economy”, were easily dismissed as irrelevant in the blind pursuit of profit maximisation.

This last observation brings us to one of the pivotal questions of the Conference and justifies the somewhat philosophical digression of the above remarks: Could market driven incentives, disincentives and economic mechanisms in general be envisaged that would entice the shipping industry, in its wider sense, to raise the quality of services it offers? In other words, is a “stakeholder” approach to international shipping good business? In a very convincing presentation, looking at the stock exchange performance of quality-minded companies in the USA, *Card* reassures us that it is: the 14 companies that have won the Malcolm Baldrige Award since 1988 have on average outperformed the market by a factor of four.

Card's assertion raises a number of interesting questions which the Conference has attempted to answer. For example, how can high-standard ship-operators be effectively rewarded? Could charterers that knowingly or negligently charter substandard ships be held financially responsible? What economic forces can induce governments to live up to their IMO/ILO obligations? How can risk management differentiate bank financing decisions and insurance premia? Can the increasing environmental awareness of the consumer be used as a marketing tool by shipping companies?

Market failure can be the result of a number of factors ranging from incomplete information, capital concentration and the existence of significant external costs -such as those of safety and environment- that, at least in shipping, can neither be contained within the narrow geographical confines of a single country nor are they always reflected in the price of the transport service. In her polemic against open registers *Jorritsma* argues that countries offering such facilities are principally interested in collecting the registration fee and -often situated off the main trades and the consumer markets- they do not have to face the bill for such social costs as casualties, port state control, VTS systems, waste disposal facilities,

search and rescue and polluted beaches that, in all fairness, ought to be paid by those parties that directly benefit from ocean transportation.

This calls for regulatory intervention and brings up the second theme of the Conference: *Synergy between market forces and optimum regulation*. Market mechanisms can indeed sort things out –eliminating, for example, shipping, shipbuilding and port overcapacity- but only in the long-run and after considerable waste of scarce resources. But as Keynes himself noted, *in the long-run we are all dead*. Isn't this a most interesting paradox? Governments, that usually take the long view, intervene to level the field and correct short-term market imperfections while the private sector, engulfed in its short-term profit maximisation exercises, can produce efficient long-term solutions.

IMO and the Standard-Setting Process

Apart perhaps from the statement that “Rotterdam is the world’s biggest port”, the one that I have heard more times than any in my life is that “shipping is an international industry”. Both are of course quite true. At a national level, enforcement of laws and regulations is relatively effective; if the factory chimney pollutes the air the police arrives and penalties can be quite hefty. At an international level, however, regulations are cumbersome to design, easy to circumvent and extremely difficult to police. Furthermore, if international regulations are not enforced uniformly, they can result in distortions to competition.

Few would, in principle, question that the most appropriate way to improve safety at sea and the protection of the marine environment is through action on an international basis, given that the “playing field” of shipping is international *par excellence*. Unilateral measures can only distort the overall picture of international safety at sea and in some cases they may result in retaliatory measures with self-evident negative commercial consequences. This is the more so when unilateral measures to safety and pollution can be seen by third countries as hidden “barriers to entry” rather than what they actually are. Something like this entails the danger of breaching GATT principles of non-discrimination, Market Access and National Treatment and it can induce retaliatory action that can compromise progress towards further liberalisation in goods and services, some of which perhaps more important than shipping.

However, I believe that there is one important exception to this almost universally accepted rule against unilateralism. Countries, or regions in concert, can and should take action to protect their interests (economic, social or environmental) when they are threatened by the precarious behaviour of others who, either negligently or purposefully, fail to live up to the obligations they have assumed as signatories of international conventions.

In this respect, it is also argued by many, including of course IMO, that one cannot really expect the governments of many developing countries, which often lack resources and expertise, to implement measures with the same speed and assurance as larger nations with centuries of tradition and expertise behind them (*O’Neil*).

“Speed” and “assurance” conceded, however, the EU is of the strong conviction that the effect of casual or negligent practices by flag-states can be horrific for crews and vessels and they are potentially devastating for the environment, for other shipping and for the well-being of people across the world. In this respect, weaknesses of administration are not an

acceptable excuse and the right to operate a ship register carries a full responsibility to do it properly (*Kinnock*). This is particularly so given the EU's commitment to provide technical assistance and training to developing countries to enable them upgrade their maritime administration.

The Conference has almost unanimously acknowledged the role of IMO as the sole competent organisation, uniquely equipped to regulate on safety and environmental protection and in the best position to develop sound, globally supported consensus positions (*Soumakis, Oldham*). However, given the inextricable relationship between safety standards and industrial competitiveness, interesting voices have also been raised (*Nieuwpoort*) as to the potential role that OECD could play in the effort towards a synergy between market forces and optimum regulation.

Regarding the latter, the Conference unreservedly admitted that the industry is deluged by an ever increasing body of regulations that, for many countries, are difficult to follow, let alone implement. This, despite the conscientious efforts of IMO's Flag State Implementation Sub-Committee. *O'Neil* himself concedes this fact by stating that over the last three and a half decades, IMO has adopted several shelves full of rules and regulations and although they have certainly helped to improve the situation, they can only be effective if they are put in practice and are enforced; and this is not always the case. Before adopting still more regulations, that in all probability will not be properly implemented and policed (*Oldham*), we should therefore concentrate on assuring that the ones that already exist are in fact applied to all ships throughout the world.

It is thus felt that the work programme of IMO has to be rationalised. *J.M.S. Smith* suggests that the Organisation's work agenda should be decided by the Secretary-General following advice from an independent Panel of Experts consisting of government and industry. In addition, I believe that each and every time a new regulation or standard is contemplated, IMO should carry out a thorough Cost-Benefit analysis of the economic effects on the industry (including those on freight rates and shipping capacity).

IMO is not unaware of such a need. Resolution A.500(XII) – Objectives of the Organisation – provides that "...the Council and the Committees entertain proposals for new conventions or amendments to existing conventions only on the basis of clear and well-documented demonstration of compelling needs...*having regard to the costs to the maritime industry and the burden on the legislative and administrative resources of Member States...*" (*Mitropoulos*).

Such an approach poses a new challenge on IMO to increase its involvement in the commercial aspects of shipping. Perhaps it is not by accident that the Organisation's World Maritime University, which I had the privilege to serve for five years, has taken such a marked switch towards shipping and port management from its initial nautical-engineering orientation.

A good first step towards a more systematic evaluation of the costs involved in safety and environmental protection regulations is now being taken through the application of Formal Safety Assessment (FSA). The concept of FSA originates from Lord Carver's⁵ assertion that modern science and technology is not being adequately applied in the many fields that affect

⁵ House of Lords Select Committee on Science and Technology *Safety Aspects of Ship Design and Technology*, 1992.

shipping safety. Following up on this conclusion, the UK government introduced FSA as an approach involving the use of risk management and cost-benefit analysis, not for individual ships but as a basis for IMO's rule-making process for merchant shipping in general. The UK reasoned that the adoption of FSA would enable safety issues at IMO to be prioritised thus deriving regulations that are cost effective and proportional to risk.⁶ IMO's reaction has been favourable from the beginning: a Working Group was established under the Maritime Safety Committee (MSC) and it has drafted guidelines for the application of FSA that were recently approved by the MSC.⁷

Port State Control in Europe⁸

It is largely the failure of flag States to fulfil their obligations that has made it necessary for port States, and responsible shippers⁹, to develop their own extensive ship inspection programmes (*Riley*) and become the "policemen of the seas" (*Nunn*). For many coastal States, PSC has thus become, by mere necessity, the "first line of defence" (*Nieuwpoort*) to monitor the implementation of safety rules and other working and living standards on board ships and thus safeguard the quality of shipping to and from their ports.

Furthermore, although it is often argued that PSC should not be a substitute for the responsibilities of flag States –signatories to international conventions-, in practice this is often the case. This is because, in the current circumstances, the savings which arise from using ships below internationally accepted standards far outweigh the penalties risked by owners and operators, if they are caught (*Kinnock*). Thus, certain flag States abuse the system by letting port States do the work they are not willing or able to do themselves, while shipowners use it increasingly as the "free of charge" routine inspection of their vessels (*Jorritsma*).

In recent years, the work of the EU in the area of maritime safety and the protection of the marine environment has been significant. A major objective of this work has been the convergent implementation and uniform enforcement of international rules and regulations¹⁰, and might include in exceptional cases carefully selected non-binding regulations of IMO which will be made compulsory through EC legislation. Although such action will remain the exception rather than the rule, the Commission firmly believes that these binding requirements should be enforced on *all* ships indiscriminately when trading to and from EU ports, and that third country ships should not receive a more favourable treatment than the EU-flagged ones.¹¹

⁶ J. Peachey, C. Billington and J. Dodgson, *Application of Cost Benefit Assessment to the Development of Risk Based Maritime Safety Regulations*. Paper delivered at the International Association of Maritime Economists (IAME) Conference, London, 1997.

⁷ IMO, *Guidelines for FSA Application*. Report of Working Group, MSC 68/WP.13, June 1997.

⁸ The Paris Memorandum of Understanding on Port State Control covers the European coastal states and those of the North Atlantic basin. It has served as a model for the development of other regional agreements such as the Tokyo MOU, the Caribbean MOU and the *Acuerdo de Vina del Mar* of the Latin American region. IMO is promoting more regional systems of PSC, particularly in South Mediterranean (North Africa), West Africa and the Persian Gulf.

⁹ Through such initiatives as the Ship Inspection Report Exchange (SIRE) for oil tankers and the Chemical Distribution Institute (CDI) for chemical tankers.

¹⁰ See, for example, Commission Communication *A Common Policy on Safe Seas*. COM(93)66 final, 24.02.93.

¹¹ see Commission Communication *Towards a New Maritime Strategy*. COM(96)81 final, in the Addendum.

Port State Control in Europe means mostly implementation of Directive 95/21/EC.¹² The Directive, fully operational since July 1996, has introduced *mandatory targeting* of black-listed flags and of certain ships potentially more accident-prone than others. It has also made it obligatory to immediately look beyond the validity of certificates and assess the general condition of the ship, its engine room as well as accommodation and hygienic conditions. For high risk ships, it is obligatory to carry out an expanded inspection once a year. The Directive has imposed on Member States the legal obligation to detain a ship with serious deficiencies. This means that the current practice of permitting a deficient ship to proceed to another port without having taken remedial action is in principle no longer tolerated. Should contingency (e.g. lack of repair facilities in the port of detention) justify it, the ship may only be permitted to proceed to the nearest repair yard. Finally, should such a ship not call at the agreed yard, its further entry to all European ports is prohibited (*Salvarani*).

The same stringent conditions are envisaged as regards implementation of the ISM Code. When the target date comes, those without an ISM certificate will not be allowed to operate in Europe. Member States will have to look beyond the ship certificate to make sure once more that complacent flag administrations have not granted “just another piece of paper”. Auditing of the companies will have to be extended to their operating sites and, should co-operation of the certifying flag be lacking, the European Commission shall look at ships operated by such companies with great concern.

The EU is committed to strengthening the effectiveness of PSC¹³, currently considered by many as an inadequate deterrent. I believe that there are two ways of achieving this without additional rules and intervention. The first is through better use of Information Technology and the second through the harmonisation of training of PSC inspectors.

Using modern remote-monitoring methods, port States and Port Authorities are in a position to request ship safety records before the ship enters the port. Operators are, of course, free not to comply, but if they do so they should be directed to a safe part of the port where they have to wait for physical inspection. If priority is given to complying vessels, it will soon be obvious to non-conformers that non-compliance is a costly process. Cargo owners will similarly learn the consequences of shipping on non-complying vessels (*Story*).

Information Technology can also lead to more detailed and uniform information, from all countries, on PSC reports. If this information is provided by all flag States in the same type of detail as that for example of the Australian Marine Safety Authority and the UK Marine Safety Agency, it can be of great help to insurers and it can be indirectly reflected in insurance costs (*Nunn*). In addition, if black-listed ships are well and widely publicised, this could easily lead to difficulties in financing and unwillingness of charterers to employ such tonnage. One could even imagine a situation where charterers, insurers and financiers are also black-listed when they knowingly or negligently deal with substandard tonnage (*J.M.S. Smith*).

It is often argued that the stringency of conditions in the European PSC system might create a two-tier situation, whereby substandard ships will avoid European ports and instead trade in other areas, as long as there are charterers still willing to employ them and insurers prepared

¹² Council Directive 95/21/EC, 19.06.95 (Port State Control).

¹³ Haralambides, H.E. and A.F. de Wild (1994) On the Effectiveness of Port State Control in Europe. *Proceedings of the 10th Port Logistics Conference*, Alexandria, Egypt, 9-11 January 1994.

to underwrite the risks. This is indeed a likely scenario that would not solve the problem of substandard shipping, but only achieve a “not-in-my-backyard” situation in Europe. The EU is aware of this and intends to address the issue by intensifying the operational links -for example through the inter-operability of PSC EDI systems- with other third countries, particularly Australia, Canada and the United States.

A harmonised approach to ship inspections across Europe requires uniform training and employment conditions of PSC inspectors. This is both feasible and desirable. PSC inspections should be carried out by a body of dedicated inspectors, specifically and uniformly re-trained for that purpose, eventually serving on a rotating basis in EU countries other than their own. Ideally, such training should take place at a supra-national European training school, funded by Community resources and PSC revenues from fines.

The Role of Classification Societies, Banks and Insurance Companies

The substantial amount of technical expertise Classification Societies have accumulated over the years and the inability of many flag States to undertake ship classification with their own limited resources make Classification Societies the *Auditors* of the international shipping system. Together, the 11 societies of the International Association of Classification Societies (IACS) class 90% of a world fleet currently exceeding 700 million dwt. IACS members run more than 1,500 inspection offices world-wide, undertaking half a million surveys a year, in a multitude of locations, with more than 5,000 highly trained surveyors and another 2,500 backup technical staff. The feedback from ships in operation, analysed and transferred from surveys around the world to data-banks, is the core of the unique body of experience available in Classification Societies (*Payer*).

The single most important concerted action of Classification Societies in their effort to eliminate substandard shipping is the 1988 Transfer of Class Agreement (TOCA). In the past, a well-known method to evade class requirements was the so-called “class-hopping”; a practice allowing a substandard operator to leave a strict Classification Society for a more lenient one. Among others, TOCA provides for the reliable exchange of information between the “losing” and the “gaining” societies. This information is collected and monitored by the IACS Secretary in London and it can be made available to all parties with a legitimate interest in maritime safety. Furthermore, recent revisions to TOCA ensure that the gaining society can accept the vessel only after all overdue surveys, recommendations or conditions previously issued by the losing society have been completed, as specified by the losing society, within strictly stipulated time-limits. As a result, it is now barely possible for a substandard operator to remain within the IACS regime.

However, despite their conscientious and laudable efforts for more co-operation, harmonisation of standards and the improvement of the quality of their surveyors all over the world, Classification Societies have not been immune from competitive pressures and thus from the need to offer a condescending ear to particular “interpretations” of safety rules by both flag States and shipowners.

As far as the former are concerned, recent analysis shows that all IACS members have quite a good record when ships in their class operate under reputable flag administrations, but their

performance drops markedly with ships under EC black-listed flags (*Salvarani*). This gives cause for concern and the European Commission is responsible, under EC law, to monitor such behaviour. It should not be forgotten that the Commission, if convinced that performance is declining, has the power to request withdrawal of EC recognition of a bad performer. The consequence is that such a Classification Society will no longer be permitted to work on behalf of any of the European administrations.

IMO can also play a role here by revisiting the relevant Resolutions in a way that would place responsibility on a Classification Society, representing a flag administration, to report to IMO any incidents where it believes the flag has not complied with the spirit of the regulations. A prime example of this is when a flag administration issues a dispensation at the request of an owner against the recommendations of the Classification Society (*J.M.S. Smith*). If such practices are not prudently administered by IMO they can result in legal ambiguity favouring bad ships (*Cooperman*). After all, such a responsibility is the minimum one would expect from an inspecting and auditing organisation that cannot be otherwise held responsible –although some would argue to the contrary- for the results of faulty inspections.

With regard to the sometimes “intimate” relationship between the shipowner and *his* Classification Society, the view has been expressed (*J.M.S. Smith*) that Classification Societies should not be governed only by those who pay the bill – i.e. shipowners – but should broaden the representation on their Governing Bodies and all technical and other committees to include representatives from the flag States they represent, shipowning (i.e. ICS) and shippers’ trade associations as well as insurance interests (both hull and P&I).

Such representation is particularly important to charterers who often have little to say on the safe running of the ships they use to move their cargoes. The argument can easily be taken a step further: if, for example, the class inspector were to be employed by the charterer, the Classification Society would have a genuine interest to expose to him the ship’s condition without being afraid of losing a customer because of its strict demands. Thus, only well-maintained ships would have clean class papers and the Master would not have to tend to and please four or five different inspectors, while in port. Under the present system, however, the inspection costs involved in the vetting schemes of oil companies are borne by the shipowners themselves, despite the fact that they already pay Classification Societies a substantial amount every year in order to get clean class certificates.

Dybeck thus questions, indeed with some very valid arguments, the present practice of shipowners and shipyards paying for the services of Classification Societies. Rather, Classification Societies should be employed by charterers, banks and insurance companies. Such a possibility would give insurance companies, for example, the authority to demand prompt action to rectify any shortcomings and to protect their interests. This is very important given the proactive approach insurers are nowadays taking, seriously considering loss prevention and the establishment of a closer relationship with the assured, in an effort to face the problem before it arises (*Nunn*). Also, the employment of classification services by insurers would enable them to pay greater attention to detail –e.g. by following the progress in the implementation of the ISM Code- and thus to frame cover according to the specific needs and circumstances of individual clients.

Among others things, by employing the services of Classification Societies, banks can gain greater access to class records and thus to knowledge on which to act. At this moment,

mortgage on a vessel does not necessarily mean that the bank has unrestricted access to such information. Whenever this might be required, the bank has to ask the owner to instruct his society to allow access. Since this is not general practice, shipowners are likely to perceive such a request as a sign of distrust and, as a consequence, banks will make such a request only in clear cases of default on other grounds. As far as banks are concerned, this situation will only change when it has become an established market practice to ask permission to inspect class records at regular intervals, or when classification societies change their rules to allow mortgagees access to the relevant files without the explicit permission of the owner (*Rosenmöller*). Having said all this, however, caution should be shown regarding the extent to which a bank should intervene, as mortgagee, in the commercial activities of shipping. It is conceivable that banks might be held liable for an accident if they take actions which could be construed as management activities (*Rosenmöller, De Ridder*).

The effective use of safety-related information in decision making and shipowner rankings has not been a problem, though, for P&I clubs. In recent years the cost of P&I insurance has by far outstripped the rate of inflation and owners have had to live with an increasingly harsh liability environment. Awards for death and personal injury have escalated sharply; the cost of even minor oil spills has risen dramatically; cargo values, particularly those of cargoes carried by the new generation of container ships, are extremely high; ports and discharge installations utilise sophisticated equipment that is very expensive to repair and may lead to heavy claims. These are but a few of the factors that have contributed to the escalation in claims costs and have turned P&I insurance from a relatively unimportant overhead to a significant part of an owner's operating costs. Following the substantial escalation in claims costs at the end of 1980's that resulted in heavy additional calls, the importance of containing costs by reducing avoidable accidents caused by poor performance has become a high priority for all Clubs.

Within the P&I Club system there is a built-in incentive to improve standards, because the insurance rates for poor performance operators should be fixed at a level that prevents their losses being subsidised by others who operate their ships well. As each member of the Club shares in the losses of his fellow members, each shipowner is in effect the underwriter of all other shipowners in the Club. This means that every member takes a real interest in who his fellow members are and in the way they operate their ships. In his Report *Safer Ships, Cleaner Seas*, Lord Donaldson succinctly acknowledged this by stating that "...of all the insurers, the P&I Clubs have the best opportunity to, and do, influence shipping standards because every member is acutely aware that the extent of the call (premium) which he faces as an insurer will be determined by the standards of management, maintenance and operation which he and his fellow members adopt...".

To effect this, the Rules of most clubs stipulate that a ship applying for entry may be required to undergo survey by a surveyor appointed by the club. Depending on the outcome of such a survey, the club may refuse entry or impose conditions thereupon. Ships already entered may also be surveyed and this could result in the termination of entry. Should that happen, a club could not possibly insist that the ship is denied cover by another insurer. But, if it is not to be denied the benefit of the pool, any club in the International Group is required, before accepting the risk, to obtain all relevant information about the owner from the club that has terminated his cover.

In addition, the clubs have arranged that IACS provides them with information on ships that have “hopped” from one Classification Society to another and/or have outstanding survey requirements. Furthermore, the Clubs are provided with lists of detained ships, following inspections at ports covered by the Paris Memorandum and also by the Australian authorities. Other States are being encouraged to follow this practice. Clubs are able to follow up these reports and take whatever action may be appropriate with the member concerned (*Riley*).

The Responsibility of the Charterer

Same as beauty, quality is often in the eyes of the beholder. *Kinnock* was the first to admit that, some times, insistence on higher standards can inflict unfair economic disadvantages on poor countries. Furthermore, quality has a price and, as with all other goods and services, this price is determined by demand and supply. Neither shipowners nor regulation alone can force or command this price if quality is not demanded by the users of the shipping service be they manufacturers, traders, freight forwarders or final consumers. *Cooperman* provides a most interesting example, taken from Shipping Intelligence Weekly, where Japan, by being prepared to pay an extra 10¢ per barrel, has secured 60% of modern ships at bargain prices. Most of these ships are owned by companies of substance, unwilling to trade in the U.S. due to the dire consequences of OPA 90. Despite its tough legislative approach, the U.S. is thus continuing to ship oil on old vessels; or, as one could put it, on vessels that have little to lose.

It is often heard that, although shipowners are willing and as a matter of fact do invest in quality ships and services, charterers are not prepared to pay for it. Instead, by paying a slightly higher premium, they have the possibility to insure their cargoes onboard substandard ships for up to 115% of the value of the cargo (thus insuring their profits too). As cargo owners are then covered against losses in any circumstance, they do not have an incentive to use quality ships and shipowners. As a consequence, any ship will do and the cheaper the freight rate the larger the profit.

A distinction has to be made here, however, between quality ships and ships that clearly break the law. Regarding the former, *Rapatout* reassured the Conference that quality is indeed in demand, at least by quality users, because transport is an integral part of their overall quality process which cannot be compromised by risky solutions.

A most noteworthy example of charterer diligence, exemplary also of industry self-regulation, is provided by the chemical industry through the establishment of the Chemical Distribution Institute (*Stanton, Cooperman*). The principle of CDI is that vessels are inspected by independent, accredited inspectors, the reports are kept in electronic form for easy access, and the costs are shared between the members of CDI. The Institute does not approve or disapprove vessels; this is left to the individual member companies. Whenever a vessel is disapproved, however, the owners are informed about the vetting results and recommendations are made. A dialogue, thus, starts that has so far led many shipowners to markedly increase their standards. The scheme reduces the costs involved in vessel inspection and vetting and, equally importantly, it reduces the pressure on vessels in port as the total number of inspections goes down.

Interestingly, *Cooperman* uses the same example in support of his main thesis: regulating the supply only can be counterproductive (as the OPA 90 example above shows) if the demand

for substandard ships is not regulated too. CDI has driven a lot of substandard ships out of the chemical and petroleum product trades that seem to have found refuge in the vegetable oil trades into and around Europe.

Nevertheless, it is clear that demand for quality ships –however these are defined- and having to pay a premium over and above the freight rates available in the competitive market for sound ships are two different things. As *Rapatout* argues, certain conscientious shipowners invest in quality in excess of the level required by regulation, because this is good business that often allows them to rationalise their operations. It would thus be unreasonable to ask charterers to pay a higher price for quality, when the shipowner has invested in this quality for the sake of his own long term interest, particularly in order to anticipate more stringent regulations in the future, to broaden the scope of products he can carry or even to prolong vessel life.

When it comes to the second type of ships, i.e. ships that clearly break the law, the responsibility of the charterer who knowingly or negligently employs them cannot be dismissed easily, availability of insurance notwithstanding. As Lars Lindfelt, Managing Director of the Swedish Club, once bluntly put it, *behind every substandard ship is a substandard cargo owner; the latter keeps the former in business*. Current proposals concerning charterparty wordings and new clauses are thus under discussion (*Nunn*). For those cargo owners, who whilst having the possibility of intervening in the choice of the vessel do not voluntarily do so in a responsible way, the European Commission is preparing a measure to force them to do so by law, through the introduction of financial sanctions when a ship they have chartered is detained for major deficiencies. In addition, the Commission maintains that insurance companies can and should charge cargo owners extremely high premia in case chartered ships, operated under black-listed flags, are repeatedly detained/banned (*Salvarani*).

Obviously, cargo owners could only assume responsibility for chartering poor quality tonnage if they are actually in a position to choose a vessel by being effortlessly and efficiently informed of the condition of other ships available for charter. As *Rapatout* again argues, as long as the names of unseaworthy vessels, manned by incompetent crews, are a secret jealously guarded by the authorities who possess this information or, in the case of liner shipping, when the market organisation sets up a smoke screen that makes it impossible to identify the vessels carrying the cargo, or even imposes certain carriers upon the shipper, the ability of the latter to intervene is seriously curtailed.

However, some information already exists to facilitate shippers' choice. For example, the European list of black-listed flags is published yearly while, as of 1996, lists of detained ships have to be published by all Member States every three months. This, in addition to shippers' own databases such as SIRE¹⁴ and CDI.

¹⁴ Similar to the CDI initiative described above, SIRE -the Ship Inspection Report Exchange programme of the oil companies- maintains a pool of readily accessible technical information concerning the condition and operational procedures of oil tankers. More than 11,000 reports are currently in the database and this information is available to charterers, governments and other organisations with a direct interest in tanker safety (*Oldham*). SIRE has received considerable criticism from shipowners and operators (*Thorstensen*) for having contributed little to the reduction of the number of inspections. It has thus been argued that oil majors do not accept each other's reports, except for reasons of commercial expediency, and, despite the existence of an OCIMF standard, each individual company has its own additional requirements.

Ports and Port Services in Quality Shipping

Nowadays, ports have lost their traditional character as mere interface points between sea and land and have become crucial nodes in the overall transport chain. In addition, in many parts of the world, disappearing national hinterlands have intensified regional port competition and the ability of any one port to implement stricter safety policies, over and above its competitors, without incurring a commercial disadvantage. This is of particular importance to inland ports that must at the same time ensure that an increase in costs related to the maritime element –as a result of stricter norms on so-called substandard ships- still allows them to retain their advantage of shorter hinterland connections (*v.d. Voorde*).

Noteworthy attempts have, however, already been made. For example, Rotterdam's Green Award certification system offers preferential treatment as well as discounts on port dues to tankers whose crews and equipment comply with specific quality requirements. The system has also been adopted by ports in Spain and S. Africa and more than 30 ships have been certified (*Lak*). In addition, a number of ports have now taken to rectify the injustice that was done for more than 15 years to Segregated Ballast Tanks tankers.¹⁵

But perhaps Rotterdam is not the most characteristic example of the various port facilities and services offered around the world. *Lorenzen's* lucid account includes inadequate port approaches, pilotage, towage¹⁶, deficient radio and separation systems, quays that are rotten and totally inadequate to receive modern ships, lack of reliable information on depths, charts that do not correspond with the present situation, lack of or excessively expensive reception facilities and diluted or contaminated bunker supply; arguably problems that add to a shipowner's burden but over which he has no control. However, when something goes wrong, often with a pilot aboard, the first ones to be singled out and held responsible are the captain and the shipowner.

It could well be argued here, however, that no one is forcing a ship operator to call at such ports apart from a drive for profit. When he does call, he takes a calculated risk weighed against his potential profit and, hopefully, covered through adequate insurance. Of course, as always, higher insurance costs will somehow be reflected in freight rates and their incidence will be ultimately born by the final consumer. In ports with a significant role in trade

¹⁵ A digression to the benefit of the uninitiated reader might not be amiss here. In the past, the greatest percentage of hydrocarbons entering the marine environment, as a result of ocean transportation, was originating from the operational practices of tankers. After unloading, oil tanks were washed with sea water which was subsequently pumped into the sea carrying with it substantial amounts of oil. On the return trip, for stability and effective propulsion reasons, water was carried in roughly one third of the cargo tanks. One of the most important innovations in the 1960s was the Load on Top (LOT) technique, incorporated in 1969 in the 1954 OILPOL Convention. According to this, the oil-water mixture from tank washing was channelled in a special tank so that, during the return voyage, oil was separated from water by gradually moving to the surface of the tank being lighter than water. At the port of loading, water was pumped out and "fresh" cargo was loaded on top of the "old" one; a practice that, among other things, saved oil traders considerable amounts of money, as the amount of oil previously wasted could, for a large tanker, reach 800 tons. Matters were further improved with the 1973 MARPOL Convention providing for Segregated Ballast Tanks (SBT) and Crude Oil Washing (COW). SBT required tankers to have separate tanks for the ballast water located –according to the provisions of the 1978 MARPOL Protocol- in the least exposed positions in case of an accident. This made tankers larger without necessarily increasing their cargo carrying capacity which is mostly the criterion for levying port and canal dues. COW required oil tanks to be cleaned with oil rather than water (a practice known to car mechanics washing their hands long before MARPOL!). There was thus no water that had to be pumped out into the sea.

¹⁶ *Thorstensen* describes situations where tugs have dented the structure by pushing at the wrong places, have torn off anchors, and shipowners having to explicitly budget such things in their operating costs. One might add that the loading of bulk carriers at some Australian ports could be another example not dissimilar to the above.

facilitation¹⁷, high freight rates and the generalised costs of inefficient port operations are cause for concern. Market forces are thus coercing governments to act or, in their inability, to at least set the right framework for greater private sector participation in port modernisation and development. Given the availability of substantial international financial resources searching for attractive investment opportunities in the port sector, governments that do not act in such a way do so not because of inability but of conviction. The arguments here are that ports still maintain considerable monopoly power (i.e. the ship will come anyway) and that port costs are just a small part in the final price of traded goods.¹⁸ Thus, efficiency and modernisation are considerations of lesser importance *vis a vis* other economic and political priorities such as generation of employment and the maintenance of a large public sector. Luckily, experiences from around the world¹⁹ clearly demonstrate that, nowadays, such attitudes are becoming the exception.

One port service in particular, that of pilotage, was subject to serious criticism by a number of speakers. In many ports, pilotage is shrouded under exclusive rights, concessions and other restrictive business practices, often in the name of the *Public Service Obligations* that this service implies. This can give rise to inefficiency, something that understandably shipowners feel particularly strongly about (*Riley*), the more so when they have to assume sole responsibility for pilot error and when the vast majority of incidents, for example collisions, occur with a pilot onboard (*Thorstensen*). As a matter of fact, pilotage has been described as one of the few economic activities in the world where an expert is hired, for the sole reason of his expertise, but someone else is blamed, e.g. a ship's Master, when something goes wrong (*Thorstensen*). Under the current practice, it could thus be argued that the shipowner is subsidising -through his P&I insurance- incompetent pilots whereas, ideally, the latter could also assume responsibility, covering their risks by adequate third party liability insurance as is the case with many other professions, doctors and surgeons included.

Finally, an often neglected by extremely important factor with regard to ports' contribution to ship safety is the economically unjustified link between port dues and tonnage measurement. As a result of this, ships are designed to maximise cargo carrying capacity under the constraint of a given tonnage measurement. And this is not always the safest or seafarer-friendliest solution. *Korteland*, for example, argues that a higher freeboard generally results in gentler rolling that is less exhausting for the crew, particularly in heavy weather. The risk of accidents as a result of fatigue and physical exhaustion is thus reduced. An alternative, economically rational, approach to port pricing could thus be envisaged based on the principle of *cost relatedness*; a principle that *inter alia* expresses also one of the European Commission's ideas on the pricing of infrastructure²⁰. Under this, port dues would have to be somehow related to what the port is actually offering the ship, i.e. quay length, draught, manoeuvring space and a particular level of service.

The Economics of Safety: Regulation + Competitiveness = Flagging Out

¹⁷ Haralambides, H.E. and A.W. Veenstra (1996) *Ports as Trade Facilitators in the Export-Led Growth Strategies of Developing Countries*. In: M. Valleri (ed.), *L' Industria Portuale: per uno Sviluppo Sostenibile dei Porti*, Cacucci Editore, Bari.

¹⁸ which in many cases is of course true particularly if one does not include the cost of ships' time in port and the fact that, often, the cost of (public) port investments does not have to be recovered.

¹⁹ Haralambides, H.E., S. Ma and A.W. Veenstra (1997) *Worldwide Experiences of Port Reform*, in: H. Meersman and E. v.d. Voorde (eds.), "Transforming the Port and Transportation Business". Acco Publishing, Leuven, 1997.

²⁰ See, for example, Commission of the European Communities, *Proposal for a Council Directive on Airport Charges*. COM(97) 154 final, 23.04.97.

In the absence of effective policing and uniform enforcement of international regulations, an increasing body of the latter can only lead to a widening in the competitive gap in favour of what has been called the *evasion culture* group. Suffice it to say, as an example, that, according to recent OECD estimates²¹, differences in repair and maintenance costs alone can give a substandard ship operator a comparative advantage of 1 million US dollars per year per ship. Clearly, if substandard operators ignore present rules why should they bother with new ones? (*Salvarani*).

It thus becomes strongly felt by an increasing number of policy-makers that safety and environmental policies and standards are, in many areas of shipping, inextricably linked to issues of industrial competitiveness and they should be seen as such. This was the main message of the Conference and a belief that permeates the European Commission Communication *Towards a New Maritime Strategy*. Unavoidably, discussion of industrial competitiveness brings to the forefront the issue of flagging-out; an issue of major concern to Europe, the world's largest trading and shipping block.

Over the past 15 years or so, the merchant tonnage registered in open registry countries has increased substantially, currently representing 43.4% of world tonnage²². In the same period, OECD registered tonnage has declined from 51% of world tonnage at the beginning of the 1980s to 28.4% by the end of 1995. Given the relative stability of the market shares of other national groups, it should not be difficult to deduce that most of the gains in open registry tonnage are mainly the result of OECD flagging-out.

Flagging-out is an operational decision of certain shipowners aimed at streamlining operating costs and other conditions to those prevailing in competing third countries. According to studies carried out for the European Commission, flagging-out could reduce the operational costs of a Community registered vessel by 3.5% to 22% in the case of a containership and by 15% to 44% for a bulk carrier. Thus, flagging-out cannot be condemned *ipso facto*, particularly if the countries offering open registry facilities comply adequately with international regulations concerning safety and the protection of the marine environment. In this sense, a Dutch-owned ship registered in the Dutch Antilles and employing Filipino crew is not much different than Philips manufacturing in Singapore, assembling in Malaysia and distributing to the international market from Ireland. Both companies aim to take advantage of the opportunities afforded to them by the ubiquitous globalisation of all forms of economic activity, combining in an optimal way factors of production to achieve a competitive advantage.

It is evident, however, that flagging-out affects adversely the EU economies by reducing employment, fiscal revenues, know-how and the knock-on effects on shipping-related activities. This is the more so in cases where the flagging-out of ships is accompanied by the relocation of management activities.

Policy-makers have, on occasion, been quite justifiably reluctant to draw the link between flag and quality of shipping services. Indeed it has been argued that more important than the choice of flag is the choice of classification society as this indicates how seriously the

²¹ Organisation for Economic Cooperation and Development, *Competitive Advantages Obtained by Some Shipowners as a Result of Non-Observance of Applicable International Rules and Standards*. OCDE/GD(96)4, Paris, 1996.

²² OECD *Maritime Transport 1995*. OECD, Paris, 1997.

shipowner takes safety matters into account (*Korteland*). Notwithstanding this, from the relevant statistics it appears that the heaviest casualty record is to be found among open registries. According to LMIS²³ statistics on world-wide casualty analysis for 1993, the 15 flags with the largest number of casualties world-wide accounted for 61% of the total. Among those, the Panamanian flag had 158 casualties (11% of total), followed by the Liberian one with 6% of all casualties.

Interestingly enough, *Farthing* questions these figures arguing that, at least as far as human safety is concerned, some FOCs are amongst the safest flags in the world. Based on analyses of total losses from collisions and strandings of bulk carriers and OBOs, he concludes that Panama and Liberia, together with Greece, Norway and China, all have records as good as or better than average. According to these analyses –the data sources of which is unfortunately not provided- the worst performers are Turkey, Bulgaria, Japan and Korea, with losses up to four times the average; and these are not traditional FOCs.²⁴

Whatever the case, the poor casualty record of open registries ought to be explained not so much by the existence of a high percentage of substandard tonnage among their fleets, but by the many times equally poor management performance of the beneficial owners and their staff and crews. The International Maritime Bureau corroborates this view through their finding that there is not relation between casualties and flag, but the important factor is the relation between casualties and the technical management of the company (*Nieuwpoort*).

The point I am trying to make here is that safety and environmental awareness cannot be imposed on people by regulations only -which tend to be circumvented- but they are rather developed through a long process involving education and more importantly the existence of an operating business environment that unquestionably attributes higher societal values to a cleaner and safer environment. In this light, the reflagging of ships and management back to European registers, apart from the narrow economic benefits it would entail, would have some wider social benefits too.

The European Commission together with a number of OECD and many other developing countries have been viewing the phenomenon of open/dual registries with considerable scepticism if not disdain. In addition to some well-founded concerns regarding the laxity of safety, environmental, operational and other rules and regulations pertaining to such regimes, considerable discussion has also been focused on the assertion that flagging-out distorts competition between EU shipowners and, on the other side, frustrates the plans of developing countries to promote their own shipping industries.

However, seen from a different perspective, flagging-out aims at restoring a level playing field by equalising the operating conditions of EU shipowners with those prevailing in competing third countries. On the other hand, the fact that despite the sometimes substantial economic benefits of flagging-out a number of European shipowners have opted to remain under their national registers means that, at least for them, the economic/non-economic

²³ Lloyd's Maritime Information Services

²⁴ This paragraph makes reference to the "convincing power of statistics" unavoidable. Looking at the Lloyd's Register figures on world fleet by country and type of ship –as reported in OECD *Maritime Transport 1995* (Table 13, p. 162)- the combined bulk carrier and OBO tonnage of *Farthing's* first group of countries (Panama, Liberia, Greece, Norway and China) is nearly half of the world total of this type of ships; to be precise, 44%. Thus, to say that these countries' record is as good as the average doesn't take one very far, as their record *is* the average. Seen from another angle, Liberia's and Panama's 1% losses –according to *Farthing's* Figure 2- represent 430 thousand gross tons, roughly equal to Bulgaria's total bulk carrier fleet!

benefits of doing so outweigh those of flagging-out, at least in certain areas of shipping. In this light, the argument of “distortions to competition” cannot hold much water, particularly when it is acknowledged that the establishment of a level playing field internationally with third country competitors is by far more important.

The main objective of Europe’s shipping policy, with regard to flagging-out, should be to entice European shipowners to fly the flag of a Member State, to the extent possible, or at least to conduct their management activities from within a Member State. The latter option might be even more important as it has been shown that the greatest part of the value-added generated by shipping and related functions originates from shore-based activities.

The policy direction in this regard is rather straightforward: Member States, in co-operation with the European Commission, should evaluate the long-term economic and social costs of flagging-out (including its effect on freight rates, consumer welfare, safety and the environment) and weigh them against the cost of the minimum meaningful positive measures necessary to entice European shipowners back to their national registers. If the former costs exceed the latter, Member States and the Commission should strive to design the minimum necessary package of positive measures (preferably on the basis of existing experience in some Member States) aimed at equalising operating conditions.

The Role of the Human Factor

Flagging-out has also taken a heavy toll on maritime employment. According to data from the European Community Shipowners’ Associations (ECSA), the number of EU seafarers under national flag has declined from its 1983 level of 235,146 people to 138,341 in 1995²⁵. In the same period, the number of non-EU seafarers employed on board European flag vessels has increased from 31,867 to 53,388 persons. It is estimated that 51% of this reduction in EU seafaring employment is the result of flagging-out. An additional 27% can be attributed to the loss of market share in general, and the remainder to the reduced manning levels and increased productivity.

Many would argue that this is nothing new but just the result of globalisation that cuts across all industries establishing production facilities abroad. General unemployment levels in Europe would attest to this. It has even been suggested that European shipowners should invest in training of seafarers in developing countries rather than pay onerous compensation to labour unions at home for the privilege of being allowed to hire abroad (*Mitsatsos*).

However, there are good reasons to believe that most EU Member States attribute a high societal value to the preservation of Europe’s maritime know-how. In a recent study undertaken by the University of Wales -on behalf of the UK Department of Transport, the Chamber of Shipping and the Marine Society- it was found that, in the UK alone, there are approximately 17,000 shore-based jobs which employers would prefer to fill with ex-seafarers. For 70% of these, seafaring experience was considered essential.²⁶ Apart from the shipping companies themselves, shore-based activities requiring seafaring experience include

²⁵ Including Norway

²⁶ see Gardner, B.M. and S.J. Pettit (1996) *A Study of the UK Economy’s Requirements for People with Experience of Working at Sea*. University of Wales, Cardiff. A similar project was recently carried out for the Dutch Ministry of Transport with the aim to identify future demand-supply imbalances and the requirements on Holland’s maritime education system, generally acknowledged as one of the most advanced in the world.

shipbuilding, chartering and shipbroking, banking and finance, marine insurance, ports, dredging companies, shipping agencies, equipment suppliers, P&I Clubs, Classification Societies, etc.

In this context, the importance of a much wider vocational education for seafarers, preparing them for the shore activities that they, in all likelihood, will be involved in, after their usually short sea-going career, could not be overemphasised. As mentioned above, shore-based activities are to a significant extent undertaken by ex-seafarers and, therefore, a shortage of the latter can have detrimental effects on safety, the efficient management of shipping companies and the preservation of the necessary shipping know-how.

This type of education could be jointly funded by shipowners, government and possibly by Community resources²⁷, and, apart from being self-fulfilling for the seafarer, it should contribute in making the seafaring career more attractive. Furthermore, the level of education and training facilities should be upgraded and education/research programmes co-ordinated among Member States. This would make the transferability of sea-going labour between Member States easier and it would tend to even out disparities in remuneration and thus in the cost structures of European shipowners. The curriculum should comprise subjects such as maritime economics, law, logistics and multimodal transport arrangements, port operations and economics, and in general subjects pertinent to the efficient management of a modern shipping company.

The Commission has initiated a research programme under the name METHAR, aiming, among others, to the harmonisation of maritime education and training systems in Europe and to the adaptation of educational programmes to the needs of the industry. The results of this study are intended to be used as guidelines for the possible development of positive measures with regard to seafaring training.

Perhaps it is worth mentioning in the present context the already well-publicised fact that more than 80% of all marine accidents is the result of human error.²⁸ People, the “software” of the industry, are receiving a renewed interest in the regulatory work of IMO, with the full support of the EU. This is done through two very important instruments, namely the International Ship Management Code (ISM) and the amendment of the International Convention on Standards of Training, Certification and Watch-keeping for seafarers (STCW).

While the ISM Code aims at developing and sustaining a new safety culture in the corporate thinking of shipping companies, the STCW amendments are intended to improve the quality of personnel at sea through proper education, increased awareness, discipline, communication and competent execution of tasks (*Gratsos*). Both instruments represent a very positive step for IMO who, for the first time, has been given the authority to monitor whether or not a number of important obligations imposed by the two instruments on shipping companies, governments and training institutions have been complied with.

²⁷ such as the European Social Fund and the LEONARDO Programme

²⁸ care should be shown, however, with such unqualified statements; where does human error stop? Is it not, for example, structural failure also the result of human error in ship construction/design?

Last but by no Means Least: The Power of Consumer Awareness

The public reaction to the Exxon Valdez disaster, the Brent Spar adventure and the French nuclear tests clearly indicate that the public is taking a serious interest in the environmental and safety policies of companies and governments (*Korteland*). I believe that consumer awareness can be easily turned into a most powerful marketing tool for shippers of substance, contributing tremendously towards quality of shipping. And I would like to conclude this introduction with the following example.

Some time ago, Unilever and the World Wildlife Fund (WWF) formed a partnership whereby WWF was to scientifically define what is a *sustainable fish population* and Unilever to commit itself to source all its fish inputs from such areas. It would then label all its fish-based consumer products to include this information.

One could imagine a similar situation in shipping whereby an independent non-profit organisation develops a *shipping quality index*, perhaps along the lines of the Norwegian proposals for an environmental rating. Assume that a major charterer, let us say Shell or BP, commits itself to carry all its shipments with vessels that conform to this index. And imagine that as you drive in the filling station, a large sign catches your eye saying that “*the gasoline you put in your car has been brought here with an environmentally friendly tanker*”. With all the evils brought upon us from burning fossil fuel, our congested roads, polluted atmosphere and our guilty conscience whenever we have to use the car, who wouldn't visit such a filling station, even if she would have to pay a couple of cents more per litter of fuel?