

Unclassified

DSTI/DOT(2002)2



Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

16-Apr-2002

English - Or. English

**DIRECTORATE FOR SCIENCE, TECHNOLOGY AND INDUSTRY
DIVISION OF TRANSPORT**

**DSTI/DOT(2002)2
Unclassified**

COMPETITION POLICY IN LINER SHIPPING

FINAL REPORT

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JT00124488

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Abstract

If there is one topic that elicits strong reactions in the maritime sector, it is the practice of carriers to commonly fix prices and regulate capacity in international liner shipping. Proponents of these practices vigorously defend these as necessary in order to guarantee the regularity of maritime freight transport services. Opponents, on the other hand, vehemently attack these as one of the last bastions of cartel control of an entire sector. This report examines *a)* the positive and negative impacts of common pricing under anti-trust exemptions, *b)* the impacts of conference, discussion and stabilisation agreements on the sector and *c)* the potential effects that could stem from the removal of anti-trust exemptions for liner shipping in an attempt to determine whether these anti-trust exemptions are beneficial or harmful to society at large.

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SUMMARY

As part of ongoing OECD work on regulatory reform, the OECD Secretariat convened a workshop in May of 2000 in order to discuss regulatory reform in the maritime sector. Given the wide divergence of views at the workshop regarding anti-trust exemptions given to liner operators, the chair called on the OECD to investigate three issues relating to regulatory reform and competition policy in the sector:

1. The positive and negative impacts to both carriers and shippers of common pricing under anti-trust exemptions.
2. The impacts of conference, discussion and stabilisation agreements on both carriers and shippers.
3. The possible effects stemming from the removal of anti-trust exemptions for liner shipping.

A draft of the present document was discussed at an OECD workshop of carriers, shippers and government regulators in December 2001, and this final report reflects many of the comments made at that time.

This report's focus is not on the operational arrangements used by carriers to generate greater efficiencies and promote higher productivity, but rather, on those arrangements amongst market actors that seek to fix and/or discuss prices or artificially control supply. In particular, this report looks into the rationale and impacts of traditional conference price-fixing and Discussion agreements, and, insofar as they could potentially skew market-wide freight rates, Capacity Limitation agreements.

The analysis in this report is based on information collected through a survey completed in the spring of 2001, supplemented by other publicly available sources of information. This report has investigated market share, freight rate, financial performance and regulatory trends in addition to different models of liner shipping markets. Based on the results of this analysis, this report has sought to determine whether the continuing existence of anti-trust exemptions for price fixing and rate discussions in liner shipping are preferable to a move towards more competitive liner markets. This review has not found convincing evidence that the practice of discussing and/or fixing rates and surcharges among competing carriers offers more benefits than costs to shippers and consumers, and recommends that limited anti-trust exemptions *not* be allowed to cover price-fixing and rate discussions. It also finds that capacity agreements should be carefully scrutinised to ensure that they do not distort the markets in which they are present.

However, recognising the high degree of polarisation in the longstanding debate relating to these topics, this paper also sets out a possible way forward based on points of convergence between shippers and carriers. These points serve to frame three principles that countries could use to guide future re-assessments of the validity of anti-trust exemptions for price fixing, rate discussions and capacity agreements between competitors in the liner shipping sector.

1 Why re-visit Competition Policy vis-à-vis Liner Shipping?

1. If there is one topic that elicits strong reactions in the maritime sector, it is the practice of carriers to commonly fix prices and regulate capacity in international liner shipping. Proponents of these practices vigorously defend these as necessary in order to deliver regular maritime freight transport services. Opponents, on the other hand, vehemently attack these as one of the last bastions of cartel control of an entire sector. More words have been said, more ink has been spilled and more acrimonious jibes exchanged on the subject than on possibly any other in the maritime sector. And yet, there is no clear resolution in this matter. Are these practices — and the anti-trust exemptions granted to them by most countries — beneficial or harmful to society at large?

2. It is against this backdrop that in May 2000 the OECD Secretariat convened a workshop to discuss opportunities for regulatory reform in the maritime sector. This workshop was part of an ongoing initiative within the OECD to investigate the state of, and potential need for, reform activities within various economic sectors – including maritime transport. The OECD Secretariat had prepared a background paper to provide a framework for the workshop discussion. While much of the paper elicited little reaction from delegates, industry representatives and maritime experts, those sections dealing with competition policy in the liner shipping sector gave rise to heated debate.

3. In particular, the paper called for a gradual roll-back of anti-trust exemptions for common rate-fixing and capacity limitation agreements among liner shipping companies – especially those involved in conferences, discussion agreements and/or consortia. While many shippers and representatives of competition authorities present at the workshop expressed strong support for these recommendations, many maritime ministry delegates and carrier representatives were adamantly opposed to any change in the status quo. One criticism levelled at the background paper was that its conclusions seemed to be more grounded in ideology than in a complete and detailed analysis of the issue. Proponents of keeping block anti-trust exemptions in place expressed frustration at the leap they perceived between the quantitative and anecdotal data provided in the paper and the strong findings against granting anti-trust immunity for liner operators.

4. It is true that more can and should be done to more thoroughly investigate the impacts of anti-trust exemptions in liner shipping on shippers, carriers and the community at large. Faced with calls for the immediate removal of anti-trust exemptions on one side, and calls for no action on the other, the Secretariat chose to ask both proponents and opponents of these measures to provide the data necessary to fully and objectively analyse the issue. In particular, the chair of the workshop called on the OECD to investigate three central issues:

1. The positive and negative impacts to both carriers and shippers of common pricing under anti-trust exemptions.
2. The impacts of conference, discussion and stabilisation agreements on both carriers and shippers.
3. The possible effects stemming from the removal of anti-trust exemptions for liner shipping.

5. This report seeks to investigate these three issues from a neutral perspective, acknowledging that, while anti-trust exemptions typically impose costs on society, they may in special circumstances give rise to benefits that outweigh these costs. What follows is a critical evaluation of whether scheduled maritime freight transport services constitute such a case. However, before describing how the Secretariat has sought to balance the arguments for and against anti-trust exemptions for liner shipping, it is perhaps useful to understand why OECD Member countries have given regulatory reform (including reform of competition policy) such a high priority.

1.1 The OECD and Regulatory Reform

6. Democratic governments give voice to the collective will of citizens and serve to frame and guide their actions in order to maximise economic and social well being. This broad task can be carried out in a number of ways, *e.g.* by developing policies to promote economic vitality, high levels of employment, better education, and high standards of environmental quality health and safety. Government regulation -- the elaboration of enforceable rules of conduct -- is one necessary and effective tool governments use to carry out their mandate. However, with the ability to impose rules concerning the activities of citizens and enterprises comes an equal responsibility to ensure that these rules are still relevant, effective and able to improve the welfare of citizens. Regulatory review and, when necessary, regulatory reform are therefore two central government activities.

7. In 1995, OECD Ministers requested that the OECD embark on a two-year study of the significance, direction and means of reform in regulatory regimes in OECD countries. In 1997, the resulting OECD report on regulatory reform concluded that citizens had much to gain from government efforts to analyse and reform their regulatory framework. This is especially true in nations and economic sectors undergoing rapid changes where existing regulatory frameworks can quickly become obsolete and serve to block rather than contribute to intended improvements in economic and social welfare. This outcome led Ministers to request the OECD to undertake a series of reviews covering a range of economic sectors, including transport.

8. The failure to re-evaluate the effectiveness of regulatory regimes can have two significant results. The first is that governments, through their regulations, serve to promote less-than-optimal outcomes by creating unnecessary and unwanted barriers to trade, investment and economic efficiency while, at the same time, reducing innovation, wasting government resources and favouring uncompetitive economic actors. The second outcome is a result of the first -- failure to enact necessary regulatory reform imposes significant costs on citizens. These costs are difficult to precisely quantify but the OECD report's analysis of sectoral reforms indicates that they can be substantial (Box 1.1).

1.2 Competition Policy

9. One common theme of regulatory reform in OECD countries in the past 20 years has been the greater reliance on competitive markets. Through competition policy, governments seek to develop an equitable framework for competition among market actors. A well-functioning competitive market environment allows buyers to decide and communicate what products and services they desire, and allows sellers to respond to this demand as creatively and inexpensively as the market will permit. These goals can be thwarted by inefficient government regulation or by collusion among sellers to artificially restrict output, set prices above what they might otherwise be and/or unfairly eliminate competitors.

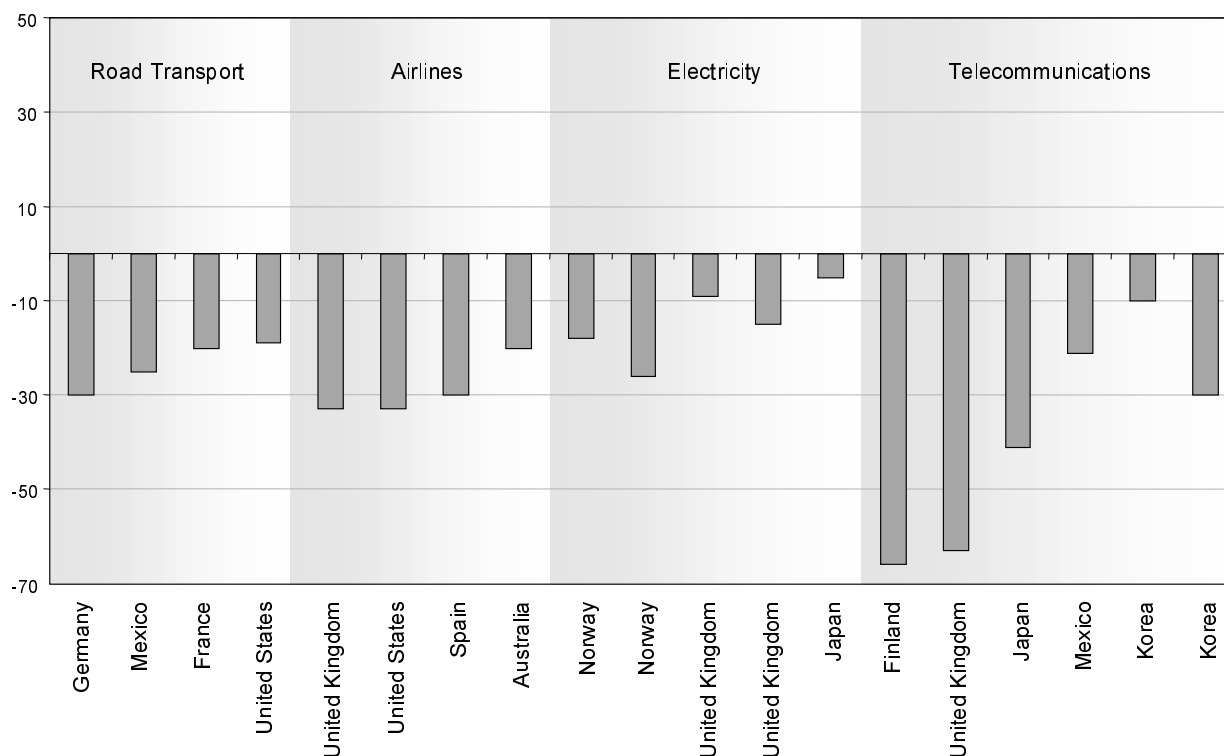
Box 1.1 Regulatory reforms increase productivity, lower prices, and eliminate shortages...

By sharpening competitive pressures, the elimination of economic regulations has encouraged firms to become more efficient and helped to boost the productivity of entire industries:

- In Europe, labour productivity growth in the *manufacturing sectors* most affected by competition-enhancing reforms in the Single Market Programme were double those of other sectors (14% versus 7.5% for the period 1986-91).
- In *air transport* in the United States, real fares dropped by one-third between 1976 and 1993; more than half of this decline is attributed to deregulation. Following airline liberalisation in 1993 under the European Single Market, 800 new licences were granted in Europe, and more people are using lower-cost economy fares.
- *Road haulage industries* in the United States and the United Kingdom enjoyed increases in capital productivity of around 50% after relaxation or elimination of out-dated operational controls. Capital productivity was also boosted in these industries in France and Germany following liberalisation.
- Market liberalisation in *telecommunications* and technological advances led to new services and striking improvements in efficiency. Elimination of monopolies helped stimulate new technologies and increase the number of subscribers of cellular phones in OECD countries from 700 000 in 1985 to 71 million in 1995. After reform, average prices for telephone services fell by 63% in the United Kingdom, and 41% in Japan; long distance prices fell by 66% in Finland.

Increased efficiency means lower prices for consumers and businesses. Prices have fallen significantly and often swiftly where regulatory reforms strengthened competition or imposed efficiency-enhancing price regulations (Figure 1). Not all of the price reductions reported in Figure 1 can be attributed to regulatory reform only. Part of the decline in prices of telecommunications services, for example, is likely to reflect technological progress rather than regulatory reform. However, on balance, much of the price reductions represented below were enabled by the removal of regulatory barriers and a more pro-competitive legislative framework.

Price reductions after elimination of economic regulation (percent)

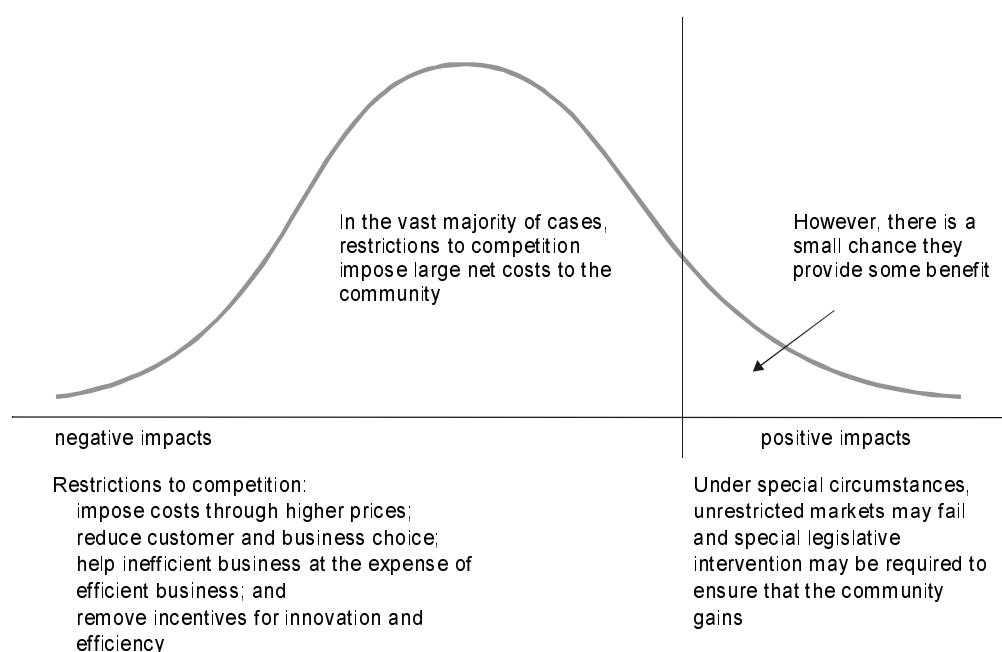


Excerpted from: The OECD Report on Regulatory Reform – Synthesis, pages 11-12

10. Achieving an equitable balance between the benefits of free markets and the need to promote social objectives that cannot be met through markets is one of the foremost tasks for regulatory agencies. While OECD Member governments have found that in the overwhelming majority of cases anti-competitive behaviour imposes large net costs on society, under special circumstances, restrictions to competition may deliver some benefits (Figure 1.1). Governments, therefore, find it necessary at times to intervene directly in markets to overcome market failures and/or to pursue other social goals. In some cases this might even require sacrificing some of the benefits of competition.

11. Given the effectiveness of competitive markets in most sectors, and the net negative impact of most anti-competitive practices, these are the exception rather than the rule. The common practice is to put the onus of proof for implementing or continuing such practices on the proponents of such measures. Furthermore, governments engaging in regulatory reviews of competition policy have a responsibility to ensure that the special circumstances that gave rise to restrictions on competition still exist and/or warrant exemptions to the general pro-competition policies. Indeed, OECD Ministers agreed in 1997 to “reform economic regulations in all sectors to stimulate competition, and eliminate them except where clear evidence demonstrates that they are the best way to serve broad public interests”¹.

Figure 1.1 Impact of restrictions to competition on the community



Source : Centre for International Economics, 1999, page 6.

1.3 Reform in the transport sector

12. Transport plays a crucial role as an input into almost all economic sectors. It is also a means of globally moving all trade in goods, as well as passengers, and is a sector characterised by particularly intricate domestic and international regulations and institutions that have accumulated over time. It is also

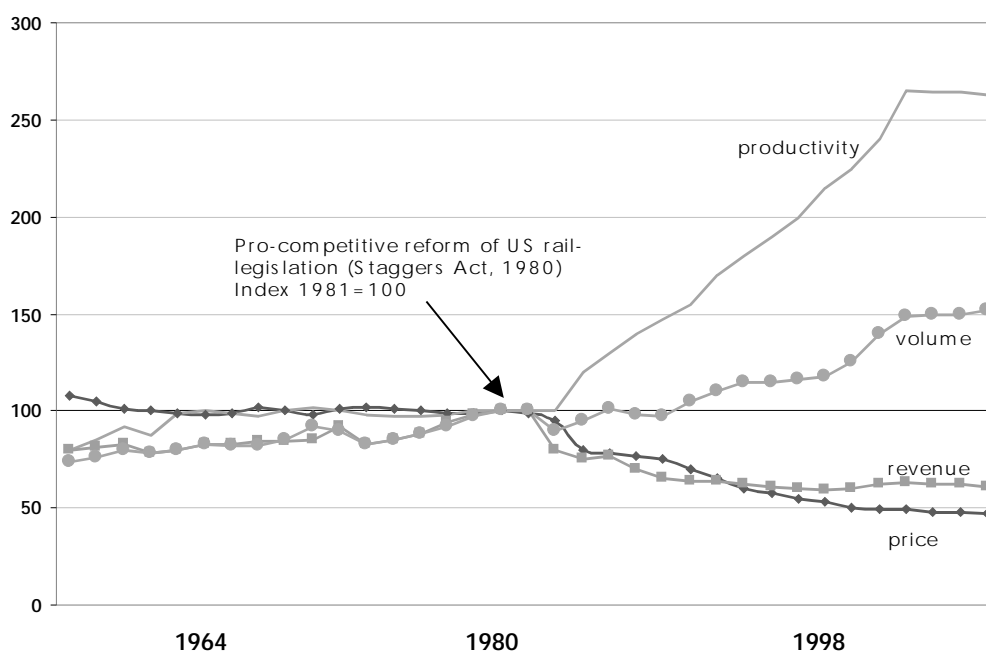
1. OECD Policy Recommendations on Regulatory Reform, June 1997 OECD Ministerial Meeting.

a sector where regulatory review and reform has the potential to unleash efficiency gains, cost savings, service innovation and user and consumer welfare. Recent analyses of past and/or partial reform in road, rail and air transport indicate that these benefits can be significant (Figure 1.2). Technical and organisational progress in transport services also necessitates regulatory adjustment at domestic and international levels.

13. Transport is also a very important economic activity in its own right. It can be assumed that the production, maintenance and use of transport infrastructure and mobile equipment represents some 4-8% of GDP and 2-4% of the labour force. Maritime transport, by far the main mode of international transport of goods, is particularly significant as a service industry facilitating international trade. Total seaborne trade volume reached 5 885 million tons loaded in 2000.

14. This maritime trade involved two major maritime transport sectors. *Liner shipping* provides shippers with transport services (mostly by ships designed to carry modular containers) involving regularly scheduled arrivals and departures from advertised ports. On the other hand, *bulk shipping* operations are undertaken by vessels designed to carry homogeneous unpacked dry cargoes (for example grain, iron ore and coal), or liquid cargoes (such as oil, liquefied gas or chemicals). Bulk shipping operations are ordinarily carried out for individual shippers on non-scheduled routes.

Figure 1.2 Performance of major railroads in the United States, 1964-1998



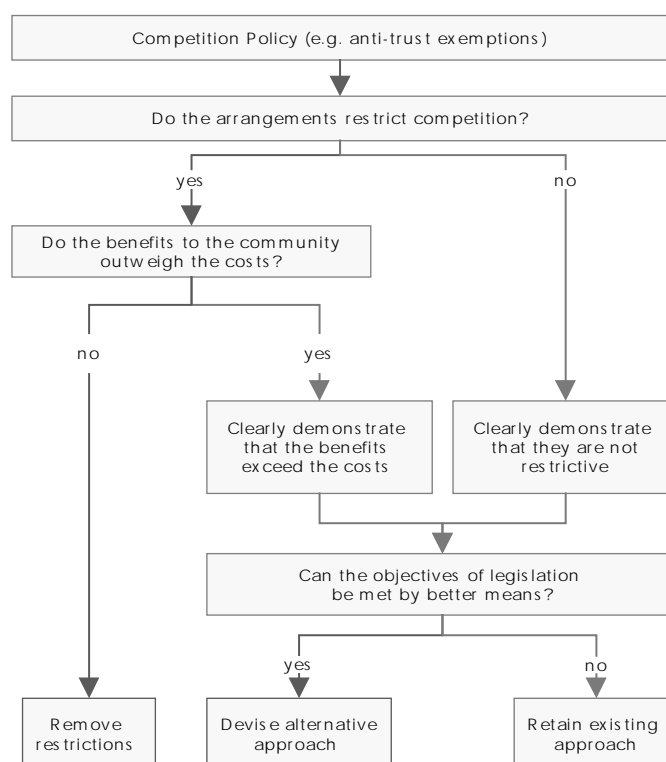
Source : ECMT, 2001 (Association of American Railroads).

15. Many have argued that liner shipping is indeed a special case where practices that are otherwise considered anti-competitive in fact deliver advantages beyond the costs imposed. Indeed, the history of the conference system (where carriers openly and collectively set rates or otherwise organise aspects of their business) is a long one that has been marked by continued and repeated government support. However, as pointed out earlier, the “specialness” of liner shipping and its exemptions from anti-trust legislation have equally been strongly called into question by the users of shipping services and certain regulatory agencies.

1.4 Getting to the heart of the matter...data and analysis

16. The difficulty in assessing the validity of the pro- or anti-exemption position has always been the availability (or lack thereof) of the detailed information necessary regarding actual negotiated freight rates, terms and provisions of service contracts, relationships between operating costs and freight rates and the nature of arrangements among carriers. In an ideal world, a regulatory agency would be able to proceed in a logical fashion to investigate the benefits/disadvantages of anti-trust arrangements. This would entail making an assessment as to these practices' impacts on competition, the net balance of benefits and dis-benefits flowing from these measures and an investigation of alternative approaches to achieving the benefits resulting from these actions (Figure 1.3).

Figure 1.3 Competition policy review flowchart



Source : Centre for International Economics, 1999, page 7.

Box 1.2. Parties asked to provide data for the OECD review of liner shipping competition policy

Carrier Trade Associations

World Shipping Council
 CENSA
 European Community Shipowners' Association ECSA
 Japanese Shipowners' Association
 Korean Shipowners' Association
 International Chamber of Shipping

Conference Secretariats

Liner Shipping Services
 SCAGA
 Canada Westbound Rate Agreement
 Transpacific Stabilisation Agreement
 Associated Conferences Secretariat Inc.
 Canada-United Kingdom Freight Conference
 Canadian Continental Eastbound Freight Conference
 Canadian North Atlantic Westbound Freight Conference
 Continental Canadian Westbound Freight Conference
 Europe to Australia and New Zealand Conference
 Europe Japan Freight Conference
 Europe Mediterranean Trade Agreement
 Europe Middle East Rate Agreement
 India Pakistan Bangladesh Ceylon European Conferences
 Philippines Europe Conference
 Far Eastern Freight Conference
 Far East/South Asia-Middle East Conference
 Hong Kong Europe Freight Conference

Hong Kong/Japan Freight Agreement
 Intra-Asia Discussion Agreement
 Europe Indonesian Freight Conference
 Japan/Indochina Freight Conference
 Japan/Philippines Freight Conference
 Mediterranean Canada Conference
 Mediterranean Far East Conference (MEDFEC)
 South Asia Rate Agreement
 Trans Atlantic Conference Agreement
 Turkey/United States Atlantic and Gulf Rate Agreement
 United States South Europe Conference

Shipper Associations

Dutch Maritime Shippers' Council
 British Shippers' Council (Freight Transport Association)
 Federation of Swedish Industries
 American Import Shippers Association (AISA)
 Canadian Shippers' Council
 European Shippers' Council (ESC)
 International Federation of Freight Forwarders Associations (FIATA)
 Japan Shippers' Council
 National Industrial Transportation League (NITL)
 New York/New Jersey Foreign Freight Forwarders and Brokers Assoc. Inc.
 New Zealand Shipping Federation and New Zealand Shippers Council
 Australian Peak Shippers Association

17. This framework served to underpin the analysis in the present paper. A number of conference/discussion agreement secretariats, and carrier and shipper trade organisations were thus approached by the OECD in December of 2000 (Box 1.2) with a request for data. These parties were given the assurance that whatever information provided would remain confidential and be presented only in the aggregate (unless the provider agreed to make it public). In particular, the OECD asked for information regarding:

- Market definition and market share.
- Freight rates charged by carriers and rates paid by shippers (including details on the application of sur-charges).
- Carrier participation in conferences, discussion agreements, capacity stabilisation agreements and consortia.
- Capacity deployed and volume carried on major trades.
- Profits on turnover, return on capital and other financial performance assessment by trade or trade segment.

- Investment in new capacity and updated technology or enhanced equipment.
- Data on share of freight volume by trade covered by service contracts.
- Data on share of freight volume covered by door-to-door multi-modal contracts vs. port-to-port contracts.
- Patterns of non-observance or breach of terms of shipping contracts.

18. After the deadline for submittals had passed, two things became very clear. The first was that relatively few parties had taken the initiative to answer in their own capacity — if at all. Many respondents chose to go through their trade organisations and thus an opportunity was lost to collect some of the specific dis-aggregated data necessary for the Secretariat analysis. Secondly, the quality of the data provided by both carrier *and* shipper representatives, while variable, tended to be rather poorly suited to the detailed analysis necessary for the study². This was a surprising finding in itself as one might have expected either side to provide a large amount of detailed information supporting their position. This was not the case and the analysis that follows is therefore based on the best of the information provided by shippers and carriers supplemented by research and commercially available data.

19. Following a brief overview of the liner shipping industry, this paper addresses each of the three points in the Secretariat mandate for this work (*i.e.* the positive and negative impacts of common pricing, the impacts of conference, discussion and stabilisation agreements on both carriers and shippers and the possible effects stemming from the removal of anti-trust exemptions for liner shipping). In each case, the paper examines assertions made by both proponents and opponents of anti-trust exemptions and seeks to apply appropriate “tests” to these when possible and supported by data. The balance of the outcomes of these tests helps to form the conclusions on the need to retain or modify existing competition policy in the sector.

2. Ironically, some shipper organisations have pointed out that providing the detailed rate data required would make their members liable to the same anti-trust actions from which carriers have immunity.

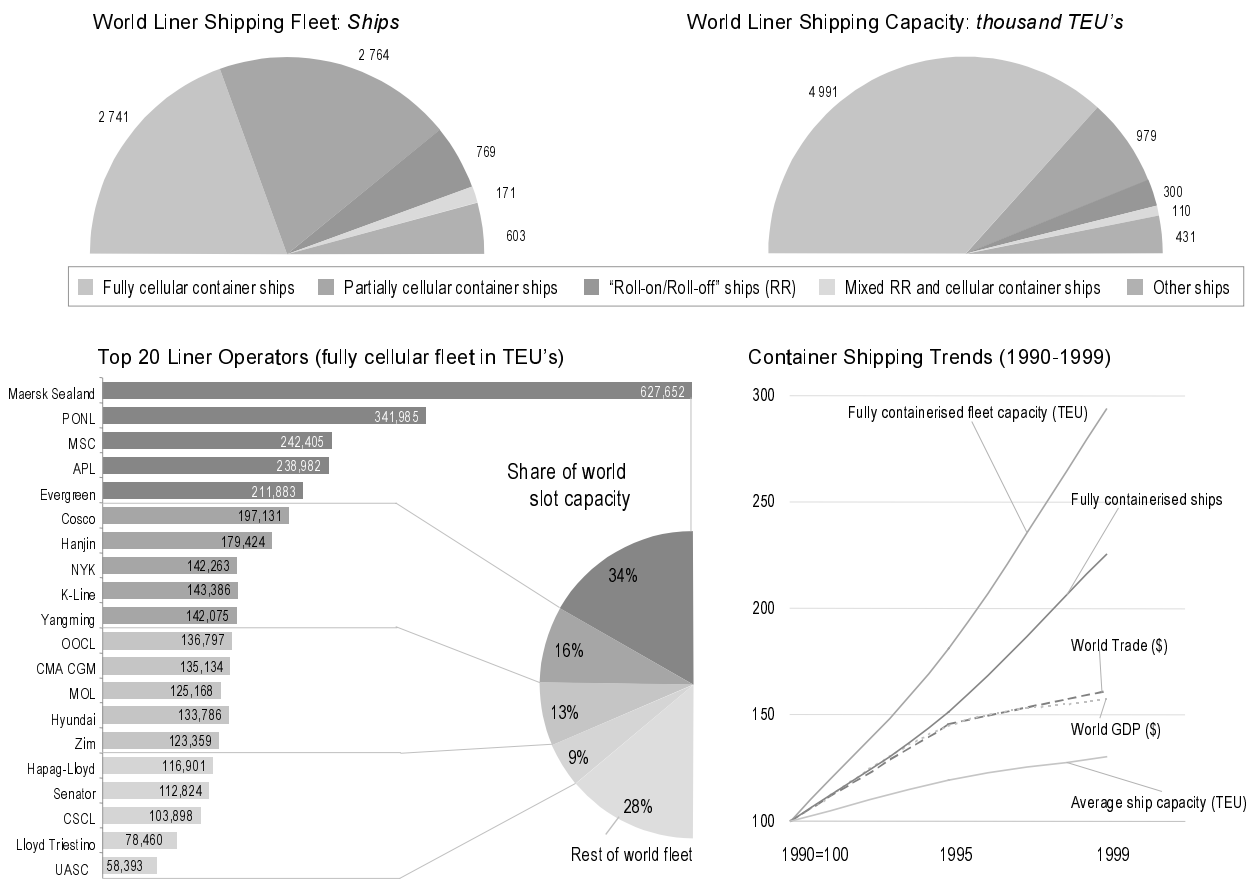
2 The liner shipping sector

2.1 General

20. Liner shipping refers to maritime transport services that are provided on a regularly scheduled basis to pre-determined ports. Ships involved in these trades can be general cargo carriers, specialised cargo carriers (e.g. car carriers or refrigerated goods carriers) and/or partially or fully dedicated container carriers. A number of important characteristics and trends relating to the liner shipping sector are outlined in Figure 2.1.

Figure 2.1

Snapshot of World Liner Shipping Fleet: 2001



21. This snapshot reveals four important points that characterise the sector:
- Fully containerised vessels represent an important part of the general cargo fleet and carry a large majority of containerised trade.
 - The top 20 liner operators account for 72% of world container capacity (measured in the industry standard 20 foot container unit or TEU) and the five largest operators account for 34% of the fully containerised fleet capacity.
 - The growth in the fully containerised fleet, both in number of ships and especially in capacity, has far outstripped growth in global economic activity and trade.
 - Ships have been getting larger as operators seek to benefit from economies of scale.
22. These and other characteristics of the liner shipping sector are described in this section.

2.2 Fleet development

23. There are important factors related to the development of the international liner fleet and the composition of the ownership of that fleet.

24. Not only has there been a sharp increase in the world fleet of fully cellular container vessels (in 2001 this stood at 2 741 vessels with a total carrying capacity of 4.99 million TEU, up from 1.25 million TEU ten years earlier), but more importantly the size of the vessels themselves had also increased substantially. For example in 2001 container vessels in the 2-4 000 TEU range accounted for 41% of total capacity, while 22% of vessels were over 4 000 TEU (up from 15% in 1999)³. Container vessels have now reached 7 000 TEUs, and there is talk of plans for vessels up to 10 000 TEU.⁴

25. It is possible that maintaining the capacity utilisation of such large vessels will require greater organisation of shipping networks around a hub-and-spoke structure. If there is pressure to move towards a hub-and-spoke structure, this will lead to pressure for further mergers, consortia or alliances. Also, relatively few ports can handle such ships, leading to a concentration of major services to a limited number of major ports, implying an increase in feeder and transshipment services to other terminals.

26. More importantly, the capital intensive nature of the container shipping industry means that in 2001 the top 20 container service operators accounted for about 72% of the world fully containerised shipping fleet and for 33% of all vessels carrying containers. The importance of this factor is that again there is pressure on liner operators to exploit economies of scale, and that through various consolidations it is likely that ownership (and therefore control) of the world's liner shipping fleet will drift to an increasingly smaller number of hands.

27. Finally, the majority of the fully containerised fleets' capacity is deployed along three main trades (see Figure 2.2). However, all three of these trades display imbalances between their separate legs (see Table 1) which leads to an oversupply of capacity in the weak trade direction in order to provide

3. These figures refer to the overall container fleet including roll-on/roll-off vessels and partial container ships, the growth in capacity for fully containerised ships is even greater.

4. While large vessels are being deployed on all of the main trades, it is the Europe-Asia trade that has seen the arrival of the largest of these, in part due to a need to provide efficient services along the long trunk routes. The latter are fed through a dense network of shorter feeder routes.

adequate service on the strong leg. In particular, the imbalance on the Trans-Pacific route is approaching 70%, while on other routes the imbalance is around 30%. Directional variations in demand such as these are a common feature of many passenger and freight transport markets. In most cases, transport service providers ensure that both their pricing policies and the levels of capacity that they devote to those markets reflect those imbalances.

Figure 2.2. Containerised fleet deployment: TEU share on main trades in 2001

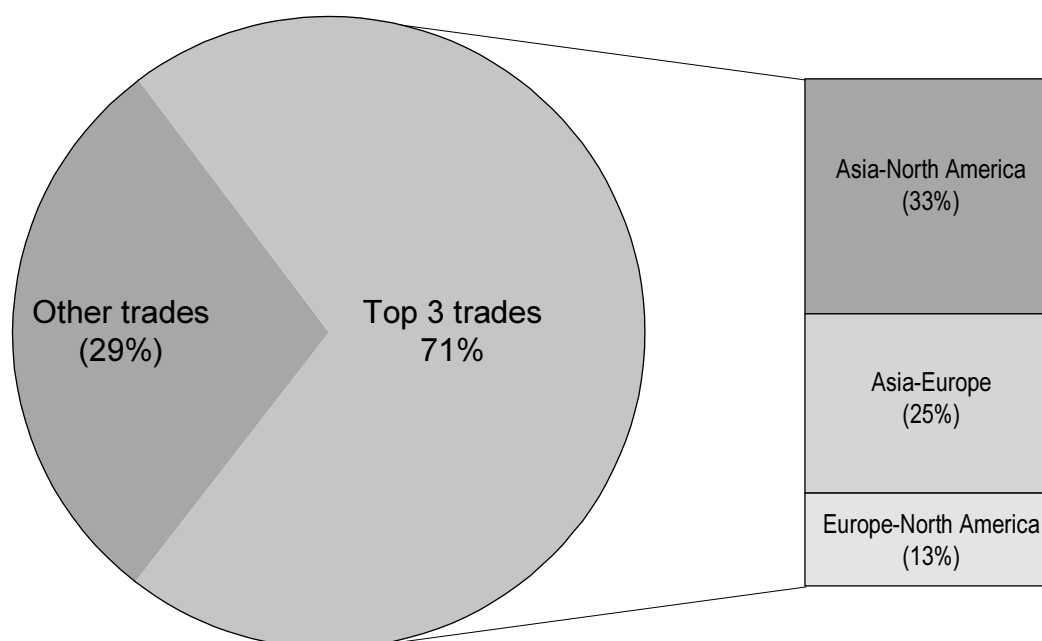


Table 2.1. Cargo Movements: Major Trade Routes 1995-2000*

(000's of TEUs)

	Trans-Pacific			Asia-Europe			Transatlantic		
	Asia to USA	USA to Asia	Difference	Asia to Europe	Europe to Asia	Difference	Europe to USA	USA to Europe	Difference
1995	4 009	3 471	15.5%	2 834	2 306	22.8%	1 448	1 208	19.9%
1996	4 104	3 520	16.6%	3 142	2 584	21.6%	1 421	1 219	16.6%
1997	4 662	3 615	29.0%	3 290	2 734	20.3%	1 556	1 276	21.9%
1998	5 221	3 326	57.0%	3 487	2 710	28.7%	1 696	1 327	27.8%
1999	5 840	3 370		3 950	2 850		1 340	1 710	
2000	6 130	3 540		4 150	3 050		1 410	1 800	

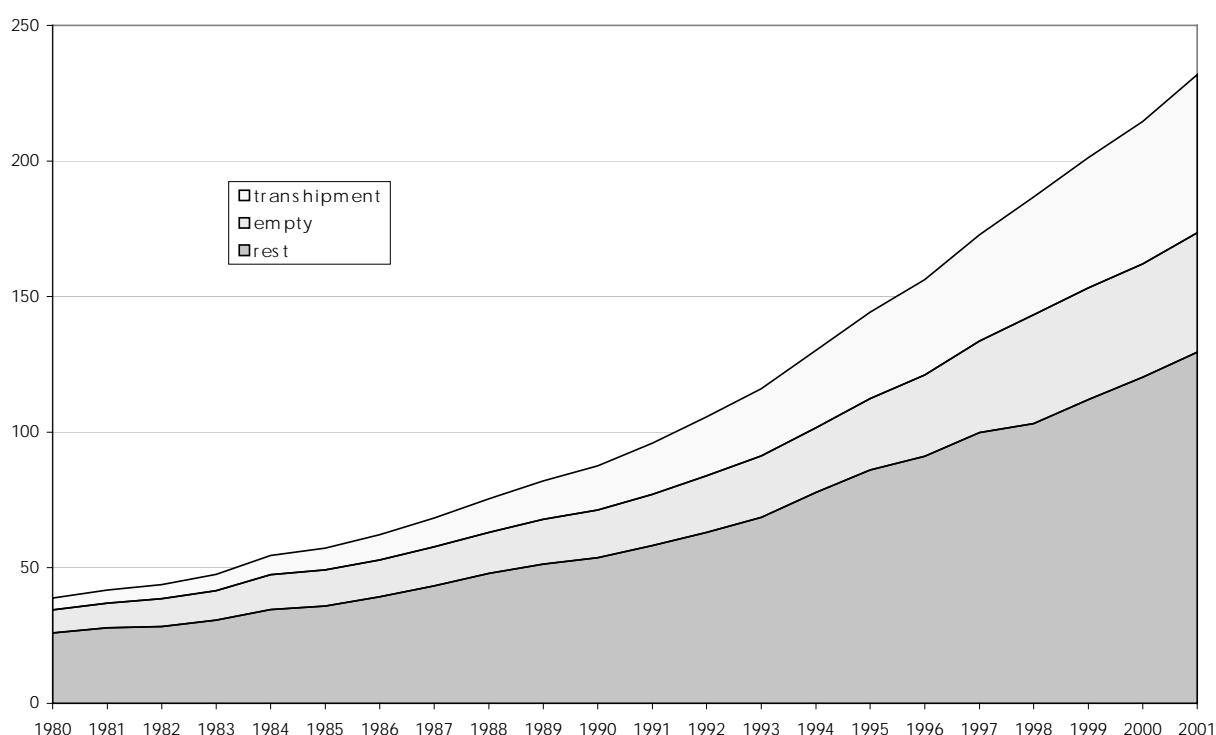
Figures for 2000 are estimates.

Source: *Review of Maritime Transport 1999, 2000 UNCTAD.*

2.3 Growth in container trade

28. Global traffic in containerised cargoes has expanded rapidly during the 1990s, rising from an estimated 83 million TEU in 1990 to 198 million TEU in 2000⁵. This equates to an average growth of about 9% p.a. Such a gain has been closely associated with the industrialisation of the Asia-Pacific economies, with traffic in that region growing annually by 10.8% to over 97 million TEUs in 2000. This destination thus accounted for 50% of total container traffic in 2000, against 21% for Europe, 15% for North America and 14% for other regions. Containerised cargo accounts for approximately 54% of world-wide trade in general cargo in 2000, up from 48% in 1995 and 37% in 1990. Given that the likely saturation point for containerised cargo has been estimated at 65% of world cargo trade, there remains considerable room for growth by substitution for other forms of cargo and by growth in traded goods.

Figure 2.3. Growth in World Containerised Trade (million TEUs)*



* Data for 2000 and 2001 are estimates.

Source: Drewry Shipping Consultants, 2000.

29. The figures given for global and regional container traffic refer to the movement of containers at ports – these therefore include the movements of containers from one ship to another (transshipment), the movement of partially filled containers and the re-positioning of empty containers (Figure 2.3). The latter accounted for 41 million TEU in 1999, up from 30 million in 1996 and stems from significant imbalances in trade flows between the different legs of the main trading routes.

30. Current estimates for transshipment movements show these to be approximately a quarter of all container port throughput, although in some specialised ports such as Singapore and Colombo, transshipment accounts for up to 70% of port throughput. These movements have grown in importance as liner operators have invested heavily in larger capacity ships on the main trunk routes. These ships are

5. “Containerisation International,” Yearbooks and UNCTAD Review of Maritime Transport, 2000.

serviced by a number of smaller vessels operating regional feeder routes connecting the main hub ports to their surrounding region. While this “hub and spoke” system remains a dominant feature in many regions, certain global carrier alliances have recently started to offer a blend of main trunk services calling on major ports along with second-level services calling on a string of secondary ports.

2.4 The organisation of the liner industry: a bit of history

31. The principal, and crucial, organisational feature of the liner sector is the ability of operators to enter into a variety of co-operative arrangements and agreements which in most industry sectors would contravene laws intended to ensure competitive behaviour. While these organisational arrangements in liner shipping have traditionally taken the form of liner conferences, with the advent of containerisation, new forms of co-operation, such as consortia, strategic alliances, capacity accords and discussion agreements have also emerged.

32. This co-operative behaviour has historic origins going back to the 1870s, and is based on the early history of liner service operations in the late 19th century. At that time the appearance of fast steamships on liner trades brought a considerable amount of instability into the relatively young liner shipping sector. In addition to an imbalance between legs of certain key trades, the industry was characterised by cut-throat competition between obsolescent sailing ship operators (who represented the majority of capacity offered) and the emerging steamship companies. Rates dropped sharply from 1874 to 1878 as sailing vessels offered rates that were far below what would have been a reasonably compensatory rate for the capital intensive steamship companies. Technical advances in steam engine design allowing steamships to carry yet more cargo in the 1880s further exacerbated the intense competition between steamship and sailing vessels. Finally, steamship operators also engaged in competition amongst themselves and shippers took advantage of the over-supply of capacity to set one carrier against the other and obtain lower freight rates. Rather than limit their services to those instances when carriers could expect compensatory returns (*e.g.* by providing irregular services based on full ship-loads), the liner operators of the day opted for formal arrangements amongst themselves to limit capacity and fix rates. In this way, they felt they could still provide the value of a fixed port rotation while reducing their exposure to destructive competition. Despite 130 years of economic, political and social changes, these formal arrangements – the conference system (and other forms of industry co-operation to limit capacity and set common rates) – have characterised and still serve as an organising principle for many in the industry today.

2.5 Rationale for capacity limitation and rate-fixing agreements

33. The experiences of liner carriers in the late 19th century led them to develop the institution of the Liner Conference. They argued that there was a real need for capacity control and rate-fixing in the international liner shipping sector in order to ensure stable international shipping services. This line of argument still serves today as one of the principal rationales provided in support of price-fixing and rate discussions in liner shipping. Carriers point out that the basis for this rationale can be found in some of the basic characteristics of the liner sector. In particular, liner operators operate an almost common-carriage service where ships must sail at set times irrespective of the amount of cargo they have on board. Failure to provide such a regular service would undermine the value provided to shippers and these would turn to other operators who could ensure steady sailing schedules. In order to provide these scheduled services at a relatively frequent interval (~ weekly), carriers must be able to field several similar ships on any given trade route. Purchasing and operating these ships requires a substantial capital outlay and subsequent financing charges. Furthermore, carriers face unbalanced trade flows and therefore capacity deployed in sufficient quantity for the dominant flow will often be far in excess of the amount needed for the return leg. Finally, carriers operate in a relatively uniform product market where there has traditionally existed little differentiation between operators. These market conditions, in aggregate, are not unique to the liner

shipping sector but are faced by any capital intensive industry providing a guaranteed and/or scheduled service (e.g. air cargo, power generation, etc.).

34. Without capacity limitation and price-fixing arrangements, carriers fear that the industry would re-live the type of destructive competition that characterised the late 1800s — resulting in a profoundly destabilised industry. In particular, they argue that conferences and other similar arrangements have several important beneficial effects.

- Carriers can avoid exaggerated rate fluctuations in the face of supply/demand imbalances and encourage private investment in new capacity and technologies thus allowing carriers to earn a compensatory rate of return on their investments and continue to provide scheduled shipping services.
- These arrangements avoid destructive competition leading to an ever-dwindling number of super-carriers with much greater potential for monopolistic behaviour.
- Shippers are thus ensured that regular predictable services will always be able to transport their goods.
- Shippers can also expect that sufficient capacity will be deployed to transport all of their goods, and finally
- Shippers can expect rates to exhibit greater stability than would otherwise prevail.

35. Shippers however, generally remain unconvinced of the benefits of price-fixing and have repeatedly complained that carriers' rate-fixing and manipulation of capacity leads to abuses of power and freight rates above what they would otherwise be in a fully competitive market. Shippers have therefore asked governments and courts to intervene and protect their interests. However, despite documented (and sometimes prosecuted) cases where carriers did indeed take advantage of their position, governments of all major trading nations have continued to provide carriers with exemptions from national anti-trust statutes governing price and capacity fixing.

36. These arrangements are continuously under review in OECD Member countries. In the past ten years, at least four out of 30 OECD Members (Australia, Canada, Japan and the United States) have re-evaluated their competition policy vis-à-vis liner shipping and although there has been a tightening of these provisions in several of these jurisdictions, no Member country has yet removed these exemptions. The last review of competition policy for liner shipping within the European Union dates back 15 years. Rather than doing away with price- and capacity-fixing arrangements altogether, governments have typically sought to bolster shippers' defences and recourses against abuses of carrier power.

2.6 Liner conferences today

37. There is great diversity in the nature and practical effects of conference agreements. Some have written agreements and secretariats responsible for their day-to-day operation. A few may have no written agreement at all, although they are still called conferences. Others may be called "associations" or something similar, although they are universally regarded as being conferences in the accepted sense of the word, at least for the purposes of anti-trust legislation. Conferences consisting of different members may be present on both directions of a given route.

38. Today, there are around 150 liner conferences operating throughout the world, with membership ranging from two to as many as 40 separate lines. They operate only in the general cargo field (liner trades), as conferences do not transport bulk cargoes.

39. Statistics of world cargo liner trade are not complete, nor is it known precisely what share of such trade is carried by conferences. Analysis of available data indicates that in the late 1990s, conferences accounted for approximately 60% of the TEU capacity in the major trades (see Box 2.1 and Table 2.2) — although conference shares have been steadily declining in recent years. However, conferences account for dominant shares of specific trades and/or certain port-pairs (*e.g.* United States to Asia or Japan-Europe).

40. The growing participation of non-conference operators can be attributed to a number of large, independent carriers that have sufficient resources to duplicate the capacity, frequency and level of equipment that has generally been the province of the conference carriers. Also, there are “niche” markets available to smaller or lower cost operators, who can offer lower standards of service for cargoes that are low value and/or not time sensitive.

Box 2.1 Do conferences have market power? Market definition and market share

One standard test of anti-competitive behaviour is the degree to which one, or several market actors, can dominate a market and thus independently or unilaterally impose prices that would not otherwise be possible within a dynamic competitive environment. Thus the issue of market definition is important and attribution of market share becomes a useful indicator of potential for market abuses.

Market definition

In order to understand the market in which carriers operate, one must have a good feel for its outer boundaries – *e.g.* are there substitutes for container ships that can effectively help to provide shippers with cost-effective alternative transport? Liner operators carry containers that contain a wide variety of goods ranging from relatively low-value agricultural products to high value electronics and machinery. The European Commission has determined that on certain routes (*e.g.* the transatlantic trades), air, tramp and breakbulk shipping do not present an alternative to liner shipping and cannot be substituted for the latter. This is not the case on all trades and there is evidence that for some (*e.g.* Africa-Europe) these may sometimes present alternatives. Despite some substitution possibilities for either high and/or low value goods, the bulk of cargo transported by containerised ship cannot be cost-effectively shipped by alternative means (Brooks, 2000, p. 201). For certain goods, such as refrigerated products and/or products requiring sensitive handling and specialised treatment, it may be worthwhile to look at conference vs. non conference shares to determine the power of the former to control some niche markets.

While shippers often do not have the possibility of shipping by other means, they do have the option of choosing among carriers who may propose different routes and port combinations. Therefore, route and port substitutability can give an indication of the geographic boundaries of the market. For example, the trans-pacific trade is composed of several dozen routes and port pairs, the degree to which these overlap can be seen to define the market (*e.g.* to what extent are Seattle-Southern China routes substitutes for Vancouver- or Long-Beach-southern China routes?) One element to consider when looking at port/route substitutability is the extent to which shippers in the hinterland have access to the former. Two nearby ports may not be part of the same market if multi-modal access is good to one and not to the other or, conversely, two distant ports may indeed be in the same market if both are easily reached from the same hinterland.

The complexity of defining geographic markets can be seen in the case of United States vs. Canadian routing for shipments originating and/or terminating in the central portions of the United States and Canada (Brooks, 2000, 204-205). Shippers theoretically have several options available to them including shipping from United States eastern seaboard ports (*e.g.* Baltimore and New York) with either conference or non-conference carriers or shipping via Canadian ports (*e.g.* Montreal or Halifax) again, through either conference or non-conference carriers.⁶ In reality, however, a number of issues must be examined before concluding that these alternative routes constitute one market. Indeed, many Midwestern American shippers feel that Montreal is not in the same market as the US ports because of the extreme winter weather that has the potential to interrupt services. Canadian shippers, on the other hand, will argue that US routing does not present a realistic alternative for them as they feel that US customs will unreasonably hold up their shipments. What is clear is that the trade lane is one of the most important elements of market definition and shippers perceptions serve to define these markets.

Market concentration

Once a market is defined it is important to determine the market share of various participants – including the combined share of conference and/or discussion agreement members. Generally, the preferred method to calculate this share is to examine the total annual TEU throughput between country pairs in the trade lane (*e.g.* China-Canada).⁷ In the EU, regulators have chosen to investigate TEU volumes between port pairs. However, when data is hard to come by, it may be necessary to fall back on total offered capacity between relevant countries/hinterlands. This however can only serve as an *indication* of potential market share and can potentially be misleading since draught limitations and/or service requirements may cause ships to sail at less than their total capacity. Given that respondents to the OECD questionnaire provided little specific data on market share, much of the information on market concentration below is based on capacity rather than actual volumes and should be interpreted primarily as describing the *potential* for market control by conferences.

Data on Market Share

Conferences, at least in aggregate, account for the majority of liner shipping capacity on the most important global trade routes although this share has fallen considerably since the 1970's. A review in 1997 indicated that conferences accounted for 60% of the available capacity in the major trades in the mid- to late- 1990s. This aggregate figure masks important differences between trades and even within trades (see Table 2.2). For example, while the Far East Freight Conference accounted for approximately 60% of available capacity for the Europe to Asia trade in aggregate, the breakdown for specific trades can be much higher (*e.g.* the FEFC accounts for approximately 70% of the capacity between Europe and Japan).

41. It should also be recognised that while closed conferences (*e.g.* conferences that can restrict membership) exist on trade routes outside the United States (where they are not allowed), in practice entry has not been difficult, and since the early 1980s there have been few cases where membership to closed conferences has been refused to applying parties. In part this reflects the falling influence of conferences, as independent operators have captured increasing shares of the market. Also, the growing range of looser, co-operative arrangements available to liner operators has tended to reduce the incentive to enter into the tightly controlled conference agreements.

6. In this example, some lines that operate as conferences for US ports, operate as non-conference carriers for the Canadian routes.

7. A better option is to fully define a relevant route/port market for the hinterlands involved as described earlier thus China-Canada might become Southern China-Northwest US/Western Canada.

42. Although there is a great diversity in the details of individual conference agreements, they are typically constructed around rate-fixing agreements. In closed conferences, these agreements may also go so far as to allocate market shares among conference carriers. Other conference arrangements may include one or more of the following major provisions; rebates to shippers; joint services, and door-to-door services.

Table 2.2. Conference/Discussion Agreement Share on Selected Trades

Trade	Conference/discussion agreement share
Far-East to Europe	In the 1970s, the FEFC accounted for 85% of the capacity in the Europe Far-East trade. By 1990, this share had dropped to 57%. It has since risen to approximately 60%. ⁸
Trans-Atlantic	The dominant conference (TACA) had dropped to 48.7% of available capacity in 1990 before subsequently rising to 63% in 1998. An unfavourable judgement from EU competition authorities has led to departures from the conference and the conference now estimates its share to be approximately 46% of the North-Atlantic to United States trade in 2000 (TACA, 2001 and Meyrick, 1999).
Trans-Pacific	In 1990, the dominant conference accounted for 56.7% of the capacity in the east leg and 68.9% of the capacity in the west-bound leg. By 2001, the TransPacific Stabilization Agreement accounted for slightly over 80% of the market. ⁹
Australian Trades (average across 6 major Australian trades)	Data for these trades shows that the aggregate conference share of available capacity has declined from 74% in 1984 to 55% in 1999. However, if the available capacity of discussion agreement members is added, the share rises to approximately 70%.

43. Up until the early 1980s, another important feature of conferences was the way in which members adhered to (and enforced) relatively strong rate discipline. For example, before the passage of the United States Shipping Act in 1984, conference carriers faced great difficulty in offering shippers below-conference rates. The 1984 act allowed carriers to legally offer discounted rates so long as these were made public and communicated to other conference carriers. The great proliferation of such “independent action” rates lead to a generalised decrease in rates with little impact on service (US FMC, 1989). The public filing and advance notice requirements associated with these rates, however, still presented cumbersome barriers to carriers’ ability to offer quick and flexible responses to demand. The passage of the United States Ocean Shipping and Reform Act (OSRA) in 1998 did away with these cumbersome procedures and allowed shippers and carriers active in the US trades to enter into confidential contracts without prior notice. The result of this has been a rapid and massive switch (200% increase) to such confidential agreements, which have the potential to undermine the dominance of conference tariffs (at least for shippers with the power to negotiate lower rates). Very little traffic (*e.g.* less than 10% of the USA-Europe traffic) now takes place directly under conference terms.

44. This movement towards service contracting between individual shippers and carriers underscores a generalised erosion of conference power. This decline is supported by data from individual trades and is the result not only of the regulatory changes governing conferences in many OECD countries, but also from the arrival of large and efficient independent operators. This new breed of independent operators is qualitatively different from the small independent operators of the past:

8. Meyrick 1999, p. 15 and Productivity Commission, 1999, p.10.

9. Meyrick, 1999, p.15 and Transpacific Stabilisation Agreement, 2001, p.4.

“[Traditionally] the typical model was one of a dominant conference service ... with a long-term commitment to the trade, with a small contingent of opportunistic outside lines attracting a comparatively small market share by offering an inferior service at discounted prices. This model is no longer applicable.” (Meyrick, 1999)

45. It is important to note, however, that conferences still remain an important factor in many trades and the growth in alternative forms of organisation (consortia, alliances, discussion agreements) have raised the potential for sensitive trade data to “bleed” across conference boundaries and to other market actors. Also important is the observation that a decline in conference share (and a corresponding rise in non-conference market share) does not necessarily translate into appreciably greater competition since many independent operators have every incentive to price off conference rates rather than competing vigorously and independently with conferences on price (see section 4). Furthermore, many smaller independent operator services may be inferior to those offered by Conference lines in terms of geographic scope and frequency of service.

Box 2.2 Confidential Contracting Under the United States Ocean Shipping Act of 1998 (OSRA)

The passage of OSRA in 1998 signalled a new approach to Conference/carrier regulation in the United States trades. Before the passage of the law, very strong impediments to individual Conference carriers' ability to negotiate rates one-on-one with shippers existed. Under the previous shipping act ("The Shipping Act of 1984"), Conferences were required to publicly post tariffs and negotiated individual service contracts with the Federal Maritime Commission (FMC). In this regulatory environment not only did all carriers know exactly the terms of their partners' *and/or* rivals' freight rates but these were also visible to all shippers. Under the "me-too" clause of the law, any shipper could request the same rate as that negotiated for any other "similarly situated" shipper.

After the passage of OSRA, however, the requirement that service contract terms be made public was abolished (although these must still be filed with the FMC) as was the "me-too" clause. Conference tariffs are still required to be published but shippers and carriers have almost overwhelmingly decided to bypass the published Conference tariff and have taken advantage of their newfound ability to negotiate "confidential" service agreements.

In effect, the law allows shippers and individual carriers to engage in negotiated "confidential" service agreements to determine their terms of carriage for a set period (typically a year). The use of service contracts has jumped 200% in the period 1999-2001 and 98% of these concern contracts passed with individual, rather than Conference carriers. At the heart of the success of this form of contracting is the fact that, in principle, the terms of the contract can be kept safe from other carriers and/or shippers.

However, two important issues remain.

The first is that "confidential" contracts are only confidential if the contracting language expressly stipulates that some or all of the terms of the contract are not to be shared with outside parties. While shippers have requested specifically crafted confidentiality language in 5% of all post-OSRA service contracts, some carriers have stated that, by default, confidentiality terms are only added at a shipper's request. In all, about 50% of carriers report including all standard confidentiality clauses in their contracts. Shippers on their side have pointed out that these standard clauses typically allow for carriers to share sensitive contract information with other members at carrier agreement meetings.

The second issue relates to the sanctions typically retained by contracting parties for breach of confidentiality. Only 2% of post-OSRA service contracts stipulate penalty provisions for breaching contract confidentiality. This seems an unusually low figure given that opportunities for breach of confidentiality abound, especially for carriers in Conferences and discussion agreements given that sensitive rate information is accessible on bills of lading.

Source: United States Federal Maritime Commission, 2001b.

2.7 Other forms of Liner Shipping organisation: Capacity Stabilisation and Discussion Agreements

46. These include Capacity Stabilisation and Discussion/Talking Agreements, and this is the area where the greatest divergence exists in their treatment under competition policy laws.

47. In Australia, Japan, New Zealand, Norway and the United States, conferences or individual members of conferences are allowed to enter into agreements with non-conference shipping lines; and no

special provisions for such agreements are laid down. In Australia, however, if these agreements have anti-competitive provisions, they must be registered to obtain the exemptions available under Part X of the Trade Practices Act 1974. In the United States, such agreements are subject to the regular oversight procedure by the FMC which is applied to every form of agreement between carriers. In Canada, agreements between conference members and non-conference operators are not exempted by the Shipping Conference Exemption Act, 1987, although inter-conference agreements are.

48. In the case of European Commission, agreements between conference and non-conference members do not benefit from a block exemption and the Commission scrutinises these agreements with great attention since these can serve to undermine competition between independent and conference carriers – competition which the commission views as a necessary balance for granting conferences anti-trust exemptions.

49. Such agreements between conference and non-conference operators may occur when efforts by conferences to regulate capacity are ineffective due to the presence of a large number of non-conference operators or where conferences are open. Such situations have sometimes resulted in “stabilisation agreements” across a trade or a region, or in looser agreements such as “discussion/talking agreements.” “Stabilisation” agreements attempt to control freight rates and regulate capacity through a binding agreement covering all or most operators of the trade or a region. These have appeared in two forms: either as a separate “stabilisation” agreement between conference and non-conference ocean carriers or as a formal agreement among conference members. Discussion/talking agreements attempt to reach an understanding among operators (conference and non-conference) about these topics, but are not binding.

2.7.1 *Consortia*

50. Consortia are agreements/arrangements between liner shipping companies aimed primarily at supplying jointly organised services by means of various technical, operational or commercial arrangements (*e.g.* joint use of vessels, port installations, marketing organisations, etc.). In many cases, members of a consortium are also members of a conference.

51. The development of consortia was a response to the technical requirements needed to launch container services. For example, member lines of the same conference (whether all or only some of them) usually formed a consortium at the beginning of containerisation to smooth the way for the introduction of rationalised conference services. Consortia arrangements also offer advantages to participating shipping companies through cost reductions derived from economies of scale.

52. These agreements take a considerable variety of forms, given that the degrees of co-operation and the extent of the common activity that they envisage are different, depending on the needs and the circumstances of the trades in question. For example a consortium can be composed entirely of otherwise independent lines, or, they may be members of the same conference. In some instances conferences have members that participate in several consortia, and there are consortia composed of both conference and non-conference lines. The principal difference between consortia and conferences is that the former addresses the rationalisation of container shipping service operations, whereas conferences extend their co-operation to uniform or common freight rates.

53. The treatment of such consortia under competition policy is variable. For example, in Australia, Canada, Japan, New Zealand and the United States, consortia agreements seem to be entitled to immunity from anti-trust law, without reference to whether the agreement provides that ship operators should operate under uniform or common freight rates.

54. In the European Union only certain categories of consortia, based on the share of the market which they cover, profit from a block exemption from the prohibition of restrictive arrangements contained in Article 81(1) of the EC Treaty. Therefore, a consortium which has a market share higher than 50% will not automatically benefit from the group exemption and would require an individual exemption. Where the consortium has a market share of between 30% or 35% and 50% (the second level) the consortium will come within a simplified procedure in accordance with which it will benefit from the group exemption unless the Commission opposes it within six months of its notification. On the other hand, a consortium having a market share below the second level (30% or 35% depending on whether or not it operates within a conference) can automatically benefit from the group exemption.

2.7.2 *Strategic/global alliances*

55. The purpose and intent of the participants in strategic/global alliances, which became operational at the beginning of 1996, has been to establish co-operative agreements *on a global basis* among a group of companies. These agreements (see Figure 2.4 for their recent evolution) apply not to one trade route, and not with different carriers on different trade routes, but with the same carriers over certain major routes which can be described as global.

56. In these terms, a strategic/global alliance embraces at least two of the major east/west trade routes (Europe/Asia, Asia/US, or US/Europe) served either by combined services on each route or in a round-the-world service. In some jurisdictions global alliances are treated as just another consortium or carrier agreement, and would be covered by the general definition of “conference” (and therefore be covered by general exemptions from competition policy laws). However, in terms of operation and commercial implications, strategic/global alliances are an entirely new form of operation.

57. Because of differences in the regulatory regimes or transportation conditions on each route, parties have thus far implemented these new alliances by a series of route agreements. These agreements cover the employment and utilisation of vessels, including joint vessel route assignments, itineraries, sailing schedules, the type and size of vessels to be employed, additions and withdrawal of capacity, ports and port rotations, and operations over the whole global system. They agree on charters, space/slot charters, the use of joint terminals, co-ordination of containers, pooling of containers and establishment of container stations, vessel feeder routes and co-ordination (where permitted) of inland services. The parties may agree on information exchanges and procedures. In other words, they look to full operational integration of each participant’s services into one whole.

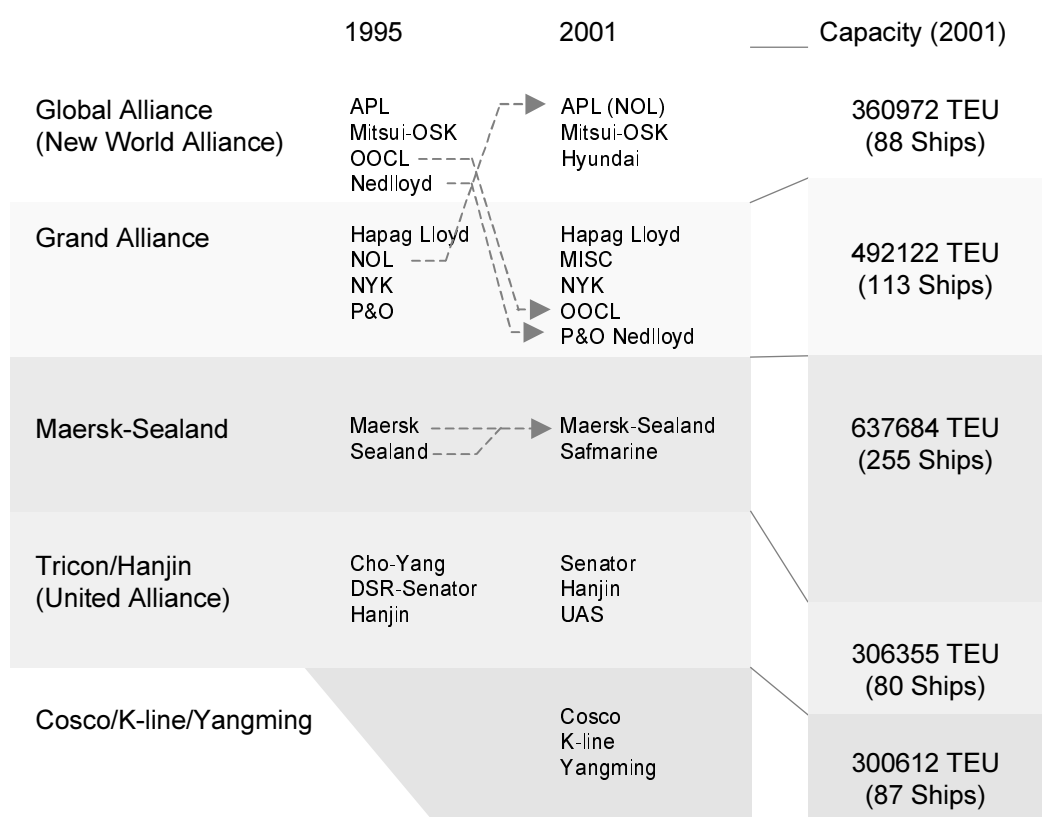
58. An agreement may place restrictions on a participant's use of third party carriers on specific routes without prior consent of the members, it may impose provisions for withdrawal, including notice and penalties, and may contain provisions with respect to ownership changes during the agreement. The initial duration of the agreement is normally up to five years.

59. However, strategic/global alliances do *not* cover:

- Joint sales, marketing, or joint maritime/multimodal pricing.
- Joint ownership of vessels or maintenance or insurance.
- Joint or common bill(s) of lading.
- Common tariffs or the sharing of profits/losses.
- Joint management and executive functions.
- Revenue pools or cargo pools.

60. Each member retains their own identity and the agreements do not create mergers. However, the absence of a common tariff is unlikely to lead to substantial differences in the tariff prices of the parties. First, by the more efficient use of capacity the parties will better control the "supply side." The carriers argue that this has a stabilising effect on prices, which can assist shippers by providing certainty for their own contractual obligations. Second, the agreements generally permit the members to discuss and agree on common positions in alliance matters, and where there is no conference or an open rate, they are permitted to discuss and voluntarily agree on rate and service matters. Third, if any of the parties attempt to capitalise on circumstances by "dumping" freight rates, this would be considered as an inherently destabilising factor in the alliance, and would likely be acted upon. Finally, it should also be observed that the more the services become integrated, the more difficult the task of marketing and sales would be to establish qualitative differences.

Figure 2.4. Alliances in Liner Shipping: 1995-2001



2.8 Industry Structure: major issues for competition policy

61. This section has highlighted a number of issues: container trade is growing and becoming more consolidated, ships are becoming larger and therefore capital inputs are growing, trades remain unbalanced and carriers are seeking to restructure themselves and seek alliances to minimise the impacts of these imbalances and cyclical variations in trade. In short the liner-shipping sector is undergoing a considerable amount of change to cope with a changing world. As described in a recent government overview of the liner industry:

“No longer can the structure of liner shipping be viewed as fifty or so major carriers operating autonomously. It is more appropriate to view the industry as blocs of operational partnerships with criss-cross ties via space charters between and among different members of different partnership blocs.”¹⁰

62. Two issues in relation to competition policy for the sector emerge from an overview of these trends:

Absolute (based on the size of the top operators) and relative (based on the size of the top alliances) concentration is increasing in the industry. While mergers, acquisitions and partnership-building has been a normal response to increased competition in the major trades and some niche markets, it also has the potential to ultimately lead to a reduction in competition – especially as those market actors retain anti-trust exemptions. Increasingly, the cost of fielding the fleet of ships required to be a global player or partner will be such that only those operators with the deepest pockets will be able to survive in the industry. In this respect, a regulatory framework that affords carriers significant anti-trust exemptions may be ill-suited to an environment where independents are integrated into global partnerships with conference/discussion agreement carriers or are confined to niche markets, feeder services and or secondary roles.

A second and related concern is that the potential for sensitive market information to be shared between conference and non-conference carriers is high as long as certain market actors are afforded anti-trust exemption for fixing rates. Confidential contracting, in theory, allows for shipper/carrier agreements to remain confidential in the United States trades. In practice, however, relatively few confidential contracts expressly prohibit the sharing of information and even fewer provide for strong sanctions for breaching confidentiality.

10. United States Federal Maritime Commission, 2001.

3 Investigation of the positive and negative impacts of common pricing under the anti-trust exemptions

Shippers and carriers disagree on the positive and negative aspects of price fixing

63. Table 3.1 sets out our assessment of the sometimes disparate views that carriers and shippers have regarding the features of the Liner shipping sector, of the relative benefits for price-fixing and their assessment of the reasons serving to justify the continued recourse to price-fixing in the sector. The major points of disagreement will serve to focus the discussion in the following two sections.

Table 3.1 Carrier and Shipper views on Liner Shipping and Price-fixing

	Carriers	Shippers
Features of Liner Shipping		
No regulatory barriers to entry	agree	agree
No economic barriers to entry	agree	mostly agree
Wide array of service options	agree	reserved
Market-driven competition	agree	disagree
Ample capacity	agree	agree
Efficient capacity	agree	disagree
Investment in innovation	agree	reserved
Efficient operation	agree	disagree
Unique challenges (e.g. lumpy costs, below average cost pricing, etc.)	agree	disagree
Benefits of price-fixing in Liner Shipping		
Allows for competition and market rates to emerge	agree	disagree
High quality service	agree	reserved
Stable commercial environment	agree	disagree
Stable service delivery	agree	agree
Allows to mitigate effects of excess capacity	agree	disagree
Justifications for price-fixing		
Counteracts destructive marginal cost pricing that would otherwise be below real costs	justified	not justified
Prevents consolidation of industry into a few monopolistic actors	justified	not justified
Exchange and discussion of market information is necessary to better develop future strategies	justified	not justified
Commonly-set prices act as a benchmark for negotiated rates	justified	not justified

Note: Data are lacking to make an objective arbitration between shipper and carrier views.

64. Analysis of the impacts of these arrangements requires data. Ideally one would dispose of detailed and historical real freight rate information for a broad cross-section of carriers in a number of sub-markets (*e.g.* North America-Asia eastbound, Mediterranean-North America westbound, etc.). This information could then be compared to historical data on carrier participation in rate and capacity agreements and adjusted for external market and political factors. The ensuing analysis would then enable an arbitration between the two contrasting views on the impact of anti-trust exemptions. However, such dis-aggregated information concerning real ocean liner freight rates (*e.g.* those actually negotiated between carriers and shippers, including specific surcharges) is extremely difficult to obtain. Indeed, neither carriers nor shippers contacted by the OECD for this review provided such information. Therefore, this section principally relies on publicly available information in order to address these issues.

3.1 What have been the positive/negative impacts of anti-trust exemption on the evolution of freight rates?

65. As seen in section 2, proponents of anti-trust exemptions for price- and capacity-fixing agreements argue that these do not lead to abuses of market power (and, in their rationale, to higher freight rates). Indeed, they cite evidence of falling freight rates as proof of adequate and balanced competition in liner trades. They further argue that these arrangements are necessary to provide a stable price environment for shippers and therefore to protect the latter from excessive rate variability.

66. In a sector as complex as the Liner shipping industry, it would have been difficult to define a causal relationship between anti-trust exemptions and positive and/or negative movements in freight rates. This task is rendered impossible by the lack of detailed data regarding actual costs faced by carriers. This section cannot therefore definitively assess to what extent anti-trust exemptions have *resulted* in positive/negative movements in freight rates, but only observe what these movements have been. It is important, however to keep in mind that whatever the observed trends, they have played in an environment characterised over the past 20 years by a *weakening* of the power of conference carriers.

67. Freight rate information is available from a number of sources – notably from Containerisation International's on-line database of freight rates charged in the three major trades. Other sources for rate information include the 1989 United States Federal Maritime Commission's Report on the Shipping Act of 1984, the German Ministry of Transport/German Federal Office of Statistics' time-series on freight rates to and from German (and Dutch) ports, the United State's Department of Labor Statistics price index for inbound maritime freight and the Bank of Japan's Corporate Service Price Index. These time series provide a broad overview of trends in rates and are presented below. However, with the exception of the 1989 FMC report and the German Transport Statistics these series cover a relatively short period from the early to mid-1990s onwards, during which liner operators experienced a great deal of change.

68. This section will first examine short-term rate trends in a number of trades and compare these to price trends for other commercial service sectors. However, the impact of conferences on ocean freight rates extends considerably beyond the past few years. In order to place recent rate trends into perspective this section will also examine longer-term trends in liner service prices. Finally, this section will consider to what extent conferences and other price and capacity-fixing arrangements have contributed to price stability by drawing on surveys from US and European shippers.

3.1.1 Short-term evolution of liner freight rates and prices

69. Average liner freight rates have decreased in all of the main trade leg segments over the past decade in constant dollar terms. Data covering published rates in the three major trades (outlined in

Figures 3.1 to 3.3) illustrates these aggregate trends. However, liner price indices (Figures 3.4-3.6) show that these general trends do not uniformly apply to all countries involved in international maritime trade.

3.1.1.1 *Freight rate movements*

70. Asia-US eastbound rates in 2001 were almost 12% lower than 1993 levels and rates in the opposite direction (US-Asia westbound) were nearly 46% lower. Corresponding figures for the Europe-Asia-Europe and Europe-US-Europe trades were -35% (eastbound)/-23%(westbound) and -42%(eastbound)/-12%(westbound) respectively.¹¹ These rate movements are for average freight rates in these trades. Rates for specific commodities may be significantly different from these and may have experienced different trends.

71. The rate imbalance between the different legs of the Asia-US trade can be observed in the Europe-Asia trade as well.¹² These imbalances are the natural result of changing trading patterns between the regions involved and are a consequence of changing demand for maritime transport to and from these areas (as can be confirmed by Table 2.1 illustrating vessel utilisation rates in these trades). The Asian economic crisis of 1997 caused demand for US and European goods to dry up within that region freeing up capacity on Asian in-bound routes (US-Asia westbound and Europe-Asia eastbound). At the same time Asian exports towards the United States and, to a lesser extent Europe, were buoyed by growth in the latter two regions. Carriers, in order to supply the capacity necessary to carry Asian exports, were faced with excess capacity on the return leg (and a corresponding need to reposition empty containers). Overall capacity was also growing over this period as Liner operators were receiving delivery of larger ships ordered under the premise of continued steady economic growth in Asia. The result was that carriers slashed prices in an effort to attract and/or retain steadily dwindling cargo. The drop in rates was exacerbated by competition from many independents who faced the same need to fill their ships in these unbalanced trades.

72. The Europe/US/Europe trade has experienced relatively less rate imbalance between the east- and west-bound legs reflecting a generally healthier trade balance.

11. Figures calculated from *Containerization International's* on-line freight rate database. Notes: rates cover six of the trades' major liner companies. All rates are all-in, including the inland intermodal portion, if relevant. All rates are average rates of all commodities carried by major carriers. Rates to and from the United States refer to the average for all three coasts. Rates to and from Europe refer to the average for North and Mediterranean Europe. Rates to and from Asia refer to the whole of South East Asia, East Asia and Japan/Korea.

12. A similar imbalance can be observed to be growing in the Europe-US trades from 1999 onwards.

Figure 3.1 (1993=100, 1993 constant dollars)

Asia/US Liner Rates

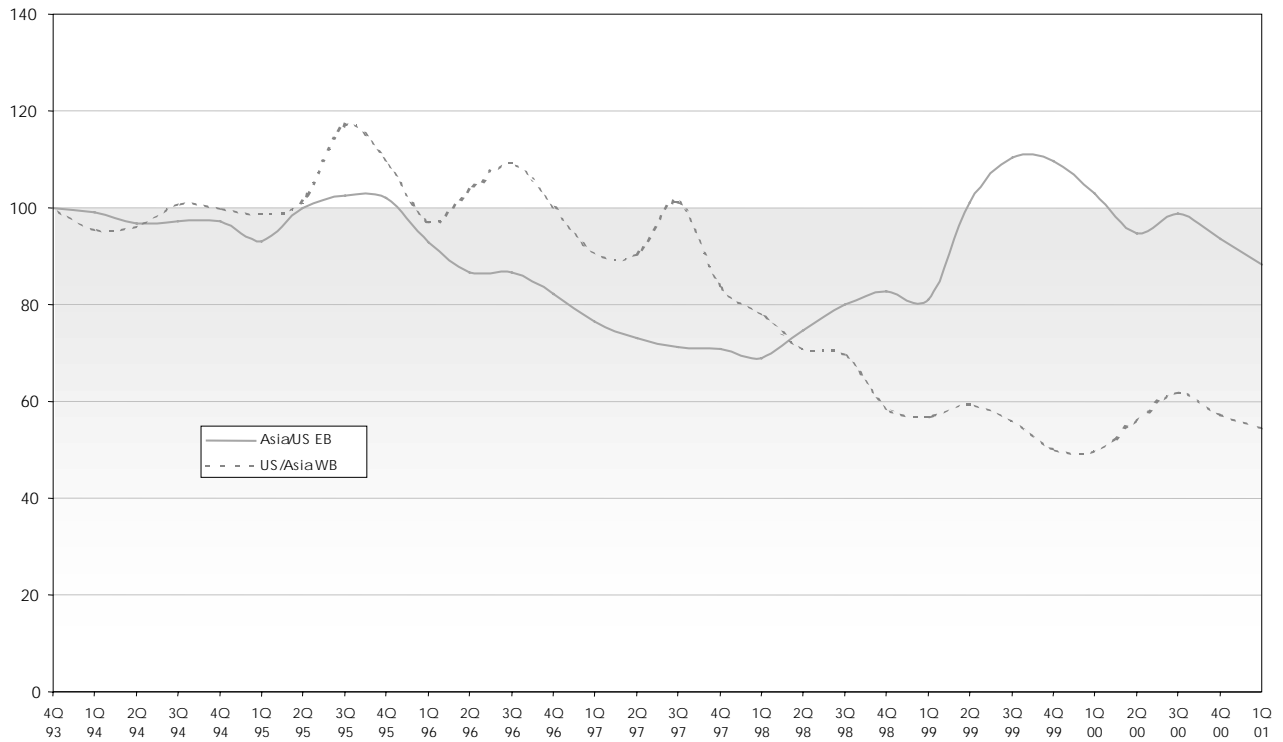


Figure 3.2 (1993=100, 1993 constant dollars)

Europe/Asia Freight Rates

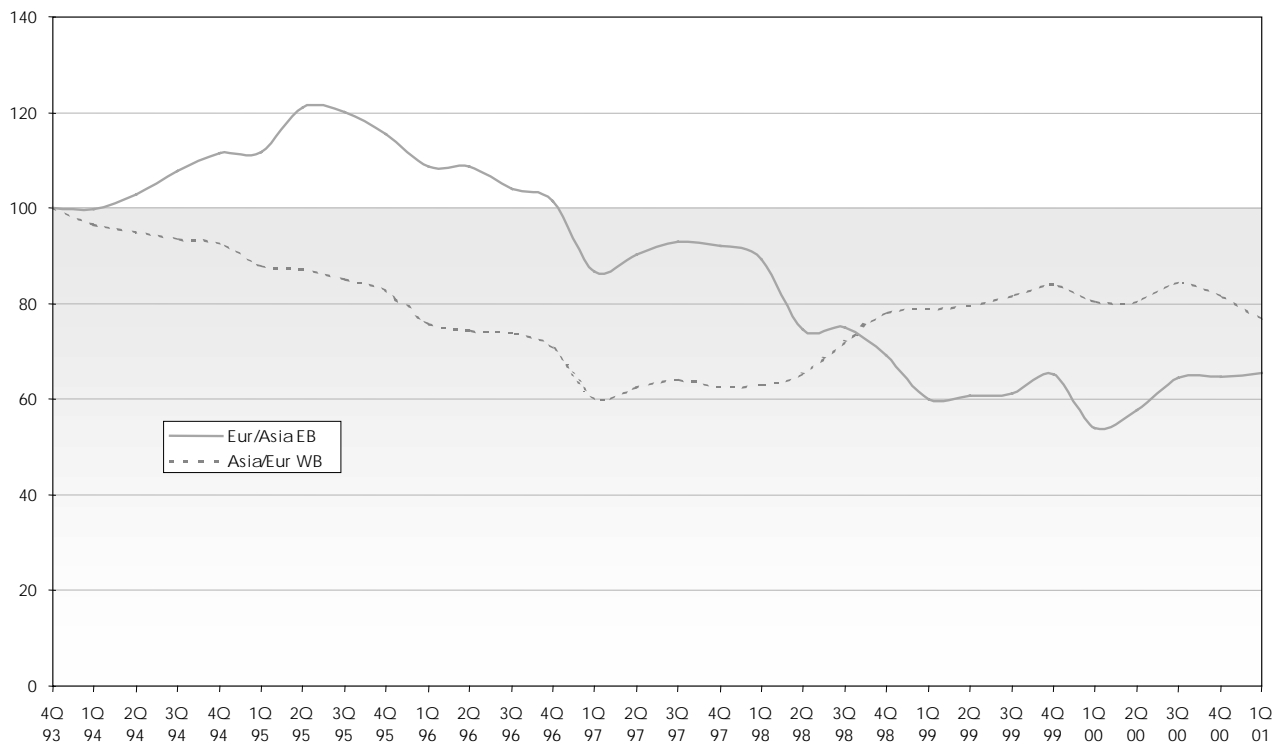
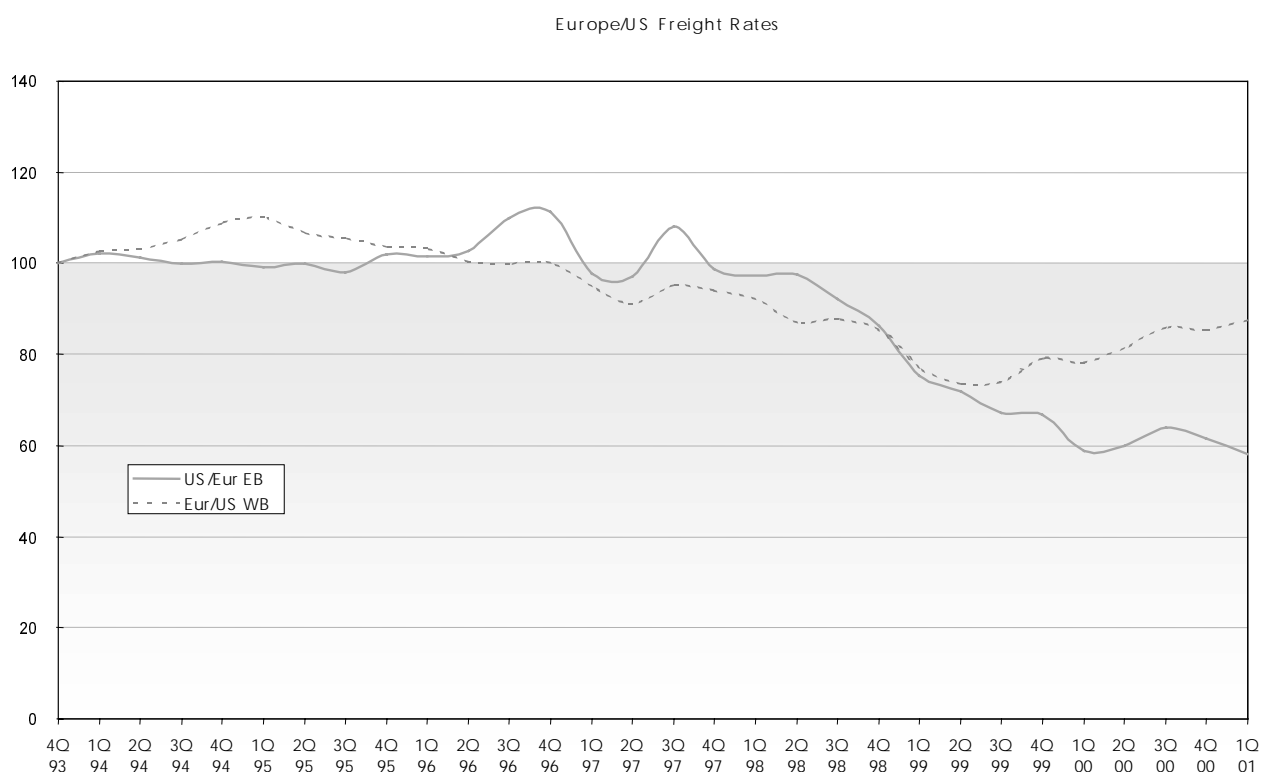


Figure 3.3 (1993=100, 1993 constant dollars)

3.1.1.2 Freight rate index trends for ocean liner services

73. Price trends illustrated by three national commercial service price indices¹³ show a slightly different picture. Data from Japan (Figure 3.4) shows that the cost of Liner shipping to Japanese companies in 2001 had decreased approximately 24% from 1995 values in terms of the contracting currency (typically US dollar) although on a yen basis, the cost was essentially unchanged. Data for the price of liner services to and from German and Dutch ports shows an overall increase in price of 21% from the 1995 index year (Figure 3.5). While it is difficult to compare these indices to CI's freight rate database (since both the Japanese and German data reflect prices in multiple trades), the German data is noticeable in that one might have expected a decrease in prices since the CI freight rate data shows price decreases in the four European trade legs over the same period (the fourth trade leg was essentially unchanged).

74. Data for US inbound liner services from both the Atlantic and Pacific indicate that the aggregate price of these liner services had increased in real terms from 1991 to 2001 for both segments (figure 3.6). This index is relatively easier to compare to the CI freight rate data since each inbound segment in the price index more or less corresponds to the trade legs covered by the freight rate data¹⁴. Compared to the

13. The United States Bureau of Labor Statistics (BLS) International Price Index, the Bank of Japan's Commercial Service Price Index and the German Ministry of Transport's Liner Price Index.

14. The BLS's Atlantic inbound segment is roughly equivalent to CI's Europe-US westbound leg since most trade coming into the Atlantic façade of the US comes from Europe. Likewise, the BLS's Pacific inbound segment is roughly equivalent to the CI Asia-US eastbound leg since most trade coming into the US Pacific coast originates in Asia.

1995 index value, first quarter 2001 prices had slightly decreased in the Atlantic (-2%) and considerably increased (+29%) in the Pacific segment. While the Atlantic inbound figure is similar to the Europe-US westbound figure compiled from *Containerization International's* data (-5%), the Pacific inbound figure is several orders of magnitude greater (CI data show only a 2% increase).

Figure 3.4 (1995=100)

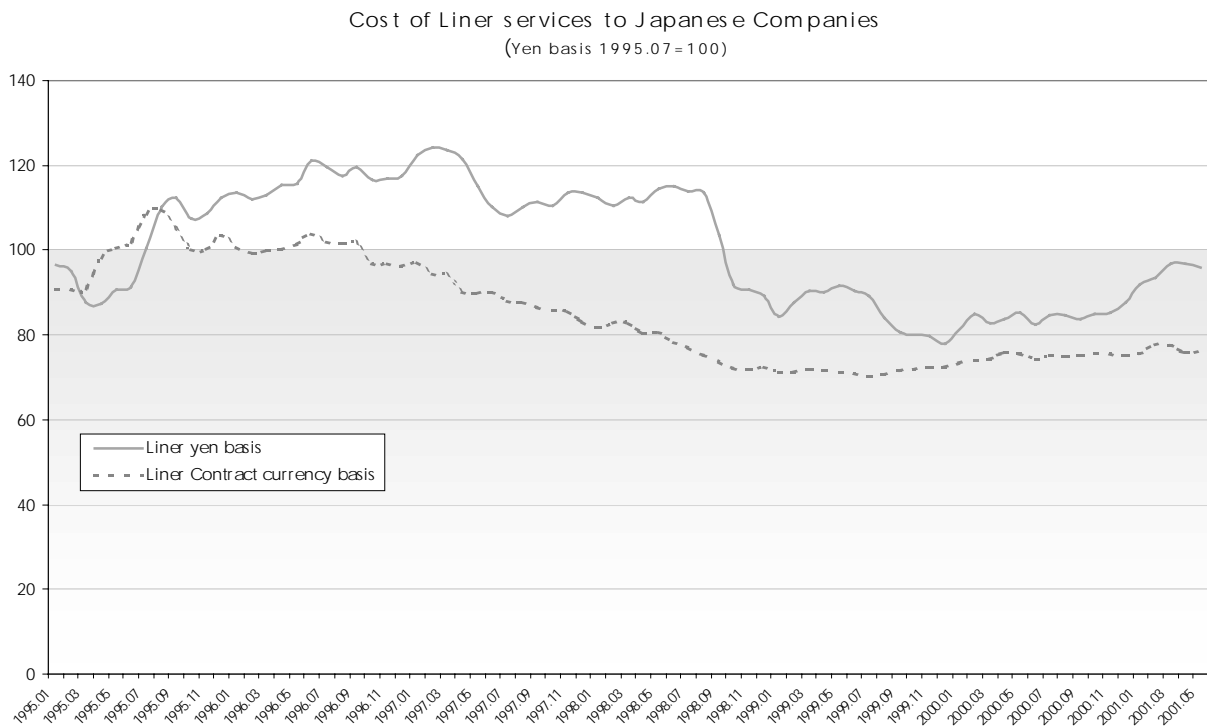


Figure 3.5 (1995=100)

United States Inbound liner freight price index

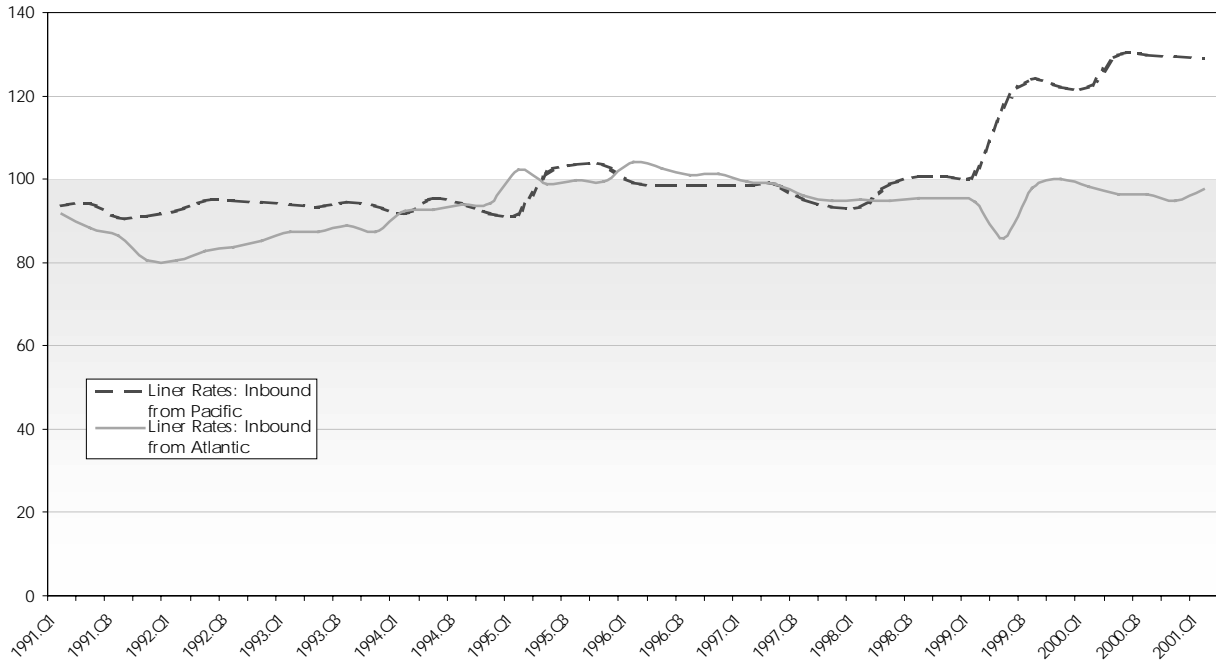
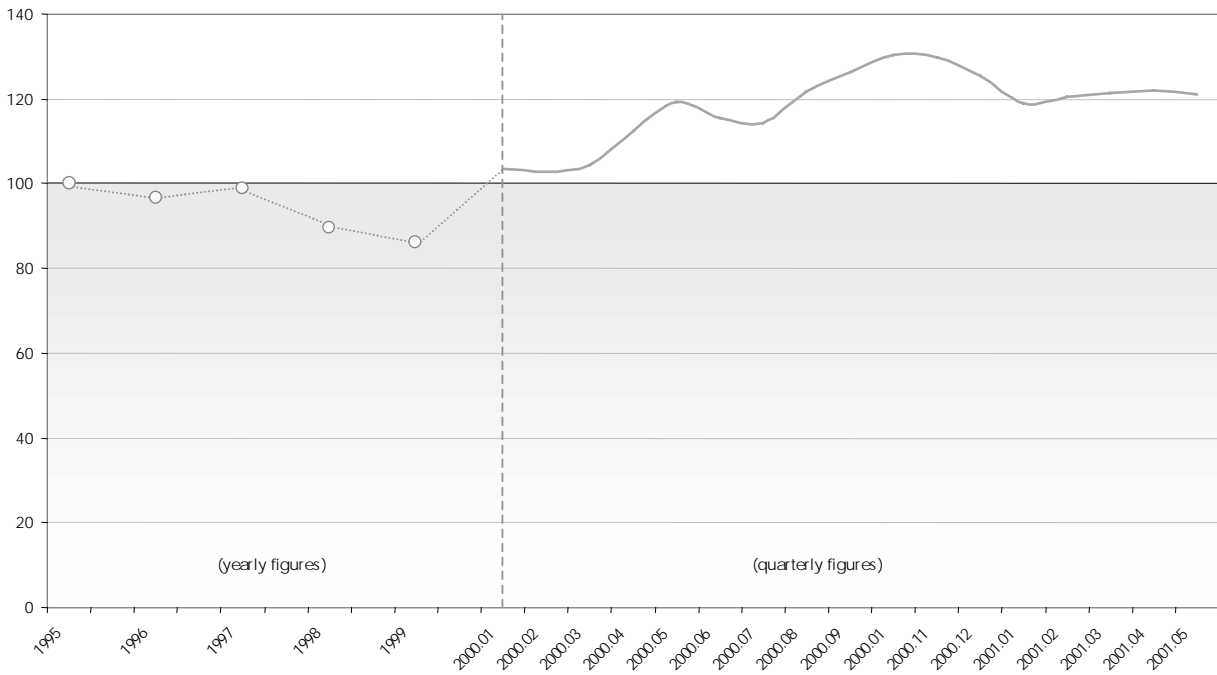


Figure 3.6 (1995=100)

Liner Freight Rate Index Germany



3.1.2 Long-term evolution of liner freight rates and prices: United States Federal Maritime Commission report on the Shipping Act of 1984

75. The United States Federal Maritime Commission published in 1989 a major overview of the impact of the United States Shipping Act of 1984 on a number of factors related to liner shipping. The Commission compiled information regarding longer-term movements in rates for a number of US trades and sought to explain how these came about. This section summarises the report's findings for rate movements on major US trades.

*3.1.2.1 The Atlantic Trades*¹⁵

76. It appears that, as could be expected, the general macro-economic environment played an important role on the demand for liner services and that this element set the stage for rate movements in this trade. This was especially the case during the economic downturn experienced by the United States from 1980 to 1983. This, combined with a surge in capacity spurred by both conference and independent lines, led to a drop in rates during this period. While rates in the westbound direction rose after the recession, they continued to fall in the eastbound direction through 1984 as growing trade imbalances between the United States and Germany made themselves felt.

77. Against this background of declining rates, several independents sought either to leave the trade or merge with one of the dominant conferences. After the passage of the 1984 act, the two dominant conferences merged into a single entity accounting for over 80% of the market share. At that time only two significant independent operators remained and freight rates rose once again in the eastbound leg. Drawn by increasing rates in the eastbound leg, the strong independent carrier Evergreen lines entered the trade and replaced those independents that had left or merged with the conference in the early 1980's. This was a significant event given that Evergreen was one of the first strong independent carriers to offer conference-like services at independent operator prices.

3.1.2.2 The Pacific Trades

78. The FMC report examines rate movements from 1976-1987 in the United States-Japan and United States-Chinese Taipei trades. Perhaps more so than in the case of the Atlantic, this trade has been victim to bouts of overcapacity that perhaps mirror its importance and potential for growth. The oversupply of capacity in 1980 in the eastbound leg and in 1985 in both directions contributed to a fall in rates during those years. However, while in 1980 carriers had sought to respond by either leaving the trade or laying up vessels, in 1985 carriers responded by joining the dominant conference (in the case of independent operators) or by otherwise strengthening conference market share (which, for example, accounted for 80% of the market share in the westbound trade in 1985). Carriers were able to transform this increase in market share into an increase in freight rates in these instances.

79. The arrival of service contracting after 1984 was also a factor that had an impact on freight rates in the Pacific. The FMC report states that the rise in service contracts caused rates to fall even further than they might otherwise have in 1985 and 1986. The ensuing rise in rates came about as the principal carriers serving the South Pacific trade formed a new conference with over 80% of the market share and sought to

15. The 1989 FMC report investigates rate movements in three Atlantic trades: The North Atlantic-Germany trade, the South Atlantic-Germany trade and the North Atlantic-Italy trade. Since all three follow similar movements, this section will focus on the dominant North Atlantic-Germany trade.

limit the amount of individual carrier service contracting by requiring that such contracts be negotiated through the conference.

80. Higher levels of westbound exports from the United States, brought about by a weakening of the US dollar against the currencies of Japan and Chinese Taipei, also allowed the new conference to increase rates once again on this trade leg. However, by 1987 an increasing portion of the westbound cargo was moving also under “independent action” and/or service contract rates.

3.1.2.3 *Conclusions from the US FMC data*

81. The US FMC report also examined rate movements in the Italy-US, Australia-US and Brazil-US trades but data from these trades does not significantly alter the FMC report’s overall conclusions on the long-term movement of freight rates in the United States liner trades. These conclusions are that a number of factors have influenced the movement of conference rates in the United States trades between 1976 and 1987-88 – the most important of these being changes in trade conditions brought about by macro-economic factors (such as GDP growth and exchange rate fluctuations) and the increased presence and effective competition from new and strong independent operators. However, the FMC study did not seek to correlate these movements to conference market share.

82. In a staff report issued in 1995 using much of the same data, two United States Federal Trade Commission economists (formerly with the United States Advisory Commission on Conferences in Ocean Shipping) did attempt to correlate rate movements in the United States trades to conference market share. They concluded that:

“although we find no significant relationship between conference market share and freight rates, our evidence indicates that freight rates were significantly lower on those routes where individual conference carriers were allowed to enter into service contracts with individual shippers. These results suggest that some conference rules, perhaps when combined with relatively high conference market share, may allow carriers to maintain rates at levels higher than they would otherwise” (Clyde and Reitzes, 1995)

83. Rob Quartel, Commissioner of the United States Federal Maritime Commission in 1992 went further and pointed out that an econometric study using the same FMC data carried out in 1992 by the Advisory Commission on Conferences in Ocean Shipping found that “rates charged for transporting cargo are positively related to the market share of the conference and the value of the cargo”. (Quartel, 1992)

84. So what can be concluded from the US FMC data? Generally, when competition from independents is low, conference market share high *and* trade conditions are favourable to carriers (*e.g.* little overcapacity), conferences can charge higher rates. Conversely, more competition from independents and more freedom for shippers to negotiate individually with carriers leads to a decrease in rates — suggesting that in the absence of the latter two conditions, conference rates would be higher. This describes nothing less than the normal working of the market with the notable exception that in liner shipping, market actors can discuss among themselves and fix prices which prevail as long as favourable market conditions prevail.

3.1.3 *Longer-term freight rate movements: data from the German inbound trades*

85. In a comprehensive University of Chicago working paper (Hummels, 1999), D. Hummels (now at Purdue University) examined to what extent technological and institutional changes have reduced the real price of ocean shipping services. This paper was unpublished as of early 2002 and as such, while it provides a useful guide to understanding long-range freight rate movements in the German trades, this cannot be necessarily extrapolated to other trades. The author of that paper, and the authors of this report, caution that the data it contains is indicative of rate movements in that trade since 1954, but should not be seen as an authoritative analysis of overall general rate movements over that period. The study uses long-term time series data (from 1954) provided by the German Ministry of Transport and the German Federal Office of Statistics for liner cargoes loaded and unloaded in Germany and the Netherlands.¹⁶ In order to evaluate the real evolution of shipping prices over time, the study adopts two deflators to establish the outer bounds of the real price range: a US GDP deflator (most rates are quoted in dollars) and a German GDP deflator (Consumer price index) to account for Liners' practice of applying a currency adjustment factor (CAF).¹⁷ The resulting indices are presented in Figure 3.7.

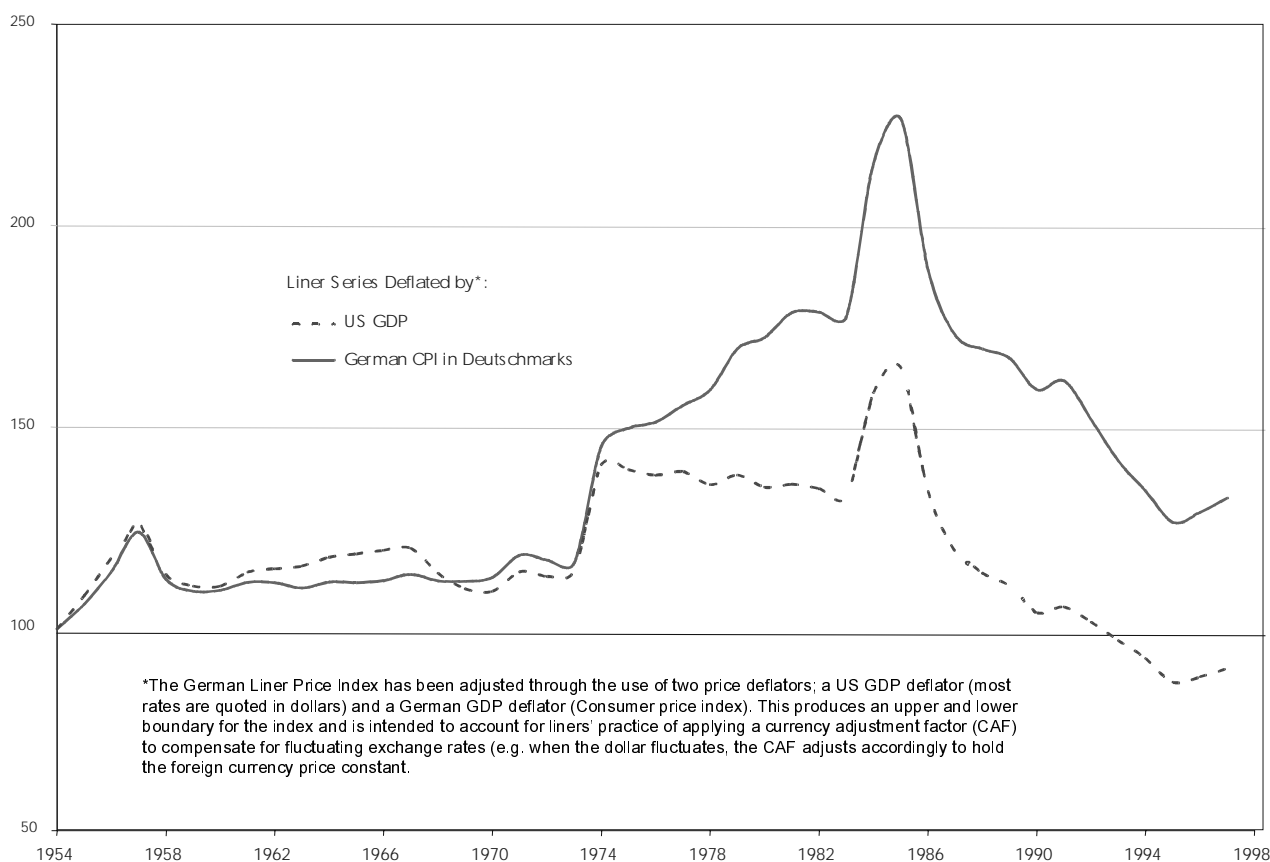
86. In relation to the baseline year (1954) the study shows prices rising steadily through 1970, after which they increase strongly through 1985. It is only since 1985 that prices decrease. In looking at the long-term evolution of liner prices, it is interesting to note that, by 1998, the German-deflated prices were still above the index year value and the US-deflated price was only slightly below the index year value.

87. This would appear to be a counter-intuitive finding since the study period covers the adoption and spread of containerisation within the industry. Indeed, the widespread adoption of containers allowed for decreased handling costs, more efficient loading and off-loading and greater economies of scale. Normally, one might have expected these changes to contribute to increased productivity and lower shipping prices. However, this is not reflected in this liner price index.

16. The German Liner Freight Index is a rough measure of freight rate development to German (and, until recently, Dutch) North Sea ports. It is a weighted average of rate information provided by a sample of carriers and agencies and seeks to track rates for fully and partially loaded containers, other conventional cargo and bulk goods carried in the German liner trades. However, as it heavily emphasise general containerised cargo over bulk commodities, it can be seen as representative of the evolution in containerised trade.

17. Liner operators apply a currency adjustment factor (CAF) to compensate for fluctuating exchange rates (*e.g.* when the dollar fluctuates, the CAF adjusts accordingly to hold the foreign currency price constant).

Figure 3.7 (1953=100)
 German Liner Price Index
 (1954 = 100%)



88. There are several possible explanations for this. The first is that this trend may only be specific to the German trades. This study has investigated this possibility by analysing non-German liner rates, vessel operation and port costs. Data from the UNCTAD's Review of Maritime Transport does not support the hypothesis that the German trades represent an anomaly. Indeed, this data indicates that annual nominal increases of 10-15% were commonplace across all routes in the 1970s. At the time, these increases prompted several national and international investigations in order to determine the source of these changes. Analysis of the North Atlantic Trades carried out in the context of these investigations concluded that prices had increased by a range of 21% to 26% (adjusted with a dollar deflator) – supporting the data found in the German Statistics. Other data from the Royal Netherlands Shipowners' Association show important real increases (average 67%) from 1970 to 1980. Based on these analyses, this study concludes that the trend observed in the German data appears to be a generalised trend within the industry.

89. Another explanation may be that liner vessel and service operating costs (including port costs) have increased. Evidence from the 1970s (Sletmo and Williams, 1981) indicates that the liner industry was faced with significant increases in operating costs — particularly due to increases in fuel prices and new ship construction costs. Increases in fuel prices, however, were not unique to the liner shipping sector. When comparing liner to tramp prices, the study finds that despite a common increase due to the energy crisis of the early 1970s, real liner prices continue to trend upwards while Tramp prices decline during the 70s. This difference can be partly explained by looking at newbuilding costs for containerships which rose at twice the rate of general cargo newbuilding costs during that period. Increases in port costs resulting

from new investment in container-specific port infrastructure seem also to have played a role — especially as these costs are typically accounted for in liner freight rates, unlike tramp time charter rates.

90. The study concludes that these factors, alone, are possibly insufficient to account for the general increase in Liner shipping prices. It hypothesises that prices may have risen either despite, or alternatively, *because* of containerisation. In the latter case, the advent of containerisation in the sector meant that relatively fewer ships could carry the same amount of trade leading to a greater potential market power for conferences on containerised routes. Testing this hypothesis is problematic and is beyond the ability and purview of the present report. However, the Hummel report's principal conclusion that the costs of liner shipping services have in fact tended to be stable or even increase over time, supported as it is by other data, provides a counterpoint to assertions that recent downward trends in freight rates are indicative of a generalised long-term decrease in liner freight rates.

3.2 Impact of conferences/discussion agreements on the price of liner services

91. Little can be conclusively drawn from the recent data on liner freight rates and prices with respect to the specific impact of conferences on the former. In some trades, rates and prices have trended downwards in recent years as overcapacity and competition from independents and new entrants have eroded conference/discussion agreement market power. In others aggregate prices have increased. Shipper responses to the OECD questionnaire regarding recent trends in freight rates confirm this ambiguity. For example, while more shippers in the North American trades experienced a decrease, as opposed to an increase, in rates from 1995 to 2000, this finding varied considerably according to the specific trade with some trades seeing more increases than decreases.

92. However, freight rates have generally declined from high levels achieved in the late 1970s and early 1980's where conferences were better able to dictate rates.¹⁸ It is perhaps significant that some of the steepest declines in rates have occurred in the past few years following on the heels of regulatory changes allowing more flexible pricing mechanisms and the arrival of strong independent operators.

93. Little can be concluded from comparing trends in the liner sector to price trends in other industries (Figures 3.7 and 3.8). In the United States liner prices have increased inbound from the Pacific and decreased in the Atlantic — but not by as much as airfreight prices. In Japan, the prices of liner services have generally followed movements in the prices of other maritime transport services although liner prices have decreased relative to many of these. However, despite greater volatility, the general trend in liner prices is on par with the general decrease in all commercial services (-4% from 1995) in Japan. Based on this, it is difficult to conclude that liner prices decreased at a faster rate, or displayed significantly different characteristics, than prices in other like industries.¹⁹

18. So much so that many countries opened investigations into conference abuses of market power leading to a changed regulatory structure in many instances.

19. Hummel finds that, unlike liner shipping, air freight prices have experienced significant real decreases in the long term.

Figure 3.8 (1995=100)

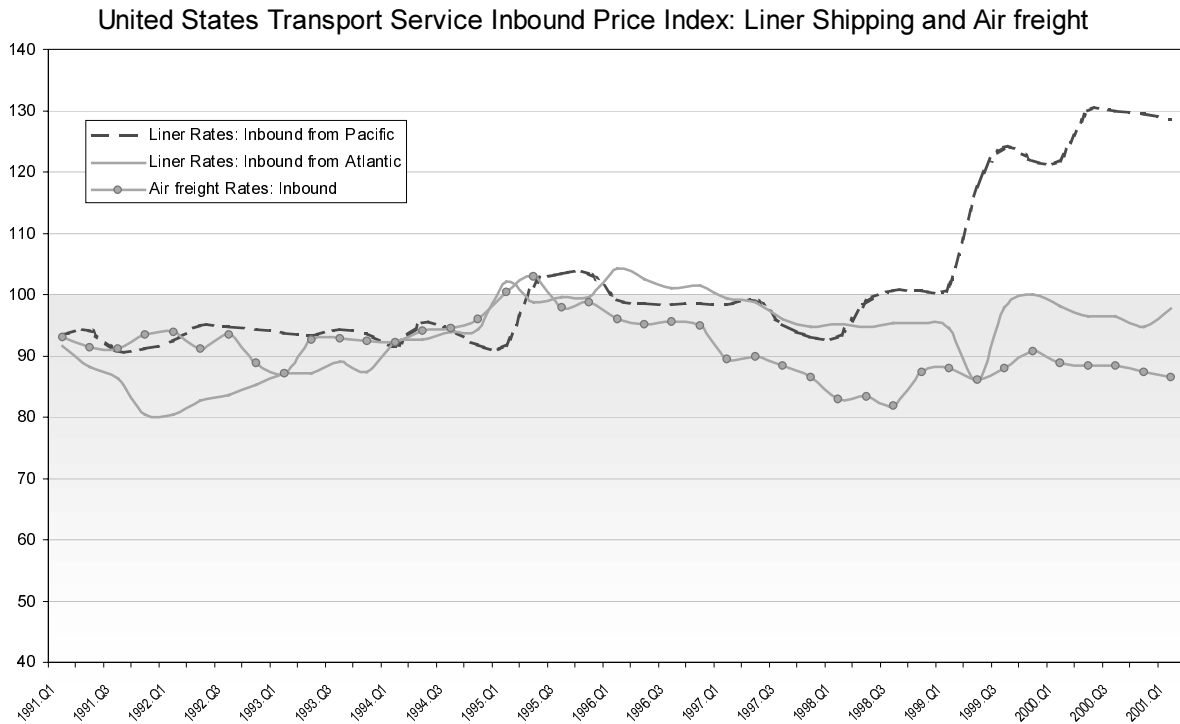
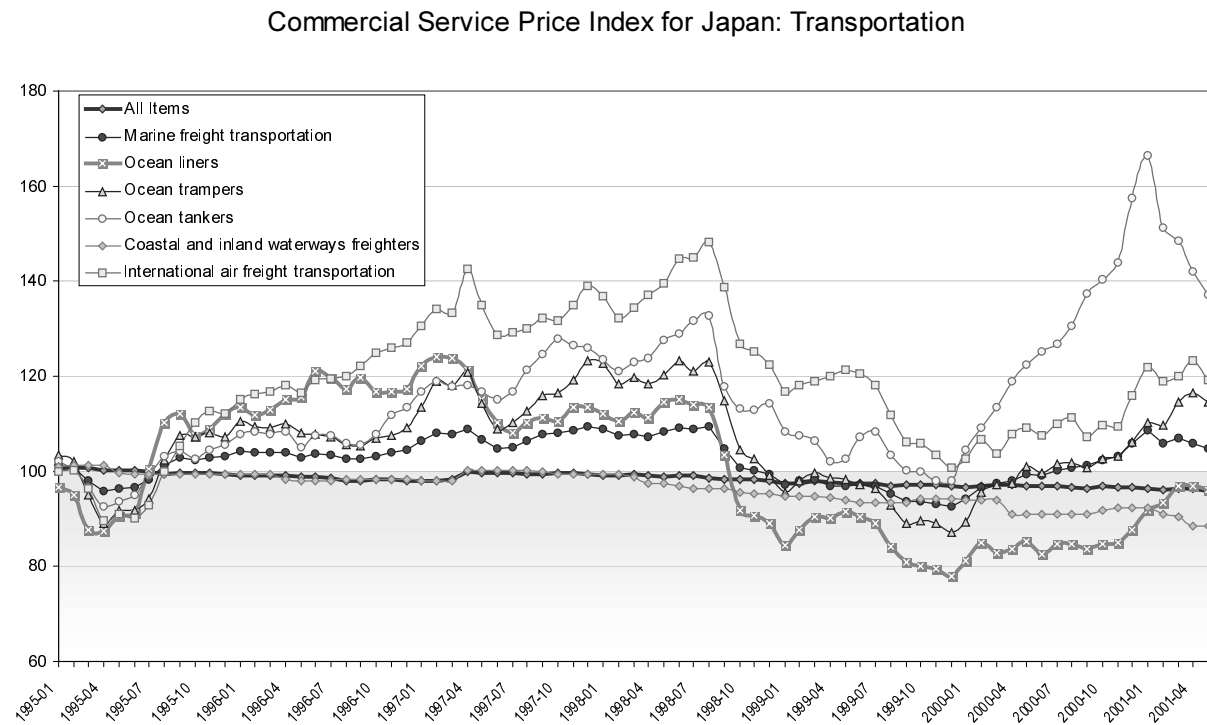
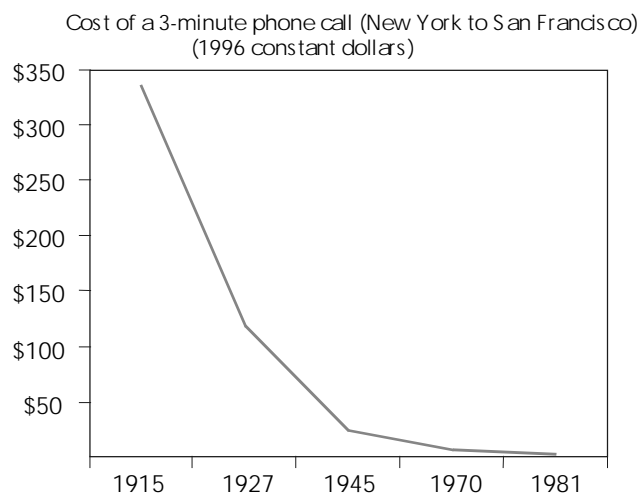


Figure 3.9 (1995=100)



Box 3.1. Price movements and competition

Proponents of anti-trust exemptions have argued that recent trends indicating falling prices support their claim that competition is healthy and that price- and capacity-fixing agreements among carriers are not resulting in abuses of market power. However, falling prices are neither a necessary or sufficient indication of a competitive industry. Indeed many industries, including the notoriously monopolistic United States telecommunications industry up to its break-up in the 1980s, have simultaneously experienced falling prices and market power abuses (see figure below). How prices change is of less importance than the manner in, and the purpose for, which they are set. This is precisely the difficulty in assessing the impact of collusion among liner operators.



94. One can generally conclude that liner freight rates currently respond to supply and demand conditions in the market – they decrease when demand drops and increase when supply is limited. In most cases, conferences and discussion agreements have not been able to push through the full extent of co-ordinated price increases (carriers refer to these as “rate restoration”) in trades experiencing falling demand. However, the simple fact that prices decrease (or show reactivity to supply and demand) does not necessarily mean that a market is operating efficiently (see box 3.1 and discussion in section 4). While the *dynamics* of the liner service market appear to be functioning, the same cannot be said for the *level* at which it operates or its *efficiency* given the ability of carriers to set prices and capacity. Conferences and discussion agreements note that these arrangements serve to dampen downward rate movements – e.g. they keep rates from falling so low as to force carriers into bankruptcy and potentially destabilise the trade. On the other hand, shippers argue that these arrangements allow carriers to charge higher prices than otherwise would be possible when supply is tight.²⁰ Furthermore it is not at all clear that price and capacity fixing arrangements have served to buffer rate change movements in the liner trades.

3.2.1 Liner rate-setting practices

95. Responses to the OECD questionnaire relating to rate-setting in the liner-shipping industry issues reveal a varied picture.

20. This impression is supported by the conclusions of the 1995 Clyde and Reitzes report on collusion in the liner industry – while recent (pre-1998) regulatory and economic conditions rendered effective long-term collusion among carriers difficult, markets were still skewed by the ability of conferences to wield market power and prevent individual contracting by conference members. (Clyde and Reitzes, 1995 pp. 37-38).

96. European shippers report very little divergence in rates quoted amongst carriers of the same conference. This contrasts with the recent experience of US shippers where not only do shippers find that conference carriers offer a wider range of rates amongst themselves but that these rates also tend to compare more favourably with those offered by independent operators. This difference is due to the introduction of confidential contracting in the US trades following the passage of OSRA. Since confidential contract terms can no longer be automatically shared among carriers under this legislation, liner operators now find themselves having to set rates closer to their real costs in order to ensure that they remain competitive. According to one conference, published tariffs now largely serve as “benchmarks” for rate negotiations in the US trades (TACA, 2001). Indeed, a recent review of the impacts of OSRA indicated that 90% of contracted rates are linked to a tariff:

"Some shippers commented that GRI [General Rate Increase] clauses and other such tariff links in contracts which allow for the pass-through of rate increases and surcharges that are difficult to anticipate or ascertain are antithetical to the purpose of contracting for a specific rate. Carriers maintain that such tariff references and links make drafting and managing contracts easier. The Commission's survey revealed that [...] approximately 90% [of contract rates] were linked or referenced to a tariff. [...] Many contracts contained rates inclusive of specific surcharges for fixed durations, with the proviso that any other charges in the governing tariff would apply [...] In addition, the survey found that 36% of the contracts contained GRI clauses or other such provisions for the general increase of freight rates connected to tariff rate increases [...] While tariff references in contracts are not new, their use under OSRA has created some controversy regarding the carriers' ability to influence contract rate levels and terms collectively".²¹

97. Insofar as rates are largely negotiated on a one-on-one basis, the fact that the final, negotiated, rate still references a fixed conference rate indicates that the latter can still be used by conference members to transmit price signals among competing firms. Carriers, of course, currently retain anti-trust immunity for such arrangements but if one of the aims of the OSRA confidentiality clauses was to reduce the ability of carriers to use this kind of market information then it could be argued that common referencing of rates and rate terms in shipper contracts may in fact thwart that objective. The reliance of the industry on “benchmark” or “governing” tariffs begs the question as to why such “benchmarks” or other references are needed among erstwhile competitors in an era where commercial survival is often predicated by a firm’s ability to track, control and price on the basis of its own real cost.

3.2.1.1 *Ancillary surcharges*

98. Shipping Associations responding to the OECD questionnaire reported that all of the members they polled indicated that carriers rarely deviate from one another when asked if conference and discussion agreement members differ from each other in the type and level of surcharges charged. While some surcharges (*e.g.* bunker or currency adjustment factors) can reasonably be seen to apply across all carriers, it is more difficult to understand why others such as equipment repositioning charges and paperwork filing charges should be identical in firms operating at different levels of efficiency. Furthermore, shippers report a general lack of transparency relating to these charges, which raises questions as to their real basis.²²

21. United States Federal Maritime Commission, 2001, page 20.

22. As an example, the Singapore National Shipper’s Council (SNSC) carried out a survey of their shippers regarding terminal handling charges (THC). Shippers reported that carriers would justify THC increases as being a result of increased port charges. However, the concerned port authority (PSA) confirmed that over the same period, port charges actually decreased leading the SNSC to conclude that carriers used THCs as a way to apply surcharges rather than cost-recovery mechanisms. (“Frustrated Shippers”, 2001)

Some industry observers feel that these may indeed be a “back-door” price-fixing mechanism – especially as these are presented to shippers as linked to direct costs and therefore (unlike rates) generally non-negotiable in nature (and open to re-assessment during the life of a service contract, unless otherwise stipulated).²³ In this respect, it is telling that nearly all shippers polled in the context of this review indicated that the total number of surcharges applied by carriers was increasing.

99. Many have questioned the particular risk management strategy prevalent in the liner shipping sector where most of the risk associated with the major variable charges (such as currency and fuel price fluctuations) are passed fully through to shippers. Menachof and Dicer, in their investigation of risk management strategies in liner shipping, remark:

“...liner firms have been able to pass many costs of doing business to the shipper with the major variable charges listed as separate charges...shippers are then faced with rates that vary highly from the published tariff, and they cannot rely on the rate to be the same from one month to the next...this variation makes it difficult to conduct business with a long-term outlook...” (Menachov, 2001)

100. They suggest that both carriers and shippers can benefit if the liner shipping industry develops more balanced risk management strategy implicating both sides. In particular they point to the benefits other industries have reaped from the implementation of futures markets as a hedge against uncertainty in bunker and currency fluctuations.

3.2.1.2 *Independent carriers*

101. There is little direct evidence that independent carriers price off conference rates although it is widely recognised that many independents have done so in the past and continue to do so now.²⁴ At least in two instances involving the Europe-Asia-Europe trades competition authorities have documented and reprimanded conference carriers for seeking to manipulate prices and capacity with independent lines.²⁵ More recently, EU competition authorities were prompted to open an investigation of six independent lines in the North Atlantic trades after these simultaneously imposed the same empty equipment repositioning surcharge as the dominant conference in that trade. Shippers responding to the OECD questionnaire confirm these impressions – their experience is that in the majority of cases, independents apply the same surcharges as conference carriers.

3.2.1.3 *Rate variability*

102. Governments have upheld anti-trust exemptions for price and capacity-fixing arrangements partially on the understanding that these would serve to provide a stable price environment for shippers and ensure supply stability. While there can be little argument with the latter assertion (shippers rarely complain that there is a lack of overall capacity to transport their containers), shippers responding to the OECD questionnaire strongly questioned whether these arrangements have served to stabilise rate variability.

23. “Shippers rail against ‘boilerplate’ clauses”, 2001.

24. Industry observers have pointed out the difficulty independents currently are experiencing in developing pricing policies for the US trades now that they can no longer easily peg their prices to those of conference carriers since the advent of confidential contracting. Also *Lloyd’s Shipping Economist*, October 2001.

25. In both the EATA and FETTCSA decisions.

103. European shippers pointed out that rates could vary considerably from year to year — especially in those trades where there is less competition. Rate changes of over 30% were not uncommon with some shippers reporting changes as high as 200% from one year to the next. North American shippers in both Canada and the United States report similar findings. US shippers report average annual rate changes of over 5% in almost every case with changes of over 10% from year-to-year not being uncommon. Canadian shippers report significant volatility in average rates with some individual shippers reporting changes of 50%-95% from one year to the next.

104. The data on rate volatility provided by shippers concerns a relatively small sample of shippers (an undetermined number of responses from the ESC and 15 responses each from the NITL and CSC questionnaires) and therefore can only be considered a general indication of recent trends in rate movements experienced by shippers in general. It should be noted that the rate volatility reported by shippers concerns both upward *and* downwards movements in rates. When compared to trade data, one can conclude that these price movements seem to indicate a market responding to supply and demand conditions. Carriers assert that capacity and price fixing arrangements have “buffered” the market from potentially greater rate volatility although this is an unsupported and a very difficult assertion to test. Data from shippers indicates that the opposite might even be true as some trades experiencing greater competition show relatively more stability than others (*e.g.* the Europe-Mediterranean trade where ocean liners face competition from short-sea shipping, inner waterway shipping and overland rail/road transport).

105. Older data from the 1989 US FMC study can provide some further insight into rate volatility from 1976 to 1988. The primary purpose of the 1989 FMC report’s analysis of rate stability was to gauge the impact of the 1984 United States Shipping Act on the stability of rates in the US trades. It found that, although the United States-Germany trade experienced slightly more rate stability and the United States-Italy trade experienced slightly less stability after the 1984 act, overall changes in rate stability in the periods before and after the passage of the 1984 Shipping act were statistically insignificant. The Pacific trades studied in the report all experienced greater and often statistically significant instability following the passage of the 1984 Shipping act. The report concludes that two elements of the 1984 act likely contributed to this observed rise in instability: the provision for mandatory “independent action” on no more than ten days notice and the imposition of service contracting (which in the case of two of the dominant conferences was carried out individually by carriers from 1985 to 1986). These two provisions made it more difficult for conferences to maintain rate discipline in these trades and led to a sometimes-rapid decrease in rates. After a quick fall in rates, two of the major conferences in the Pacific trade (ANERA and TWRA) required their members to negotiate service contracts through the conference rather than individually, thus contributing to a rapid rise in rates from 1986 to 1987.

3.3 Economic performance of the liner shipping industry

106. Carriers often point out that theirs is an industry characterised by poor economic performance. The measurement of economic performance of an industry is notoriously difficult and fraught with problems. Nevertheless, the evidence in this report suggests that the liner shipping industry is a poor performing one, as are many other transport service provider industries. However, there is no evidence that average returns in the liner shipping industry have been significantly *worse* than returns in many other sectors of the transport service industry. Furthermore, it would be wrong to believe that all liner operators are faring so poorly. Like in any other industry, carriers have come and gone and many have changed in response to historical circumstances, yet most of the top 20 carriers have been in business for over 20 years - detracting from carrier claims that industry losses are unsustainable over the long-run.

107. Even today, in unfavourable trading conditions, not all carriers are performing badly and some are doing rather well compared to other transport industries (*e.g.* the top tenth percentile value for return on

equity performance in liner shipping from 1990 to 2000 is comparable to the average ROE performance of the Standards and Poors Transportation Index — 12.53% and 12.92% respectively — and better than the S&P Railroad Index performance and Worldstream Financial Data Services grouping of 84 Road, Rail and Freight Transport equities – 10.02% and 9.16% respectively). Even the *average* ROE performance of the liner sector from 1990 to 2000 (10.55%) outperforms the S&P Railroad Index and the Worldstream Road, Rail and Freight equities. Profit margins in the liner sector are tight, much as they are in other transport sectors. However, Table 3.2 shows that the average 10-year profit margins in liner shipping were still greater than the average net profit margin for other road, rail and freight transport firms (3.95% and 2.07% respectively). Over the same period, however, the average profit margin for firms in the S&P Rail and S&P Transport Indexes were 7.2% and 4.6% respectively. One can conclude from these figures that liner shipping results, while low, are certainly within the range of economic results from other transport service providers.

Table 3.2 Financial ratios for selected liner operators and industries (percent)²⁶

Return on Equity (Average)	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	10-year average
Liner Shipping (16 equities)	8.34	7.73	7.42	7.02	13.54	9.65	9.48	6.94	16.18	6.18	6.87	10.55
Road Rail and Freight (84 equities)	23.09	7.88	8.60	8.43	11.23	7.75	10.92	15.53	4.42	-4.40	7.32	9.16
Net Profit Margin (Average)												
Liner Shipping (16 equities)	0.64	1.02	1.02	6.40	7.18	5.66	4.40	3.65	3.25	1.81	8.49	3.95
Road, Rail and Freight (84 equities)	6.90	4.37	5.70	7.87	-28.03	0.35	6.74	5.65	-3.82	8.25	8.81	2.07

108. Carriers put forwards many reasons for the industry's propensity for poor economic returns. These include the investment necessary to implement liner shipping services, the vagaries of international trade, the fact that unsold slots are forever lost and the general commoditised nature of the liner shipping product. Despite these factors, it is clear that some carriers are able to generate a reasonable return on their investments. Why this should not be the case for more carriers may be more linked to management and accounting practices than to industry-specific characteristics.

3.3.1 Cost control

109. Carriers point to wide-ranging efforts within the industry to cut costs and increase overall productivity. Strategies range from seeking operational savings through mergers, alliances and slot chartering arrangements, cutting staff and overhead costs, introducing new container tracking and asset management information systems, to deploying larger and more advanced ships (see discussion on this

26. Compiled from Company financial reports, Datastream Financial Data Services online (www.datastream.com), Containerisation International On-line for top-40 (in fleet capacity) liner operators publishing financial records (www.ci-online.co.uk). The 15 carriers used for ROE and Net Profit margin analysis were selected because they were the only ones publishing financial reports. They are: CSAV, Maersk (excluded from the profit margin analysis because their reported profit margins were for the entire Maersk group and grossly skewed the sample upwards), K Line, MOL, NYK, Hanjin, HMM, MISC, PONL, Evergreen, Hapag Lloyd, Yangming, Wan Hai, Uniglory and NOL. Carrier company reports for multi-activity groups tend not to disaggregate results for their liner operations vs. other company operations. Wherever possible, disaggregate results have been used.

below). However, a recent overview of pricing trends within the liner industry finds that most carriers have been slow to reap savings from detailed activity-based costing, explaining partially why the best managed carriers have performed better than others.²⁷

110. Pricing regimes based on average costs (*e.g.* such as the net contribution to vessel programme) fail to provide detailed information on how specific activities and/or transactions generate costs. Without this information, it may be difficult for carriers to correctly identify sources of specific costs savings and price transactions accordingly. As illustrated in Table 3.3, real costs can vary considerably, such that any operators pricing on average costs may rapidly find themselves in trouble if the true costs they incur are more along the upper ranges of the distribution. This also explains the success of some independent carriers who used activity-based costing to identify and target more profitable cargoes. According to this study, many ocean carriers still lack the ability to accurately track and assign costs on a specific, rather than average, basis. This weakness may also go a long way towards explaining shipper frustration with carrier pricing regimes since many of the former have long since implemented detailed activity-based costing accounting in order to remain competitive.

Table 3.3. Analysis of average liner service cost distribution for North American Trades (USD per TEU)

Cost categories (USD/TEU)	Lowest	2nd quartile	3rd quartile	Highest
Corporate overhead:				
<i>Sales cost</i>	5	10	20	80
<i>Customer service</i>	5	10	40	100
Vessel costs	90	100	700	2800
Terminal costs	100	125	200	400
Inland transportation	0	150	1500	5000
Equipment costs	100	200	450	1500
All costs	300	595	2910	9880

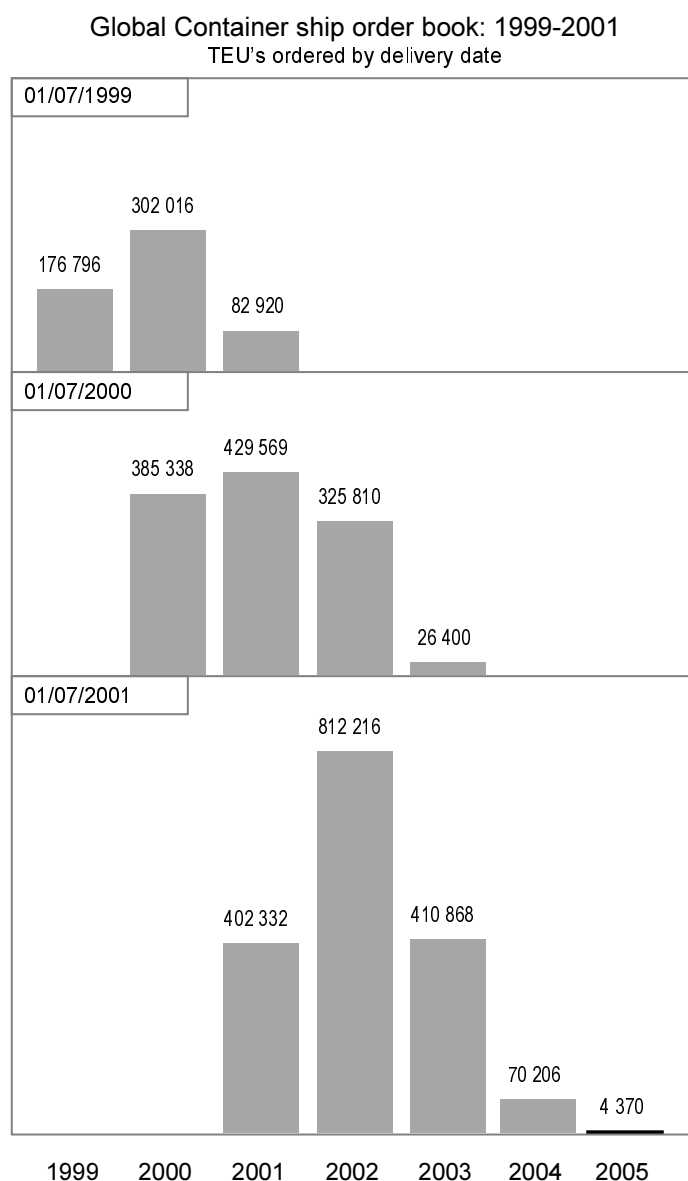
Source: "Easy as ABC", Containerisation International On-line (www.ci-online.co.uk), 1 March, 2001.

3.3.2 Over-investment in capacity

111. The liner shipping industry has a record of investing heavily in new capacity. As outlined in section 2, many carriers follow the route of ordering new and larger ships in order to achieve economies of scale which would hypothetically allow them to cut costs. Providing new capacity, especially when in the form of new service strings often requires not one but several new ships in order to provide a reasonable and attractive sailing schedule. While some of this capacity can be obtained through slot exchange/charter agreements or in the ship charter market, most carriers still have recourse to building new ships.

27. "Easy as ABC", 2001.

Figure 3.10



Source: Containerisation International On-line (www.ci-online.co.uk).

112. Long-term projections for world trade growth give reason to carriers who seek to expand their fleets. However, in many instances, the overall level of new capacity added to trades has outstripped short-term growth in trade – most recently during the Asian financial crisis and in the second and third quarters of 2001 as the US and European economies slowed down. Many industry observers have noted that the tremendous amount of new capacity ordered in recent years as carriers experienced strong financial results and low newbuilding prices (see Figure 3.11) will come on-line just as trade growth slows, leading yet again to a cycle of overcapacity, falling rates and falling returns on many trades.²⁸ According to Drewry

28. “Trigger happy lines shoot themselves in the foot”, 2001 – The new capacity added to the Pacific trades in 2000 and 2001 has triggered a cycle of rate cuts and diminished returns which, in turn, has prompted the dominant conference (FEFC) to envisage “parking” 10-20% of their capacity (CI, “Nervous FEFC clutches at capacity management straws”, 2001).

Shipping Consultants, global containerised trade will grow by 8.1% in 2001 (down from 10.8% in 2000) while the global containership fleet will grow by 12.5% in 2001 and 13.8% in 2002 (“Drewry predicts less growth in 2001”, 2001). This growth will likely be weaker given the aftermath of the terrorist attacks on New York city and their chilling impact on US trades.

113. Carriers argue that this type of overcapacity is endemic to the industry since strong trade flows in one direction are not necessarily matched in the other – in order to provide for demand in the outward leg, carriers must necessarily oversupply capacity on the weaker return leg. However, many carriers are seeking alternative strategies to reduce the need to run unbalanced service strings. In particular, the increasing use of slot charter agreements across all trades and increasingly, between conference, alliances and independent operators, represents a less capital-intensive way of responding to growth in demand.²⁹ It is also telling that a growing proportion of the top 20 operators’ fleets is made up of time-chartered vessels, indicating a trend away from self-ownership to relatively more flexible asset management arrangements.

114. Furthermore, it is not at all clear that the industry’s conventional wisdom regarding the economies of scale brought about by ever larger ships is necessarily as well founded as carriers might hope to believe. In a 1997 speech, Theodore Prince, senior vice president and chief operating officer, of K Line America pointed out that:

“One of the major contradictions within the shipping industry is the concept of 'scale versus scope'. (Prince) pointed out that it was the industry convention at present to build larger vessels that necessitate ever larger and more sophisticated terminals, supported by physical infrastructure with increasingly advanced technologies. Although this may look impressive, such an asset-intensive approach will only lead to higher fixed costs and an inability to survive in today's competitive, de facto deregulated trading environment. ‘Scale is an opportunity to invest and you have to question whether these investments will pay off.’³⁰

115. This view is also echoed by Martin Stopford, Managing Director of Clarkson Research, who points out that economies of scale brought about by larger ships diminish after a certain point and can easily be wiped out by increased transshipment costs.³¹ In an environment where overall capacity is sufficient to carry available cargo, one might question whether new capacity construction is necessarily the most efficient route towards increasing operators’ profitability.

116. Finally, one complicating factor in the capacity equation has been the low cost of newbuildings in recent years. Ships being delivered in 2001 and 2002 are between 30% and 40% less expensive than in 1991, tempting carriers to renew their fleets with more efficient ships before prices rise.³² There are many reasons for current low prices in the shipbuilding sector and state support of certain shipbuilding industries is certainly an important factor in the current low prices for newbuildings. However, competition in the shipbuilding sector is a separate issue from competition in the liner sector and should be addressed accordingly.

29. “Scale vs. Scope”, 2001.

30. “Scale vs. Scope”, 2001.

31. “A new Revolution”, 2001 and “Revolution Revisited”, 2001.

32. Freight rate indicators, Containerization International On-line (www.ci-online.co.uk) 9/21.

Summary Section 3

- In the absence of detailed data on real freight rates and carrier costs, it is impossible to irrefutably prove/disprove a causal relationship between the price of liner services and the anti-trust exemptions afforded to conference carriers.
- Average freight rates in all of the major trades have decreased over the past decade. The drop in freight rates has not been uniform between individual legs of these trades nor between the trades themselves.
- Also, while not conclusively proven, there is some evidence that in real terms freight rates are not dissimilar to those that prevailed in the mid-50s, despite the widespread introduction of containerised cargo. The steepest declines in observed freight rates have coincided with a generalised decrease in conference power in the face of competition from strong independent operators and the implementation of competition-enhancing legislation in the United States trades.
- Ancillary surcharges such as those charged by carriers represent a method of passing the most important variable costs (currency fluctuations, fuel costs and terminal handling charges) on to shippers. Shippers assume most of the risk associated with these costs. In some cases, lack of transparency regarding the basis for these costs raises serious doubts as to whether they really only serve to recover costs.
- Freight rate movements in liner markets are generally responsive to supply and demand conditions. The extent to which these movements are “buffered” by price-fixing is difficult to determine. Some European shippers’ experience in fact shows that trades open to greater competition (and therefore less conference control) show relatively more rate stability than trades where conferences have greater power.
- While liner operations are not particularly profitable, many carriers, especially the top performing ones, are able to generate financial returns at least as good as, if not better than, other transport industry service providers. Poor financial performances in the liner sector may have as much to do with management decisions linked to cost control and investment in capacity as with any inherent structural problems within the industry.

4 Discussion of the impacts of Price-fixing and capacity agreements on both carriers and shippers

4.1 To what extent does anti-trust immunity for price-fixing deliver benefits to shippers by improving supply chain performance and enhancing business efficiency?

117. Supporters of price-fixing arrangements argue that these are a necessary pre-condition to the provision of continued and uninterrupted high-quality ocean shipping services. Carriers claim that without such arrangements, shippers would experience difficulty getting their goods shipped as sailing schedules would likely be perturbed by the bankruptcy of weaker carriers. According to this view, the sudden exit of these carriers from published service strings would strand containers dockside and would render shipping a much more uncertain exercise than it is currently. Anti-trust immunity for price-fixing, so its proponents explain, allows conference carriers to achieve adequate returns on their investment (irrespective of their differing operating and management efficiencies), avoid bankruptcy and thus allows shippers to benefit from stable services.

118. The line of reasoning exposed above is perhaps one of the most contentious issues surrounding the continuation of anti-trust immunity for price-fixing. The argument for retaining immunity is based on the belief that there is no natural short or long-term market equilibrium in liner shipping and that without collusion among service providers, there will be an overall decrease in welfare as supply becomes uncertain and trade becomes negatively impacted. Supporters of this view point out the spectre of “cut-throat” or “destructive” competition (such as that which occurred over a century ago with the arrival of the first steamship liner operators) as reason enough to artificially stabilise prices in these markets in order to ensure adequate and predictable supply. Many, however, disagree and argue that liner markets, like other markets, can and will reach an efficient outcome through more competition. They argue that it is completely normal that inefficient operators drop out of the industry leaving only those most able to provide cost-effective services. Supporters of this view note that while some short-term interruptions in trade may come about from time to time, welfare gains from a long-term reduction in shipping prices would end up having an overall beneficial impact.

119. Defenders of anti-trust immunity urge regulators not to attempt to “fix what isn’t broken” and argue that the benefits of price-fixing outweigh any eventual costs. However, their arguments have a strong theoretical and somewhat untested underpinning. It was hoped that in the context of this report carriers and shippers might provide detailed cost and rate data either supporting or refuting the need for anti-trust immunity. Unfortunately this information was not forthcoming. This section will therefore focus on the theoretical models and assumptions underlying the retention of anti-trust immunity and attempt to supplement this analysis with real data and observations culled from various sources.

120. The following sections will examine to what extent anti-trust immunity for price-fixing in liner shipping has benefited shippers by allowing carriers to deliver high quality services and avoid disruptions from “destructive” competition.

4.1.1 *Has anti-trust immunity allowed carriers to provide adequate liner services?*

121. Not necessarily. Industry data and responses from the OECD questionnaire certainly support the contention that carriers deliver an adequate and reliable amount of capacity in the face of growing world trade. Containers are rarely left at dock and, if anything, the industry is characterised more by over, rather than under, capacity. The real question is to what extent would these services have been provided anyway without the protection from anti-trust immunity. Indeed, if anything the trade press and shippers' organisations all point to an improvement in the responsiveness of carriers to shippers' needs as conferences have lost their importance and strong independent carriers have emerged. More shipper-responsive strategies such as integrated supply-chain logistics services, simplified and/or single freight rate structures, better co-ordinated multi-carrier services, etc. have all come about not *because* of conference power to fix prices but precisely *because this power has waned* in recent years and carriers have had to seek new strategies to remain viable in a more competitive environment.

4.1.2 *Has anti-trust immunity allowed the market to deliver an efficient outcome?*

122. Another related question might be: to what extent has anti-trust immunity allowed the market to deliver an efficient outcome? Economic efficiency has a number of aspects. One element is productive efficiency which relates to suppliers' ability to produce a set level of output at the least cost. However, a market can include many efficient suppliers and yet still exhibit productive inefficiency if the other suppliers are inefficient. In addition, in its broadest sense, efficiency means that markets meet two further conditions: 1) each unit of output is consumed by those most willing to pay for it and 2) the right amount of output is produced so that prices reflect costs (Stoft, 2001). A strong case can be made that the liner shipping market has historically (with price-fixing among carriers) failed on both the first count (conferences and other price-fixing arrangements expressly have sought to protect the least efficient operators) and the third count (there has and continues to be a distinct trend towards over-capacity in the industry). Many shippers would strongly argue that it fails on the second count as well, given that they feel that freight rates are above what they might be in the absence anti-trust protection.

4.1.3 *Does anti-trust immunity prevent destructive competition?*

123. In order to answer this question we first need to address two other questions: What might we mean by "destructive competition", and is the liner shipping sector prone to this phenomenon? Having addressed these questions we can then determine whether or not anti-trust immunity can prevent "destructive competition". Even if destructive competition exists in the liner-shipping sector, is harmful and can be prevented by anti-trust immunity, this does not imply that anti-trust immunity is the correct public policy response. Anti-trust immunity may not be the sole and/or most effective recourse against this phenomenon.

124. The answers to these questions are determined by how one views the organisation of liner shipping markets. This section will examine these assumptions, the models of market structure that underlie them and will address the more pertinent question of to what extent has anti-trust immunity contributed to the most efficient market outcome in liner shipping.

125. The inefficiency inherent in the Conference system is often described as the price to be paid for stability. Carriers argue that shippers would not have access to regular and frequent liner services if they could not fix prices. The reasoning behind this view is that the "unique" economics of liner shipping lead to pricing at short-term marginal costs that are often below average costs. This in turn would lead to the sudden withdrawal of ships from service strings as their owners decided to cut their losses and exit from the trade. On the other hand, shippers have tended to view this argumentation as flawed since their view of

market structure in the liner sector does not support the notion of “destructive” competition and/or the existence of “destructive” competition in the current market. This section will examine some of the theories of market structure underpinning these views, starting with the shippers’ view.

4.1.3.1 *The neoclassical monopoly/oligopoly model*

126. This is both the simplest and most controversial model to be used to analyse conferences. According to this model, conferences act as strong oligopolies exercising *de facto* monopoly power in the trades where they operate. According to this model, conferences charge “higher-than the monopoly maximising rates” which are negotiated downwards by the shipper so that in the end carriers earn the highest possible returns (Shashikumar 1995, p.11). This theoretically results in “maximum profits for carriers, tight control of capacity and suppressed demand for liner shipping services” (Meyrick, 1999, p. 29). However, many critics of this theory have pointed out that industry returns are not so high as to provide evidence of massive profiteering on the part of carriers (on the other hand, this paper has shown that returns are not necessarily as low as carriers portray them to be and aggregate data on profits might mask excessive returns on particular routes). This has led many supporters of this theory to postulate that the industry disperses their monopoly profits by engaging in expensive and unnecessary service competition and through investment in over-capacity.

127. In particular some have sought to explain the propensity for over-capacity in liner trades through a variant of the classic monopoly model — the “Open Cartel” model. In this model, carriers are viewed to act initially as collusive oligopolies that restrict capacity below what the market would provide and then by setting prices above average costs. However, since carriers cannot compete on price, they are soon drawn into a spiral of service competition based on either better quality or more frequent services. In the latter case, the resulting overtonnage leads carriers to agree on new remunerative rates in the face of overcapacity. The cycle continues as new capacity is drawn into the industry by the new freight rates.

128. While shippers and many anti-trust regulators share this view of the industry, both variants of the monopoly/oligopoly model face problems when confronted with empirical evidence concerning the recent evolution of freight rates and the action and attitudes of independent operators in trades where conferences are active. In recent years overcapacity has been accompanied by declining, rather than stable, freight rates. This implies that conferences, when operating in periods of overcapacity, are not able to effectively dictate or maintain excessively high freight rates in face of independent operators and conference defectors. However, this drop in rates must be seen both in the context of a drop from a peak in the 1980s and of an environment where competitors have every incentive to price off the conference “benchmark” rate rather than the rate quoted by the most efficient operators.

129. A second criticism of the “Open Cartel” model is that empirical evidence presented in a study examining capacity in conference trades fails to support the link between conference control and overcapacity (Meyrick, 1999 citing Deakin and Seward, 1973). However, the conferences in question were “closed” conferences and were therefore presumably able to better restrict their members’ scheduling decisions than the typical “open” conference (*e.g.* one that any carrier could join). While certain “closed” conferences still exist today (they are not allowed in the United States trades), there is a general consensus that they exercise much less restrictive entry practices than in the past and more or less operate as “open” conferences. Therefore, the central hypothesis of the model, that conferences contribute to overcapacity in the trades where they are active, is still a plausible hypothesis.

4.1.3.2 “Rationalisation” View

130. This view, along with its variants, is the one that carriers believe most accurately depicts the liner shipping market. According to the proponents of the “rationalisation” argument, the liner industry is characterised by a unique set of circumstances that justifies regulation by either industry members themselves or by government regulators in order to stabilise the otherwise chaotic liner shipping market.

131. This view has several underlying assumptions that are worthy of being examined in more detail. The foremost of these are that the liner shipping industry displays significantly different characteristics than any other industry thus requiring special treatment under anti-trust statutes, the second is that normal competitive pricing would lead to “destructive” competition and the third is that price-fixing represents the best response to the challenges it faces.

4.1.3.3 Uniqueness of the liner shipping industry

132. When targeted by anti-trust regulation, industries almost invariably cite the fact that, unlike other industries, theirs is so unique that they should be exempt from laws prohibiting collusion. The liner shipping industry is not the only transport industry to have put forward this defence and, like airfreight and many rail and road carriers in the past, they have spent considerable energy and resources protecting the exemptions that allow them to collectively set prices. However, unlike these other transport industries, liner shipping is the only major international goods transport industry that has retained comprehensive anti-trust immunity for price-fixing.

133. The unique features of the liner shipping industry cited by carriers include high and “lumpy” capital investment costs, uneven demand (both seasonally and directionally), marginal costs below average costs in periods of excess capacity, chronic and necessary overcapacity and the need to avert trade-disrupting “destructive” competition. This list of features could be used to describe the principal challenges faced by any industry providing guaranteed and/or scheduled services – and certainly describes the situation of all fixed-schedule transport providers. Companies in the pipeline, rail and air transport sectors also face proportionally large capital outlays (e.g. rail companies in several OECD countries must pay for their rolling stock and the rail networks on which they run) and considerable seasonal and directional fluctuation in demand (Figure 4.1 illustrates capital outlays of three transport sectors). With the notable exception of carriers, there seems to be a growing consensus that “(the) technological characteristic(s) of liner shipping (are not) so unique as to receive its current special treatment”.³³

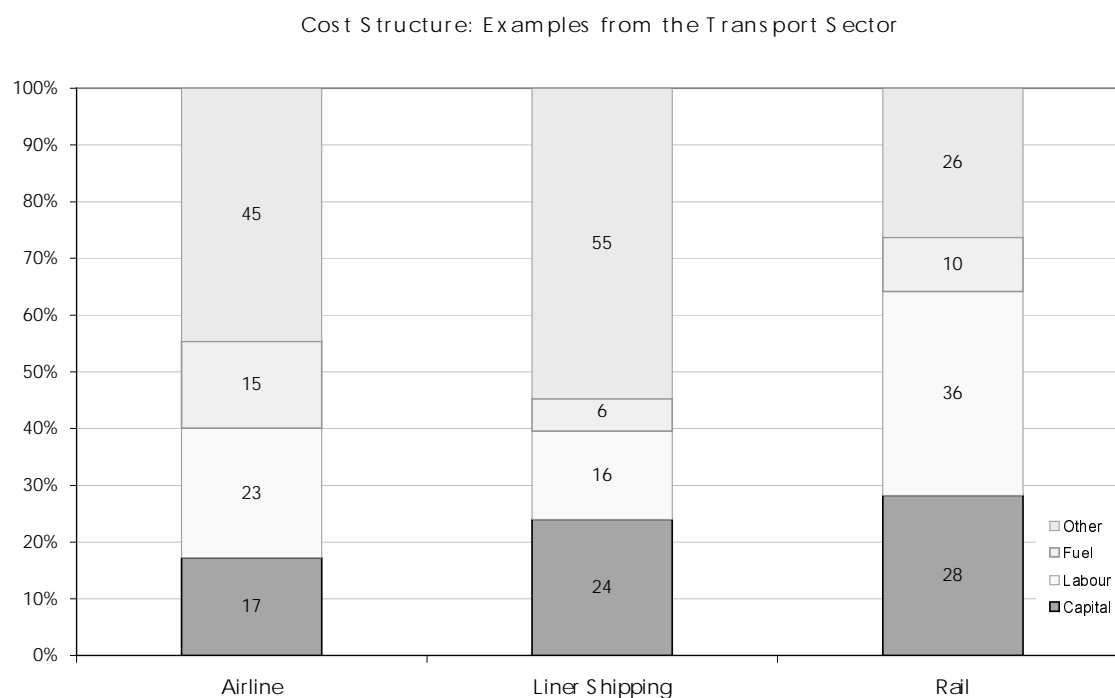
134. In particular, shippers are quick to point out that the other transportation intermediaries they work with have faced deregulation without experiencing the disastrous consequences that Conference carriers say are inevitable. While United States freight rail deregulation has resulted in large-scale consolidation, increased efficiency, lower rates and greater customer responsiveness, it has not experienced the downward spiral of “destructive” competition that rail operators predicted. Similarly, price-fixing in the road haulage sector of both the United States and the United Kingdom has been dis-allowed since deregulation and neither of these countries have suffered from the wide imbalances in service provision that many road operators said would result. While capital costs are typically proportionally smaller in the trucking sector, the variety of specialist vehicles requiring higher investment outlays, and uneven seasonal and directional goods flows has parallels to the liner shipping sector. The European Shippers’ Council points out that the road haulage industry illustrates that “active price and service competition is not inimical to the provision

33. Shashikumar, 1999 citing the 1992 “Report of the Advisory Commission on Conferences in Ocean Shipping (ACCOS)”.

of reliable services” (ESC, 2001). Finally, shippers worldwide can depend on regular and efficient air-freight services without this industry having recourse to price-fixing among competing firms.

135. In the end, carriers and shippers will likely not agree on the “uniqueness” of the liner shipping industry. Is the industry unique? – of course. Is the liner shipping industry *more* unique than any other transport service industry? – this report finds no compelling evidence supporting such a view.

Figure 4.1



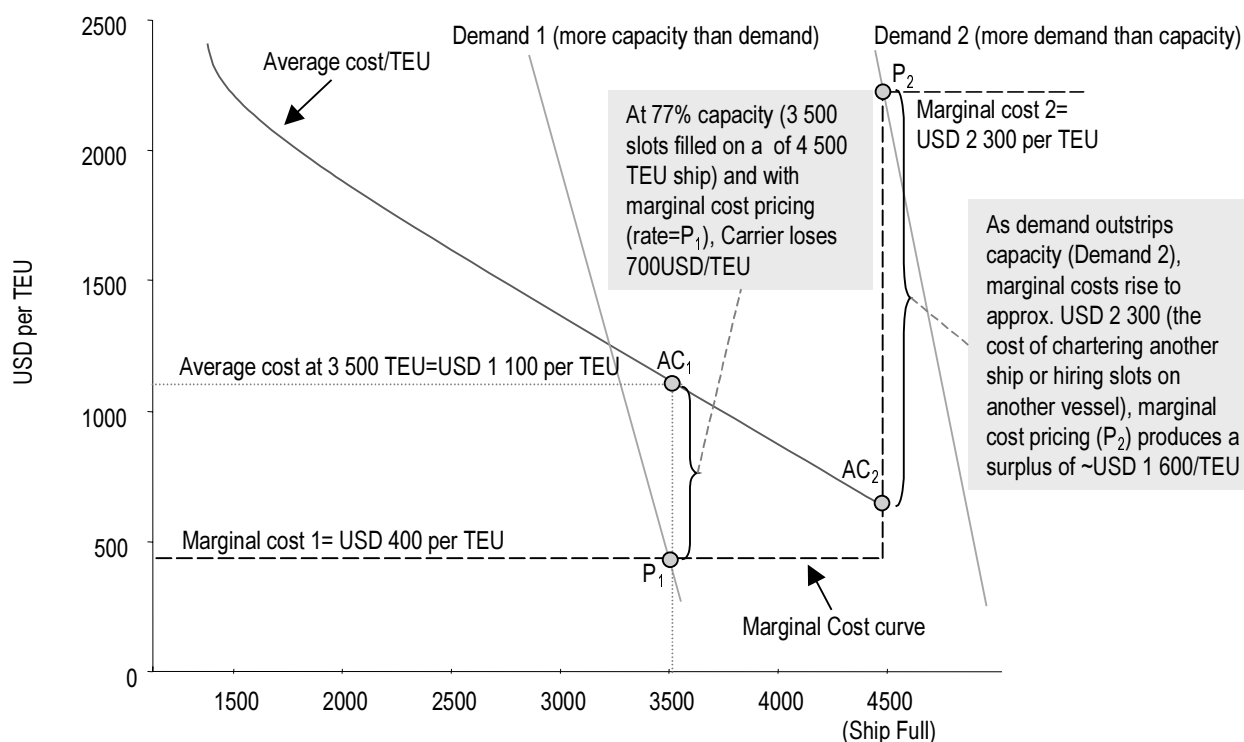
Source: Compiled from Transportation Canada, Stopford, 1997 and CI online.

4.1.3.4 “Destructive” competition: Marginal vs. average cost pricing

136. A transport provider offering an advertised regularly scheduled service must deliver that service regardless of the number of “clients” it has at the time of departure. In the liner shipping case, a ship scheduled to depart must depart irrespective of the number of containers it has on board. In times of over-capacity, any additional container that takes an otherwise empty place will be accepted and the price will be set at a price that could be as low as the marginal cost of handling that container. However, when supply exceeds demand, it is likely that this short-run marginal cost is below the average cost of providing the service string.

Figure 4.2

Liner Pricing: Marginal Cost Pricing vs. Average Costs



Source: Modified from Stopford, 1997.

137. Figure 4.2 illustrates the marginal pricing problem as described by supporters of anti-trust exemptions. In this case the only additional cost of accepting another container is the cost of handling that container (USD 400/TEU) until the ship reaches full capacity, at which point the marginal cost rises to USD 2 300/TEU which accounts for the cost of chartering a new vessel and/or hiring slots with a competing firm. At 77% capacity (3 500 TEUs out of a maximum of 4 500 TEUs) and in a market characterised by more supply than demand (Demand 1), carriers may be tempted to fill their remaining slots by bidding against other carriers until they reach their marginal cost (USD 400)/TEU. At this point the carrier would lose USD 700 per container carried since the average cost of handling a container (taking into account the costs of operating the ship) is USD 1 100. When demand outstrips capacity (Demand 2), however, carriers will align their rates on the higher marginal cost of USD 2 300/TEU since this is what they would face if they would accept the 4501st container. At this level, the company faces average costs of USD 700/TEU therefore ensuring a surplus of USD 1 600/TEU.

4.1.3.5 Average costs: Vessel purchase vs. Slot chartering

138. As illustrated in the above example (and as described by carriers), carriers' marginal costs are assumed to be flat until the full capacity of the ship is reached at which point they jump up to a much higher level that takes into account the addition of a new vessel (or vessels). The average cost of providing a service string is also calculated on the assumption that capacity can only be added in whole-ship units (e.g. by adding the full capacity of a new or time-chartered ship at a time). However, carriers are increasingly turning towards more flexible arrangements to add capacity in less-than-whole-ship units, in

particular through the use of slot charter or slot exchange agreements. When a market is characterised by overcapacity, it makes more sense to purchase slots on existing vessels than to build and/or charter a whole string of new vessels. The World Shipping Council argues that these slot purchase agreements are an important aspect of the industry since they:

“...produce operating efficiencies and reduce costs. They have allowed participating lines to expand their service networks, reduce operating costs and optimise capital investment. They have also made it possible for carriers to enter new trades by sharing space with other lines rather than having to incur 100% of the costs and risks of developing their own string of ships in a liner service” (WSC, 2001b).

139. Slot chartering allows carriers to respond flexibly to demand without necessarily purchasing a new vessel. While the average cost of providing a service string based on the purchase of one or several vessels is indeed high, carriers have the option of chartering space at a much lower average cost curve thus enabling them, in theory, to close the gap between average and marginal costs.

4.1.3.6 Price variability and cost recovery on average

140. The market cycle that the liner shipping industry faces is fundamentally the same as that faced by other capital-heavy industries. Inefficient capacity and/or carriers would be forced out of the market in times when forecast future demand is low. This would reduce overall capacity and increase utilisation of the remaining capacity. When forecast future demand becomes sufficiently high, new capacity from existing and/or new carriers would come on-line to take advantage of the higher rates. When carriers are considering adding new capacity they make an assessment whether the money gained in times of high demand will allow the carrier to see through periods of low demand.³⁴

141. Although the price for a marginal unit of cargo may vary widely according to the economic climate and the imbalances in trade, short-term fluctuations in price signals are irrelevant for decisions about whether to add or remove capacity. In addition, carriers and shippers can seek to reduce the disturbances linked to supply/demand cycles through various means (*e.g.* by chartering space and/or “fixing” prices contractually through carrier-shipper service agreements). Historically, however, carriers have sought to mitigate the negative impacts by bypassing discussions with shippers and fixing prices amongst themselves.

142. Figure 4.3 illustrates the effect of price-fixing in a situation where marginal costs are below average costs. Rates are fixed at a level such that the carrier can expect to reap what it deems a reasonable rate of return. Since other carriers agree to this tactic, carriers will not seek to underbid each other and rates remain at this level. At the same capacity as in the previous case, the carrier can expect to make a slight surplus ($P_1 - AC$) since the rate charged is above the carrier’s average costs. As demand goes up, the carrier can expect to make more of a surplus until the ship is full. However, unlike in the previous case, as demand outstrips supply the carrier finds itself operating *under* its new marginal cost of USD 2 300 (at P_2). The carrier has a strong incentive to revise the fixed rate upwards (or find an alternative strategy for increasing the amount paid per TEU moved). Price-fixing is said to smooth out the price volatility inherent in the marginal cost-pricing scenario. The theory is that the inefficiencies inherent in fixed-pricing are the “price” to pay for frequent, scheduled and stable ocean shipping services.

143. However, three points must be stressed when looking at the theoretical benefit of conference price-fixing. The first relates to the reality of price-fixing in a non-homogeneous conference, the second

34. Although, alternatively, carriers might choose to “cushion” their losses with revenues from other sources (from other revenue streams and/or subsidies).

relates to the inherent instability of such a system in the real world, and the third relates to liner shipping's historical dependence on this strategy.

Figure 4.3

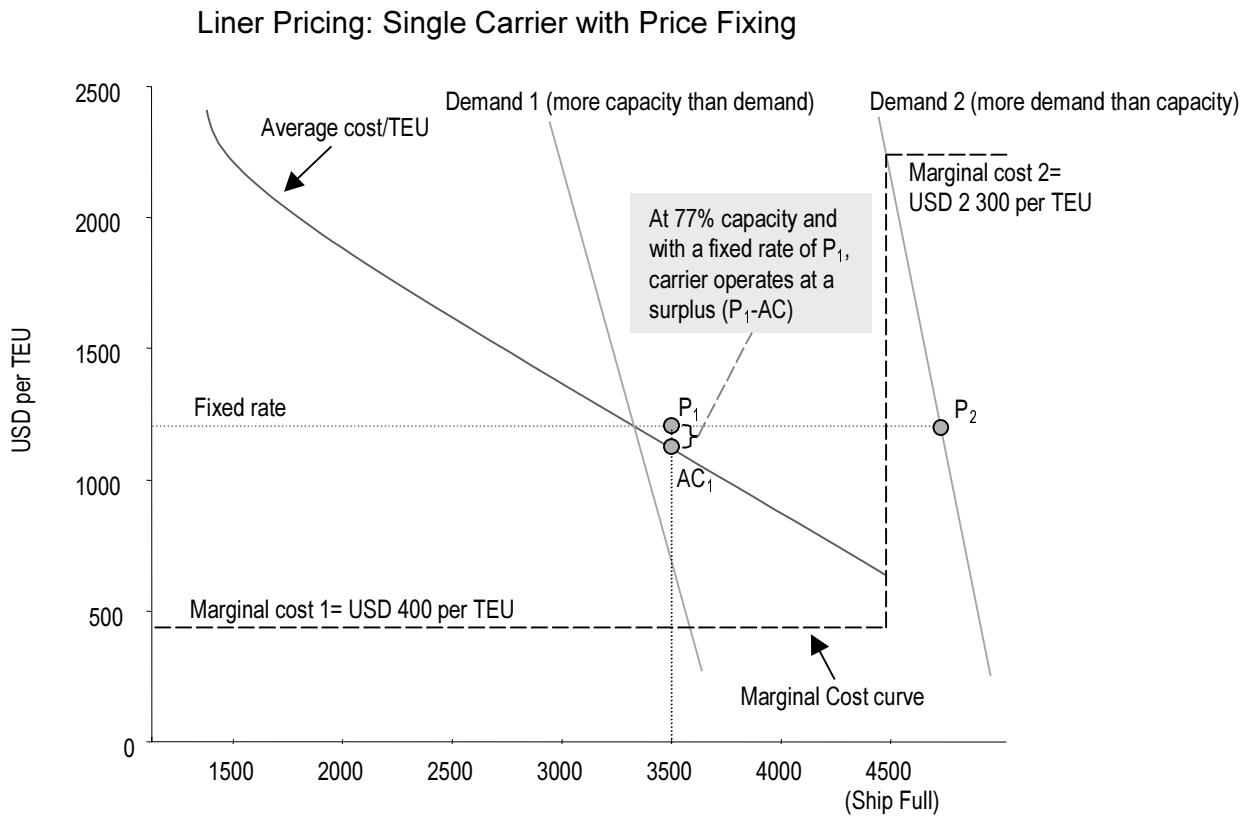
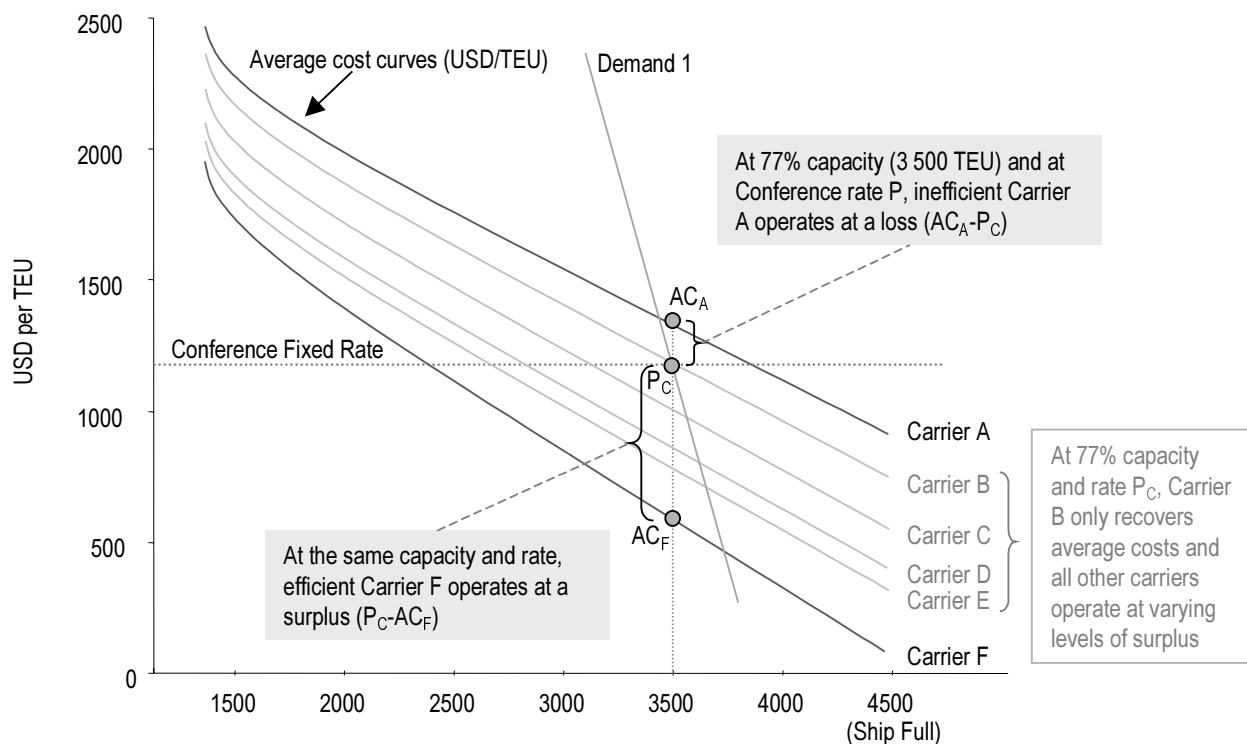


Figure 4.4

Liner Pricing: Conference Price Fixing



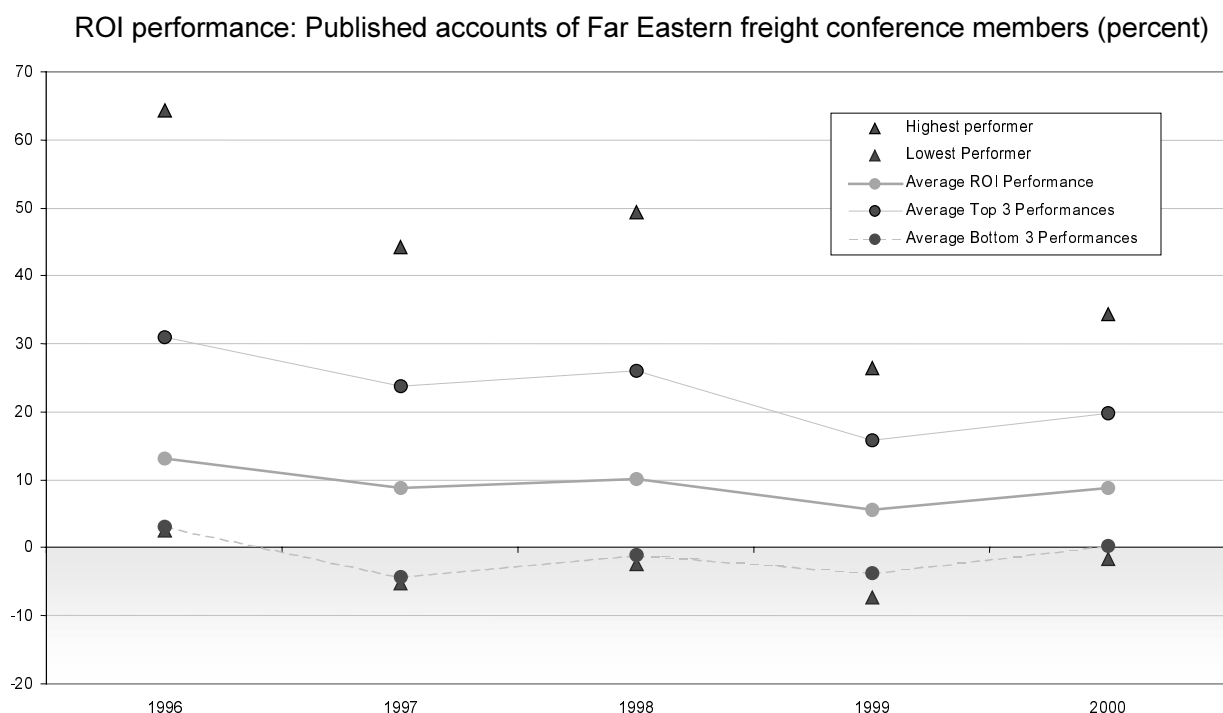
4.1.3.7 Not all carriers are equal...

144. As explained above, conference pricing in theory allows carriers to charge rates more in line with their *average* rather than *marginal* costs in times of low demand. However, not all conference members are operating at the same efficiency and they therefore face different average (and to a certain extent, marginal) cost curves as illustrated in Figure 4.4. Figure 4.5 illustrates, for example, the return on investment performance of those members of the Far Eastern Freight Conference (FEFC) publishing their accounts. One can see that notable differences exist between the ability of the best and worst performing lines to produce economic returns.

145. Indeed, within any given conference (or amongst the members of any given discussion agreement) significant differences exist between the performances of individual lines. Conferences have historically aligned their rates on their least efficient members³⁵ thus allowing inefficient operators to ensure their livelihood while efficient operators reap benefits stemming from rates that are above their costs. This is clearly inefficient because the savings achieved by efficient lines are not reflected in final prices.

35 "Easy as ABC", 2001 – quoting a former K-Line Executive.

Figure 4.5



146. In the illustration given in Figure 4.3, at 77% capacity and conference rate P1, all carriers except for carrier A (especially carriers D, E and F) come out covering at least as much as their average costs — hence the attractiveness to them of price-fixing. In this example, all carriers except A could theoretically charge less and therefore their surplus represents a commensurate loss for shippers — unless one views this surplus as the “price” of fielding all the disparate ships necessary for the conference’s service schedule. This argument can be turned around by saying that this surplus is in fact the price of keeping inefficient tonnage in the industry. With freight rates more in line with efficient carriers’ costs, inefficient ships would be scrapped and the withdrawal of inefficient operators would liberate their tonnage to charter and second-hand markets. Certainly fewer carriers would remain although their rates would be more competitive. Some argue that this would give rise to quasi-monopoly power among the remaining industry actors. This is a valid concern, yet it is hard to see how the current system where multiple actors are allowed to fix prices is preferable to an industry characterised by fewer actors and strong anti-trust enforcement. Many industries are indeed characterised by such a system (a few economic actors operating in an effective regulatory framework) and OECD countries (and others, through the WTO process) are equipped to deal with possible market abuses through national anti-trust legislation and international arbitration.

147. Ultimately, however, the inefficiency of this type of pricing mechanism is only relevant if the resulting prices are able to “stick” in the market. For this to happen, one of two things must occur. Conferences must either have enough market power and internal discipline to impose their prices, or independent operators must tacitly or overtly construe to “peg” their prices on the conference/discussion agreement rates.

Box 4.1 What do we mean by “Destructive competition”?

One key argument put forward by the supporters of anti-trust immunity for conferences is the notion that co-operation amongst carriers is essential to prevent “destructive competition”. It is therefore essential to understand this notion of “destructive competition”. What is it? How does it come about? Is it harmful to the consumers of shipping services (*i.e.*, the shippers)? Did it occur in the past, and does it still occur today?

This box seeks to set out a simple coherent economic model which seems to capture the important features of destructive competition.

The shape of the marginal cost curve

Let’s start by looking at the economic models of destructive competition put forward by supporters of antitrust immunity. As this paper has discussed, one line of argument is based on the shape of the marginal cost curve. The marginal cost of carrying an additional container is very low until a vessel reaches its capacity. At capacity, the marginal cost of an additional container is very high. Therefore, if competition is intense the price for marginal cargoes will fluctuate and, if demand is low, may not cover the average costs of operating a vessel. Proponents of this line of reasoning argue that shipowners will add capacity when prices are high. Conversely, when demand is low, with price below average cost, shipowners will make a loss, leading to bankruptcies and withdrawal of capacity. In this model, “destructive competition” refers to the tendency to cycle between episodes of over and under capacity with prices alternatively above and below average cost.

The problem with this model is that it assumes that carriers behave myopically. In practice, the decision to add capacity does not depend on the price today but rather on the forecast of price in the future, over the lifetime of a new vessel. Temporarily high prices today are no more an incentive to invest in new capacity than temporarily low prices are an incentive to withdraw capacity. In a stable industry, prices may fluctuate widely from year to year without inducing either widespread bankruptcies or excessive new entry. Of course, in practice, bankruptcies may occur. But these are the result of either inefficient operation or surprise events. Bankruptcies due to inefficient operation are not undesirable – on the contrary they are an essential part of the competitive process. Bankruptcies due to unusual events that could not be foreseen by investors are, by definition, exceptional events. In other words there is no reason to believe that, in an industry with capacity constraints such as liner shipping, there is a systematic tendency towards cyclical over or under-investment.

The Notion of the Empty Core

Another line of argument put forward by the supporters of antitrust immunity is that destructive competition arises because of the presence of the so-called “empty core” in the liner shipping market. A market has a “core” if there is a set of transactions between buyers and sellers such that there are no other transactions which can make some of the buyers or sellers better off. Such an outcome is “settled” in the sense that no group of buyers and sellers can get together and come to some agreement which disrupts the original agreement. In a market with an empty core no matter what outcome is proposed there will always be some buyers and sellers who can get together and make a deal which disrupts the original proposal.

It is clear that the empty core problem might apply to the liner shipping sector. Suppose a particular trade is such that when two ships service the route, the market price is above average cost, while when three ships service the route, the market price is below average cost. Suppose that three different carriers want to serve this route. Since demand is such that only two carriers can survive in the market, one firm will always be left out. If the other firms are making profit, the firm that is left out could (in this theory) seek to

negotiate a deal with the customers of the other carriers, disrupting the original arrangement. The only possible stable outcome is when all firms are making zero profits, but, by assumption when all three firms are in the market, all must make a loss.³⁶

Two studies stand out among the attempts to model liner markets using the “empty core” approach. The first, made in 1989 by Sjoström, relies on a highly simplified model of liner markets and tentatively finds that:

“The results [of the econometric analysis], although certainly not definitive offer further evidence for the proposition that market arrangements that appear to be cartels may be attempts to solve the problem of the empty core” (Sjoström, 1989).

The second body of work by Pirrong, supports Sjoström’s findings and points to the longevity of conferences in the face of relatively easy entry as support for the theory that price agreements are a response to the “empty core” situation.

“The ability of cartels to survive the constant pressure of entry is clearly at odds with the view that cartels are inefficient monopolisers... As long as the Conference attempts to raise prices above the level that generates normal profits for the efficient set of vessels, new firms will enter profitably. Unrestricted entry implies that colluders will earn only normal profits. So why collude in the first place? Core theory answers that riddle: collusion is an efficient response to competitive chaos” (Pirrong, 1992).

Both of these studies, and more generally, the applicability of the “empty core” approach to liner shipping have faced significant criticism on the part of certain government regulators and economic theorists. (See, for example, United States Department of Justice, 2000). The principal difficulty faced by this approach is the fact that it is difficult to find real-world empirical support for its conceptual appeal. For example Sjoström points to price fixing as an efficient response to the “empty core” problem, however, price-fixing, at least hard-core price-fixing as practised by conferences, is on the wane due to new regulatory frameworks in many trades, and in the United States trades in particular. Whereas in the past, carriers sought to provide trade stability by setting prices among themselves, this same stability, as expressed in one-year service contracts, is being achieved through negotiated agreements with shippers. Current industry trends certainly do not support the antiquated notion that price-fixing is the only and/or most efficient strategy for ensuring stable and efficient liner services.

Another example of the difficulty in applying the “empty core” hypothesis to liner shipping is the fact that the model postulates that the longevity of the conference system is strong evidence of its necessity in order to respond to structural instability in the sector. While it is true that conferences have been a feature of liner shipping for over one hundred years, this longevity only relates to the institutional arrangement itself and not to individual conferences (that typically only last a few years) and/or individual conference membership (that fluctuates along with carriers’ business strategies) (Shashikumar, 1995).

Destructive competition and stable schedules

More generally, however, the problem with the empty core notion is that, in the case of liner shipping, proponents make the assumption that the presence of the empty core implies a particular and undesirable form of market behaviour. For example, proponents might argue that the absence of a core in the market just described will lead to an endless cycle of price fluctuations and entry of new capacity and exit of bankrupt firms as the three firms seek to contest this market. The empty core concept is a theoretical notion of equilibrium which says nothing about what behaviour will arise in practice. What is the most likely

36. The empty core problem can arise in a market where “(1) Demand is uncertain or periodic; (2) Plant capacities are large relative to demand; (3) Plants exhibit increasing returns to scale; (4) Plants have fixed capacities; (5) There are avoidable fixed costs; (6) It is costly to store the produce”. McWilliams, 1990.

outcome in the market just described? The two existing firms in the market are unlikely to passively give up their market share in the face of new entry. Foreseeing this, the third firm will not enter the market, even though the existing firms are making excess returns. This is an illustration of result which has long been recognised by industry economists. What is important for the entry decision of the third firm is not the existing market price but the market price post-entry. If the third firm can foresee that its decision to enter will force the price down below average cost he will not enter. There is no cycling of entry and exit.

Are we then left without a model of destructive competition? Not necessarily. Consider the following model:

Suppose we have a port which is served by a number of shipping lines. Assume that cargo arrives at this port continuously and uniformly over time. Assume also that the cargo owners care only about the time required to get their cargo to its destination and not the ship or the shipping line that carries the cargo. All of the ships are assumed to travel at the same speed. Given these assumptions, the cargo owners will put their cargo on the first ship at the port going to the correct destination.

In this market, is it possible for any one shipping line to maintain a fixed schedule? Let's assume that one shipping line does decide to sail its ships on a fixed schedule. It then makes an investment in its schedule by advertising the schedule and making it known to cargo owners and shippers. Other carriers can then profit from this investment by running their own ships in such a way that they leave just before the scheduled ships. In this way other carriers can steal all of the cargo of the scheduled ships.

It is straightforward to verify that in this market it will never be possible for a shipping line to operate according to a schedule – it will not only lose any investment it makes in advertising the schedule, it will also lose cargo to competing lines which time their ships to depart just before the scheduled ships.

This model captures some of the key elements of “destructive competition”. In particular, competition under these conditions prevents shipping companies from offering a key service that shippers require – a reliable, predictable service. It may also lead to economies of scale – larger shipping lines, with more frequent service are more likely to capture a larger share of the cargo than lines with a smaller number of ships. Shipping lines are also forced to operate smaller, less efficient ships in an attempt to increase the number of sailings. Many of these effects have been seen in the local deregulated bus industry in the United Kingdom.

Is there a solution to this problem? There are two possible solutions – one is to ensure that ship departures are spread out in time – to prevent one ship from encroaching too closely on the departure time of another. A variant of this approach was imposed in the bus market in the United Kingdom. The other solution is the use of cargo bookings or space reservations. Once a shipper has committed to place its cargo on a certain ship, that cargo is no longer vulnerable to being captured by a ship with a slightly earlier departure time.

This last point makes clear that although this model may have once applied to the liner shipping industry, its relevance for today is limited. Over 100 years ago, cargo booking procedures were limited. Mail travelled no faster than the fastest ships, making advance reservations difficult. In other words a large proportion of cargo at the dock was uncommitted to a particular vessel, making it vulnerable to capture by the first suitable vessel to arrive. Today, with modern sophisticated cargo management systems the bulk of cargo is committed to a particular vessel. Destructive competition of this type, if it were ever a problem, is unlikely to remain an issue today.

4.1.3.8 *Theory vs. reality in liner shipping*

148. The preceding sections have dealt with the theoretical justification for price-fixing in liner shipping and its ramifications for conference carriers. However, it is difficult to use these theoretical models of liner shipping to prove or disprove whether or not, absent price-fixing among competitors, the liner shipping industry would necessarily devolve into “destructive” competition. Liner shipping, as an industry, has not been exposed to the full extent of free markets for over 100 years when, as explained in section 2, the industry faced a unique set of conditions linked to the demise of the sailing ship. Many have even questioned whether the theoretical problem of “destructive” competition is indeed a “problem”—citing the similarities between the latter (as described by proponents of price-fixing) and what many have observed to be beneficial market cycles leading to greater industry efficiency and lower prices for consumers in other situations. In any case, making the case for or against the claim of “destructive” competition and below-average-cost marginal pricing would require detailed cost and rate information that was not forthcoming from either carriers or shippers. Two observations, however, can be made regarding the link between the theory supporting price-fixing arrangements among conference operators and the reality of the liner market.

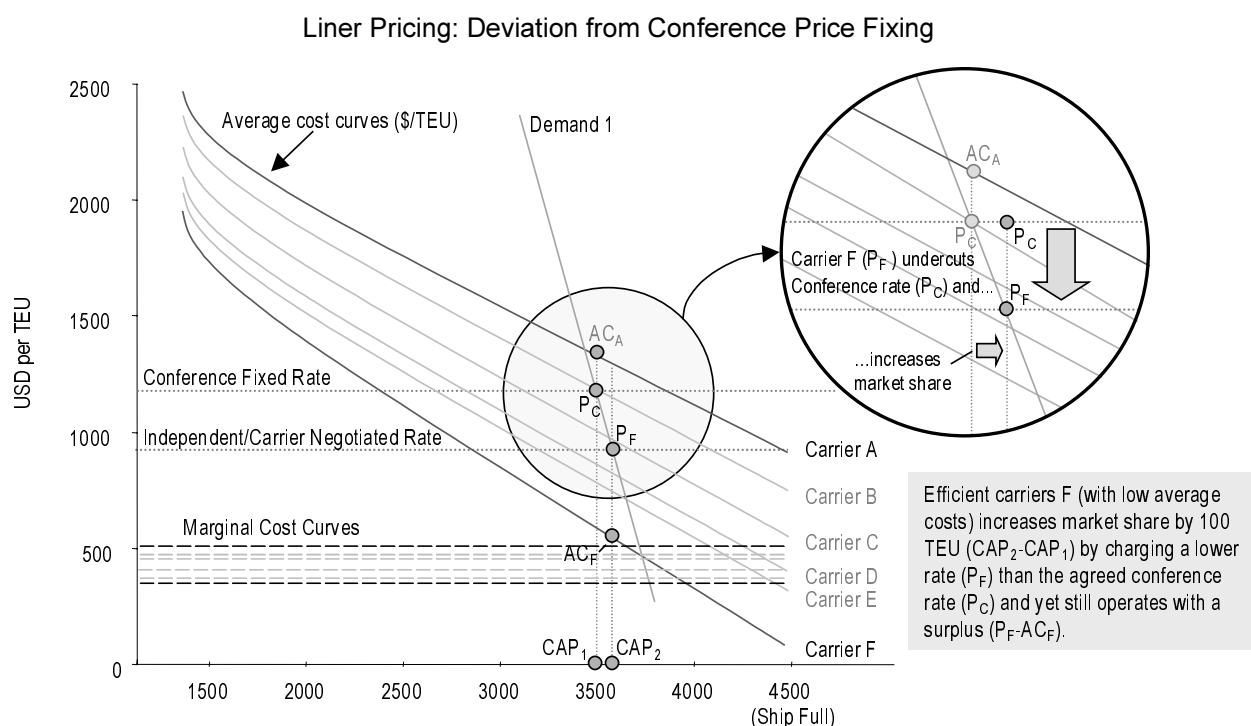
Observation No. 1: Conferences are increasingly unable to make their prices “stick”.

149. Efficient conference carriers have a natural incentive to underprice less efficient carriers in times of low demand and overcapacity. This situation is illustrated in Figure 4.4. As in the previous Figure, it illustrates a typical conference where several carriers operate at different levels of average costs. The most efficient of these (for example, Carrier F) can envisage charging a lower rate (P_F) than the conference rate (P_C) and still earn a surplus (Carrier F’s freight rate minus Carrier F’s average costs or $P_F - AC_F$ in the figure). The lower rate would allow this carrier to increase the load factor of its ships (from CAP1 to CAP2), partly to the detriment of less efficient carriers in the conference³⁷. The same mechanism holds for the case of an independent operator underbidding conferences.

150. This model explaining downward pressure on prices assumes that price discipline is weakened by the ability of opportunistic conference members to get away with deviating from the official conference rate and/or the presence (or threat of entry) of independent operators in the trade. The lack of barriers to conference defection (even if temporary) and to market entry is, therefore, a necessary pre-condition for this model to hold true. A great deal has been said about the “contestability” of liner shipping markets and most of it points to the fact that these markets are not characterised by important barriers to entry (Meyrick, 1999 and Shashikumar, 1995). This is not to say that the markets, as such, are perfectly contestable but rather that important segments of the market, and, in particular, specific trades, display relatively few and small barriers to the arrival of competing carriers.

37. In one econometric study conducted in 1995 (Clyde & Reitzes, 1995), researchers from the United States Federal Trade Commission estimated that trades where such deviations from Conference pricing were allowed would experience an approximately 19% drop in average freight rates. This finding is consistent with the model outlined in figure 4.6 and is supported by recent trends in freight rates.

Figure 4.6

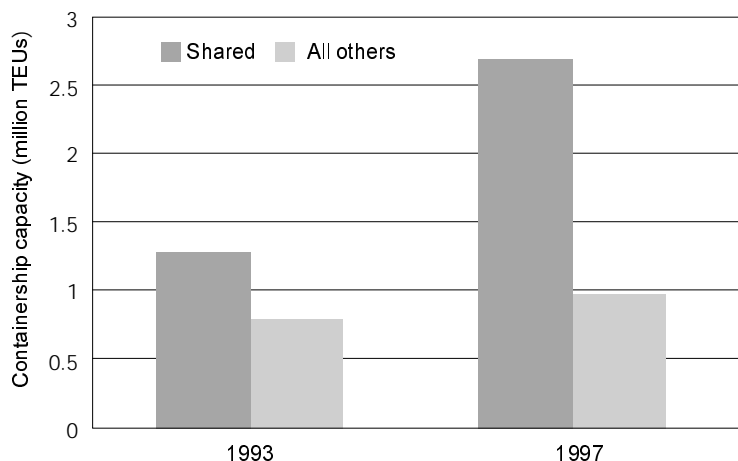


151. The downward pressure on rates predicted in Figure 4.6 can be confirmed by looking at developments in the industry over the past 15 years. The arrival of the first strong independent operators in the 1980s signalled the end of a prolonged era of conference power in the world's major trades. These newcomers typically underbid conference carriers and rapidly gained new markets. Faced with this competition, conference carriers increasingly departed from the agreed-upon conference rate in order to retain or increase their own market share in the face of competition. This trend increased as regulatory changes in certain OECD countries (especially in the United States) have made it easier for carriers and shippers to negotiate service contracts including confidential freight rates. In an environment characterised by the presence of strong independents, more supply than demand and confidential contracting, the power of conferences to make their rates "stick" has considerably eroded – especially in times of weak demand. Adding to this situation has been the industry's propensity to build significantly more capacity than demand would warrant.

152. Conference price-fixing is becoming less and less relevant to many carriers' business strategies as they seek more effective ways of ensuring their survival in a changed environment. The explosion of alliance agreements, slot charter arrangements and mergers and acquisitions all point to carriers seeking market alternatives to the traditional conference price-fixing agreement (see Figure 4.7). However, the price-fixing reflex has not been set aside by some carriers as they seek to "discuss" and suggest common pricing and incidental charge levels through discussion agreements.

Figure 4.7

Shared world containership capacity



153. The second observation is really a question.

Observation No. 2: If conference power is waning, why retain anti-trust immunity for price-fixing at all?

154. Given that traditional rate-fixing conferences no longer seem to be able to ensure and/or enforce strict rate compliance, why are carriers so intent in protecting their immunity from anti-trust regulations? Again, without specific input from carriers on their particular cost models, it is difficult to provide a detailed answer to this question.

155. Preserving the ability to fix prices allows conference carriers to set a common “benchmark” off which to price. Preserving the ability to discuss sensitive rate information among members of a discussion agreement similarly allows carriers to signal to each other a non-binding “benchmark”. As pointed out by carriers:

“insofar as published tariff rates are concerned, they largely serve nowadays as benchmarks for the negotiation of steep discounts reflected by confidential service contracts, time-volume rates and, in the case of TACA, independent action rates. The market nevertheless whispers and if one’s ears are attuned, one hears them...” (TACA, 2001).

156. At first, in the case of discussion agreements, “market whisperings” as alluded to above, seems a rather understated and innocuous description of the rate discussions that take place among competitors within the structured setting provided by these agreements – the market is not whispering, carriers are. And there are other reasons why carriers would wish to retain anti-trust immunity for price fixing.

157. The full “benchmark” rate principally applies to those shippers who do not have the size or regularity necessary for a longer-term service contract where discounts can be granted. Anti-trust immunity also allows carriers to agree on common ancillary surcharges. Also, from a carrier’s perspective, retaining anti-trust immunity in less competitive trades may allow them to keep rates from falling as they might under competition.

158. Most importantly, however, is the fact that competition in a market where price-fixing is allowed will not necessarily ensure a fully competitive outcome. As can be seen in Figure 4.4, efficient conference and independent operators have every incentive to price below the conference rate and above their average

costs thus still ensuring a surplus over the competitive outcome. Pricing off the *conference rate* will enable many inefficient carriers to still ensure adequate returns (given overcapacity), pricing off the *most efficient operators* would force inefficient capacity out of the market and ensure a competitive outcome.

159. Another important issue to consider is that the downward pressure on rates illustrated in Figure 4.4 is only valid when the market faces overcapacity. In “tight” markets where demand outstrips supply, carriers can seek to increase their surplus over and beyond what might have been possible without anti-trust immunity. On some occasions, carriers have even sought to take advantage of tight market situations to impose rate hikes on shippers with signed service contracts. In general, rate “spikes” allow carriers to recover their average costs in the long run. However, the downward pressure on rates that comes about in periods of overcapacity is actively resisted by Conferences. One can imagine that carriers are able to benefit more from rate increases in times of high demand than shippers can benefit from rate decreases in times of low demand – precisely because the role of the conference price-fixing is to avoid marginal cost pricing in those situations. The competitive result, where rate spikes would annul rate troughs, does not come about since there is downward friction on rate decreases imposed by the ability of carriers to fix prices.

Box 4.2 When price-fixing has another name. Capacity Discussion Agreements

The way in which a company organises itself to deliver services typically is of no concern to competition authorities except in those instances where a monopoly exists. It follows that individual carriers who do not represent a significant share of the market should be able to make decisions as to what level of capacity they wish to make available and modify this supply as trade conditions warrant. It also seems normal that competition authorities should be interested in these actions in those instances where one company’s decision has a significant impact on the entire market.

However, as pointed out in section 2 decisions to withdraw capacity from a trade are often made collectively on the part of carriers under the aegis of Conferences, Discussion Agreements, Consortia or Alliances. In some cases these decisions involve otherwise independent operators. While it is reasonable to assume that such carrier groupings need to address operational issues, including the co-ordination of capacity offered, it is less understandable why these decisions, when they account for a significant share of the market, should not be open to scrutiny from competition authorities.

Indeed, the more carriers involved and the greater market share represented by the capacity agreement, the less the agreement can be said to be a purely “operational” arrangement. When these agreements impact entire trades, one can reasonably ask whether the intent (or outcome) is simply to manipulate prices by cutting supply relative to demand. The further these agreements stray from single operators and small market shares, the more authorities should seek to restrict their application in order to avoid an anti-competitive outcome.

This is especially true as shippers do not have the same ability to manipulate demand as carriers can potentially manipulate supply under these agreements.

160. Finally, conferences and other price-fixing and rate discussion arrangements from time to time are still able to organise the market in such a way as to influence rates. This market control is becoming more and more difficult as competition has increased, but the ability remains — as described by one United States Federal Maritime Commission economist in 1999:

“[...] the winter of 1992-93 saw the formation of a new liner conference that demonstrated real market power. The traditional conference carriers in the North Atlantic brought several formerly independent lines into the new conference - called the Trans-Atlantic Agreement, or TAA. By setting up a double-tiered rate system, high market share was achieved. And by

establishing internal solidarity and a good information exchange process, after two years of very severe competitive discounting of rates, the new conference achieved a remarkable pricing turnaround. The first act of the new conference was to radically raise rates - and made the increase stick! That demonstration of effective collective pricing [...] got groups like the National Industrial Transportation League working hard on a political effort to change the regulatory system. Skipping ahead a bit, in mid-1997 a second really effective cartel was created. This new agreement was different from the traditional conference-style cartel. Like TAA, the new transpacific cartel - called the Transpacific Stabilization Agreement, or TSA - brought in several formerly independent lines. TSA set up an excellent internal information exchange process and got the members' CEOs to exercise tighter control over their marketing divisions as they sold vessel space. Competitive discounting among TSA members was brought to a halt. So, by the end of 1997, there were two examples of very effective, non-traditional cartels - TAA and TSA." (Blair, 1999).

4.2 To what extent is price-fixing the best option for efficient liner markets?

161. Many capital intensive industries (*e.g.* the power-generating sector, telecommunications, rail and air cargo transport) have in the past argued that they should retain the same anti-trust immunity for price-fixing still afforded to the liner shipping sector. The same issue of below-average cost marginal cost pricing was raised in many of these sectors as authorities sought to deregulate markets and bring about greater efficiencies. In many of these, suppliers sought to band together and set prices amongst themselves for the same supposed "greater benefit" of stability over economic efficiency. Setting aside for the moment that there is evidence that the opposite may be true, at least in certain liner trades (section 3.2.1.3), it is not at all clear that *price-fixing* per se is necessary to deliver consistent and co-ordinated services. Indeed, in virtually all of these sectors, governments have seen fit to prohibit price-fixing among competitors. Firms have come up with other, more market-oriented strategies to resolve supply/demand imbalances and consumers have benefited from greater and truer competition. Could it be that liner shipping is the unique exception to this rule?

162. Many carriers, through their actions, are implicitly recognising that price-fixing may no longer be the most effective response to the market conditions they face. Indeed many carriers already operate as either conference members or independents depending on the particular trade in question. Carriers are under pressure to decrease costs on the one hand and stabilise or increase revenue on the other. Retaining anti-trust immunity in this context can be seen as a stop-gap measure to put off the inevitable – the alignment of rates towards the costs of the most efficient carriers. On the cost side, carriers have sought to achieve lower operating costs through scale (both in ship and in fleet) effects and through broadening the scope of their services through partnerships and mergers (13 of the top 20 operators have formed some sort of strategic partnership). Importantly, carriers have resorted to chartering less-than-shipload space on other partner and, in some cases, competing independent vessels.

163. On the revenue side, carriers have sought to better capture shipper value by negotiating service contracts more suited to individual shipper needs. These are significant since they represent a co-operative mechanism whereby carriers *and* shippers can seek to stabilise market conditions to their mutual benefit. Many carriers have or are developing more value-added services such as logistics management in order to generate other forms of revenue and retain market shares. All of these represent alternative approaches to address the pricing and revenue challenge in liner shipping. One can imagine that as this trend continues, there will be relatively fewer liner operators left. However, it does not seem unreasonable to postulate that all of the changes towards consolidation and greater efficiency in the industry will only lead to greater

overall efficiency and consumer benefit if the regulatory framework within which carriers operate disallows anti-competitive practices such as price-fixing among erstwhile competitors.

164. More generally, a substantial weakness with the current state of affairs is that the ability to fix and discuss prices is not counterbalanced by regulatory control over those prices as is typically the case in other non-competitive sectors. If the argument is that price-fixing is necessary and that more competition is undesirable (a questionable view) then economic regulation by an independent regulator should also be required. This seems a less desirable outcome than removing anti-trust immunity.

Summary: Section 4

- Carriers have delivered better quality and more shipper-responsive services in recent years. This improvement in shipping services has not come about because of price-fixing, but, rather, has accompanied a decline in conference power and an increase in competition.
- Marginal-cost pricing is unsustainable only as long as overcapacity exists in the market. As inefficient capacity exits the market, marginal costs become more in line with average costs and carriers cover their costs. Conference pricing, by its nature, acts to reduce the exit of inefficient capacity.
- As competition increases in many trades, conferences are becoming less and less relevant to carriers' business strategies. Price-fixing is no longer a sustainable option (in the sense that conferences can make their prices "stick") and only serves to act as a brake to keep freight rates from becoming aligned with those of the most efficient carriers.
- Conference price-fixing seems to be less and less a feature of liner markets as carriers have sought to address potential instability in the sector by actively negotiating medium-term service contracts with shippers. This represents a break with past practices where conference carriers fixed prices among themselves without seeking shipper involvement.
- Current trends in the liner shipping sector (e.g. increased participation by independent operators, greater ease of "independent" action by conference carriers, increase in slot chartering agreements, massive rise in confidential service contract negotiations, etc.) all support the contention that price-fixing is not an inevitable feature of a stable liner shipping industry.
- The ability for competing carriers to discuss, agree on and/or fix prices detracts from the ability of shippers and carriers to reach an efficient negotiated outcome when discussing service contracts. Price-fixing, when it remains as an industry "benchmark" does not allow an efficient outcome insofar as rates are still oriented towards inefficient rather than efficient operators' costs.

5 Assessment of the effects stemming from the removal of anti-trust exemptions for Liner Shipping

165. Any attempt to assess the impact of the removal of anti-trust exemptions in the liner shipping sector is bound to be speculative, as this sector has co-evolved with these exemptions for its entire history. As described in the previous sections, the relative weakening of the ability of conferences to fix prices can give some indication as to the probable evolution of the industry absent these exemptions. In the end, however, there is no certainty as to the specific form the industry would take under a different regulatory framework and one can only make educated guesses as to the impacts of these changes on both shippers and carriers.

166. Shippers, carriers and regulators each have their ideas as to the impact of removing anti-trust exemptions. These serve as a useful starting point to assess how the industry might change in a more competitive market environment.

167. Many carriers, consistent with their views on the utility and necessity of anti-trust exemptions for price fixing and rate discussions, feel that the removal of these would have severe and lasting impacts on world trade and consumer welfare. In particular, they believe that the removal of anti-trust exemptions for liner shipping would lead to increased rate volatility and, consequently, service disruptions as below-cost pricing would lead to bankruptcies. Another fear is that a more competitive liner shipping market ultimately would not benefit the most efficient carriers but those best poised to cross-subsidise their liner operations with other sources of revenues. This, they argue, would benefit state-owned and supported carriers and/or large diversified shipping groups. Finally, some carriers and regulators feel that the removal of anti-trust exemptions would lead to further consolidation of the industry resulting in a more monopolistic/oligopolistic market environment.

168. Many anti-trust regulators and a majority of shippers believe these fears to be unfounded. While recognising the possibility of greater rate variance (which in itself is not necessarily a negative outcome), proponents for the removal of anti-trust exemptions generally feel that any pro-competitive development of the liner shipping market will lead to lower overall rates and have little impact on service. Furthermore, they point to the experience with regulatory reform and increased competition in other sectors as being generally positive, and do not share carriers' view that their industry is so fundamentally different that more competition will not lead to a similarly positive outcome. They believe that the weight of evidence gathered from past experiences with more competitive markets overwhelmingly supports their contention that competition, not collusion, delivers greater public welfare in the end.

169. It is difficult to arbitrate between these two views but given that there is a general trend towards more competition in the liner market, one can reasonably assume that an extrapolation and acceleration of current trends would result in an approximation of an anti-trust exemption-free market. These trends cover issues of service provision and capacity, rate variance and stability, and concentration and anti-trust scrutiny.

5.1 Service provision and capacity

170. As pointed out in previous sections, the past ten years have been characterised by a reduction of conference power, a relative increase in competition from both independents and conference defectors and a generalised decrease in freight rates across all trades. Contrary to what might be expected from the fear by carriers of more competition, these trends have been accompanied by more, rather than less, service quality. This can be seen as a natural outcome of market competition where carriers attempt to attract and retain market share from other competitors by offering the most customer-oriented services. One can reasonably expect that shippers and consumers would continue to benefit from service competition among carriers if anti-trust exemptions for price fixing were removed and markets became even more competitive.

171. Shippers presently benefit from a “buyer’s” market in liner shipping given current levels of overcapacity. As pointed out in sections 2 and 3, there are many underlying reasons for this overcapacity, including state support for shipbuilding leading to exceptionally low (and attractive) costs for newbuildings. Carriers are also seeking to achieve greater economies of scale through the purchase of larger vessels. However, the attraction of low rates and the need for greater economies of scale are not, in themselves, sufficient reasons for carriers to purchase new capacity. Their experience and market research must also lead them to expect that the new capacity will ultimately pay for itself.

172. Market forecasts are notoriously tricky and companies can often miss the mark. It seems, however, that several bouts of new ship ordering in the recent past have occurred despite many industry observers’ warnings of impending and lasting overcapacity. One can assume that in the past, many carriers have made new capacity purchasing decisions under the implicit assumption that they would have some control over prevailing freight rates through conference price-fixing and/or rate discussions. While most carriers can no longer expect to set precise rate levels for an entire trade, they can reasonably assume that market rates will not completely bottom out as long as competing carriers can discuss and suggest mutually beneficial pricing guidelines for freight rates and ancillary surcharges. Were anti-trust exemption for rate discussions removed, it would follow that many carriers would think twice before taking advantage of low newbuilding costs.

173. Finally, it is becoming increasingly obvious that carriers no longer view the provision of new ships as their sole option for increasing supply — many now turn to more slot chartering or sharing agreements to more flexibly respond to new demand.

174. Given these trends, what might one conclude regarding the impact on supply of removing anti-trust exemptions for common pricing or rate discussions? Carriers would make investments in new supply only when they could make the commercial judgement that, in a competitive market environment, their investments would pay for themselves. This means that the level of oversupply seen in past years would likely diminish, especially as many carriers pursue slot chartering agreements to bring on new capacity at less-than-whole-ship (or service string) units. One might expect that liner shipping supply might come more in line with demand for services.

5.2 Rate variance and stability

175. Freight rates in the major trades already respond to competitive pressures – they rise when supply becomes tight and fall when demand relative to supply is low. As pointed out in section 4, however, the ability for carriers to fix and/or discuss pricing guidelines potentially biases the pricing towards the least, rather than the most, efficient operators. This means that rates never fall as low as they might in times of oversupply (to protect inefficient operators) and can rise much above where they might otherwise settle in

a more competitive environment (given that carriers covering a majority of concerned trades can discuss and suggest pricing structures).³⁸

176. Based on what can be observed in liner markets as competition has increased over the past decade, one can reasonably imagine that if the market were open rates would continue to fall becoming more in line with the most efficient operators' costs. Rates, however, would not fall indefinitely as supply gravitated more towards levels of demand. Ultimately, freight rates would vary following the supply/demand cycle. The lows would likely be lower in the past and the peaks not as high. This view is supported by evidence provided by the European Shippers Council indicating that the sea routes most open to competition tend to reflect the *most*, not the *least*, stability.

5.3 Concentration and anti-trust scrutiny

177. Several opponents of the removal of anti-trust exemptions point to the risk of increased market concentration that might occur in a more competitive environment. This concentration, however, has been underway for several years as carriers have sought to seek cost savings in the face of competition through alliances, mergers and other co-operative arrangements. In mid 2001, the top four alliances, plus the five or six other top 20 carriers controlled 80% of fully cellular capacity. Given that in late 1997 the top 20 container lines at the time accounted for only about 48% of the cellular fleet, it is clear that substantial concentration has taken place in the last four years – despite the existence of anti-trust exemptions.

178. Also, the announcement in late September 2001 of a possible new alliance between the shipping lines that currently participate in the United Alliance, and the Cosco/K Line/Yang Ming alliance would control a fleet of around 650 000 TEU, and would represent a substantial increase in concentration in the liner sector. The new alliance would challenge both the Grand Alliance and Maersk-Sealand in size, and would reduce the number of individual players in the sector.

179. One can reasonably assume that the removal of anti-trust exemptions in the sector would do little else than slightly accelerate an already existing trend towards greater industry concentration. This would likely have a number of impacts.

180. On the positive side, carriers would continue to enhance the variety of services, and the coverage of those services, that are now available to shippers. The major operators, through their growing list of subsidiaries could also spread their service offerings to niche markets which earlier may have been subject to haphazard and unsatisfactory services. Greater economies of scale and of scope would enhance the ability of carriers to offer multi-modal door-to-door services.

181. However, as well as some positive aspects, greater concentration also carries with it some potential problems. First, any reduction in the number of participants in any given route or trade will also mean reduced choice, and fewer options for shippers. This, however, does not mean that there will be a reduction in *competition* insofar as the remaining operators strive to increase the attractiveness of their services to shippers and avoid the temptation to set and or otherwise jointly influence market prices. Many global industries are characterised by increased concentration and anti-competitive outcomes are kept in check through the action of competition authorities. Liner shipping would likely follow this trend as industry oversight would be carried out by the appropriate national and/or international bodies that have responsibility for protecting consumers from industry abuses.

38. These episodes are referred to as “rate recovery” in carrier parlance, a term that implies that there is an historic freight rate that the market should artificially gravitate towards – a freight rate that, incidentally, was often reached when carriers could better set market rates in the late 80s and early 90s.

5.4 Overall assessment

182. Current trends in the liner shipping sector are indicative of how increased competition might impact liner markets. One can reasonably expect that removing anti-trust exemptions for price-fixing and rate discussions, insofar as they contribute to more competition in the liner industry, would lead to an acceleration of current trends relating to service quality, decreasing rates and increasing industry concentration. Increasing concentration in the sector, in itself, would not necessarily have a detrimental impact as long as regulatory authorities treated liner shipping as any other globalised industry.

6 Conclusions and Recommendations

183. This paper has sought to investigate three issues in relation to competition policy in liner shipping that emerged from the May 2000 OECD workshop on Regulatory Reform in Maritime Transport. These were:

1. The positive and negative impacts to both carriers and shippers of common pricing under anti-trust exemptions.
2. The impacts of conference, discussion and stabilisation agreements on both carriers and shippers.
3. The possible effects stemming from the removal of anti-trust exemptions for liner shipping.

184. This investigation has sought to analyse these issues by bringing together multiple strands of inquiry regarding such factors as the structure of the liner industry, short-term and long-term movements of freight rates, changes in the regulations governing liner shipping, financial performance of the industry, and carrier and shipper experiences. These are the conclusions that can be drawn from this investigation.

The world has changed since 1875...

185. The liner shipping industry is not what it was over 100 years ago when the principle of conference price-fixing was first institutionalised. The sailing ships that engaged in rate competition with new and more expensive steamships have long since become historical curios. The advent of containerisation and the arrival of new strong and efficient independent operators have successively disrupted relatively tight-knit conferences. Countries that, at first, supported the principle of rate-fixing within conferences, have increasingly sought to reduce the power of liner conferences and provide shippers with countervailing powers. These efforts have led to a limitation of anti-trust exemptions, greater power for shippers and carriers to enter into one-on-one confidential contract negotiations and greater restrictions over the manner in which, and the purposes for which, carriers have sought to establish relationships with their competitors.

186. The process of government review and oversight is an ongoing one in the liner shipping sector, although it should be noted that the majority of OECD Members have not explicitly reviewed their competition policies relating to liner shipping in over 15 years. Carriers, shippers and regulators have in the past centred their discussions on the ability for carriers to collectively set and discuss rates. Those countries that have recently reviewed their policies have generally chosen to retain some form of anti-trust immunity for rate-fixing and/or have extended this immunity for rate discussions and capacity agreements among competitors in return for the implementation of more shipper-friendly measures. As this cycle of policy review winds its way through OECD countries, the perennial question of whether efforts to discuss, control and manipulate supply conditions in liner markets are justified and/or relevant to the pursuit of broad public welfare goals still remains.

Liner shipping is as unique as any other industry...

187. Many have portrayed the liner shipping sector as “unique” and therefore requiring special treatment under competition law. This is true insofar as any industry is unique and certainly there are convincing reasons to allow carriers to co-ordinate certain operational aspects linked to the provision of ocean shipping services. However, it is more difficult to perceive in which manner liner shipping is more “unique” than other industries, or why it should be treated more favourably or even differently than other transport providers with respect to price-fixing and rate discussions. The cost structure of the industry is not significantly different from that of other transport industries and returns in liner shipping are similar to those of other scheduled transport providers. While it is true that ships cost considerably more than say, a new lorry or locomotive, each ship can also earn significantly more revenue. Seasonal and directional trade imbalances are not unique to the liner sector and must be faced by most transport service providers – in some cases these imbalances pose much more of a problem since some vehicles are not as standardised as container ships. In the end, liner shipping is about as “different” from other like industries as, for example, trucking is to freight air services or freight air is to rail freight – with the exception that price-fixing is allowed in liner shipping and nearly universally dis-allowed in these other industries.

No consensus exists as to liner shipping’s alleged propensity towards “destructive” competition

188. It is difficult to address the issue of “destructive” competition in liner shipping without access to specific cost data from carriers. This paucity of data is not matched by an equal paucity of sometimes-contradictory theories on the matter. Indeed, while many models of liner markets have been developed, no consensus exists on the most appropriate one for describing the dynamics of liner shipping. Two points are important to keep in mind, however:

- Some have argued that the economics of liner shipping are unique in that overcapacity is an unavoidable feature of the sector and that this, in turn, leads to marginal cost pricing at a level below the average costs of providing the service schedule. The “problem” of marginal cost pricing in liner shipping only exists in times of overcapacity. As inefficient capacity exits the market, the supply of liner services will become more in line with demand and prices will move away from the marginal cost to (and above) the average cost of providing those services. However, conference pricing, by its nature, acts to reduce the exit of inefficient capacity.
- As competition increases in many trades, conferences are becoming less and less relevant to carriers’ business strategies. “Hard-core” rate-fixing is no longer a sustainable option (in the sense that conferences experience difficulty making their prices “stick”) and only serves to act as a brake to keep freight rates from becoming aligned with those of the most efficient carriers.

The recent fall in freight rates can be seen to have occurred precisely because conference power has weakened

189. Traditional conferences are weaker (to the point of being irrelevant in some trades) today than they probably have been at any time in the past. At the same time, rates have generally dropped over the past 15 years in many trades across the world. In fact, some of the steepest declines in observed freight rates have occurred as conference power has eroded in the face of competition from strong independent operators and following the implementation of competition-enhancing legislation in major trading nations.

Liner shipping is now arguably more competitive than at any time in the past 126 years ... and predicted trade instability has not emerged

190. Despite increased competition, many carriers, especially the top performing ones, are able to generate financial returns at least as good as, if not better, than other *transport industry* service providers. Widespread bankruptcies have not occurred and the industry is not becoming characterised by more service instability. More competition in liner shipping, far from leading to less reliable services has led to increases in service innovation and quality.

New carrier strategies are emerging in order to ensure the stable supply of liner services.

191. As conference power has weakened, carriers have sought to develop alternative strategies to ensure their ability to deliver regular liner shipping services. New and more flexible inter-carrier relationships have emerged allowing carriers to reduce their costs, widen their scope and increase service quality. Consortia, alliances and mergers all seek to gain greater operational efficiencies and ensure carrier profitability in the face of growing competition. Slot-chartering agreements have allowed carriers to flexibly address changes in demand at lower costs.

In particular, there is an emerging trend towards *co-operation with* - rather than *co-ordination against* - shippers

192. The changes brought about by the United States Ocean Shipping Act of 1998, and in particular, the emergence of confidential contracting, signal a significant change in the regulatory framework of liner shipping. Whereas in the past, carriers have sought to “stabilise” liner markets by fixing prices *among themselves*, under OSRA carriers *and* shippers seek to determine mutually agreeable terms. This means that price-setting in the market has shifted from the collusive sphere of carrier rate discussions to the contractual outcome of carrier-shipper negotiations. This seems a more commercially oriented and sensible method of setting liner rates. However, this new approach is only currently valid in the US and Canadian trades – leaving out liner movements between Europe and Asia and other non-US/Canadian trades.

Yet problems remain...

Residual price-fixing artificially keeps prices from aligning with the costs of the most efficient operators

193. Conference and suggested discussion agreement tariffs and ancillary surcharges now serve principally as “benchmark” values for rate negotiations. Final negotiated rates often make reference to, and are influenced by, these fixed rates rather than set in relation to the costs of the most efficient operators. Indeed, so long as inefficient operators receive some protection through common rate-setting and rate discussions, the natural tendency will be for the market to align itself with these operators' costs rather than with those of their more efficient partners/competitors. Furthermore, independent operators have also been thought to use conference/discussion agreement rates and ancillary surcharges to set their own prices, which may be above their costs. Confidential contracting has made the “discount” off the conference/discussion agreement rate more opaque but it has not changed the fact that the price is set in relation to that tariff and not solely in relation to carriers' own costs. The remnants of price-fixing in the liner trades, even in an environment of greater competition, introduces a potentially distorting element in the liner rate-setting exercise that can impact shipper costs.

Carriers have not lost the price-fixing reflex:

194. This is especially true in regard to conferences in non-US trades, discussion agreements in non-EU trades and capacity agreements everywhere.

195. Non-US trade conferences are not concerned by the legislative changes brought about by OSRA. This means that conferences can still potentially set rates more effectively than in the US trades. While competition from independents has also increased in many of these trades as well, the lack of one-on-one confidential contracting makes it more difficult for carriers to defect from conference pricing. In this environment, independents have every incentive to strongly price off of the conference rate, which represents a more visible and robust “benchmark”.

196. The EU does not extend anti-trust exemptions for conferences to discussion agreements. This means that among the three trades, only in the Pacific do these agreements benefit from anti-trust exemptions. However this poses problems as the Pacific trade is also the world’s largest trade. The first is that competing carriers are given the ability to freely discuss all issues of concern to the trade, including rate and market information, and issue general “voluntary guidelines” for rate levels. This type of organisation bears a striking resemblance to a soft cartel where key messages can be communicated and acted upon by erstwhile competitors. This is unfortunate since, even if such interactions do not take place, carriers open themselves to this type of criticism by the very structure and scope of these discussion agreements. While it is true that shippers can contractually prevent carriers from discussing negotiated rates, the reality is that many carriers do not encourage the confidentiality of rate information and/or exempt themselves from this confidentiality when discussing rates with other carriers. Finally, the ability of carriers to discuss, in aggregate, rate levels emerging from negotiated agreements can still be seen as prejudicial to shippers.

197. Carriers also argue that they need to retain the ability to organise the operational aspects of running service strings with other carriers. This paper has not challenged that contention and indeed agrees that carriers should be able to discuss operational details. However, sometimes these operational discussions, especially those pertaining to the co-ordinated withdrawal of capacity, can have a direct impact on market conditions and prevailing rates. Capacity agreements that involve one clearly-defined operational grouping (say a conference, consortia or alliance) can be seen to deliver operational benefits. Capacity agreements that go beyond operational groupings (or, if within an operational grouping that has a large market share) can be seen to have the anti-competitive effect of manipulating rates through reducing overall capacity. In this case, such operational arrangements would benefit from explicit anti-trust review.

Recommendations: A way out of the impasse

198. The debate surrounding the anti-trust exemptions given to the liner shipping sector is a highly polarised one where neither party is likely to radically change their view. The positions are hardened and ingrained and, while certain individual shippers and/or carriers may be persuaded by the opposing sides arguments’, the existence of strong trade associations ensures that the voice of the lowest common denominator will generally prevail.

199. And who can blame them? Carriers generally feel they have everything to gain by perpetuating the century-old organisation of their industry – and this review indicates that they probably do benefit. Shippers, on the other hand generally feel they have everything to gain by doing away with the anti-trust exemptions granted to liner shipping – and this review indicates they are probably right. Given the state of data available about the liner shipping sector and its practices, there is no single line of query that results in an uncontroversial finding for or against continuing liner shipping anti-trust exemptions for price fixing and rate discussions. However, this report has investigated several strands of evidence that, taken together, lead to the conclusion that anti-trust exemptions for conference price-fixing no longer serve their stated purpose (if they ever did) and are no longer relevant.

200. By extension, voluntary and non-binding rate agreements and discussions would seem to fall under the same category. The ability for competitors to discuss sensitive market information regarding

rates and to suggest pricing guidelines potentially serves to distort the market pricing mechanism, despite assurances from carriers to the contrary.

Recommendation:

201. *Based on the analysis in this report, it is recommended that Member countries, when reviewing the application of competition policy in the liner shipping sector, should seriously consider removing anti-trust exemptions for price fixing and rate discussions. Exemptions for other operational arrangements may be retained so long as these do not result in excessive market power.*

202. Carriers may have legitimate operational needs that require co-operation with other (sometimes competing) carriers. These needs may involve closer working synergies through global alliances and consortia or more trade-specific requirements, such as the sharing of ship capacity through slot sharing/chartering arrangements. Countries have in the past recognised this need and have offered carriers protection from domestic anti-trust laws in those instances where these arrangements are not grossly anti-competitive. This report also recognises that some of these arrangements may be necessary and indeed, beneficial, and does not call into question the principle of limited anti-trust exemptions for operational arrangements in liner shipping. This review, however, has not found convincing evidence that the practice of discussing and/or fixing rates and surcharges among competing carriers offers more benefits than costs to shippers and consumers.

203. However, it would be naïve to think that this finding will change carriers' minds and/or that carrier counter-arguments to these findings will change shippers' views. Given the degree of polarity in the debate, it is also unlikely that countries will be able to continue the status quo or, alternatively, radically change it. And yet any commercial arena where such a disconnect exists between service providers and customers calls for resolution.

204. Perhaps a way forward out of this impasse can be built on those points that are mutually agreeable and or recognised by both sides. In light of the findings of this report, countries should review their existing regulations and anti-trust exemptions, as appropriate, to ensure that they best take into account changed market circumstances. Such a review should focus on those points that are mutually agreeable and/or recognised by both sides. In particular four points stand out:

1. Both sides agree to the concept of direct negotiations between shippers and carriers.
2. Both sides, based on their acceptance of OSRA and individually negotiated rates and conditions, are not averse to contractually protecting (and rendering confidential) key elements of those negotiations.
3. Both sides are relying less on collectively agreed rates and conditions.
4. Both sides view that carriers can and should seek to co-ordinate with each other on the operational aspects of providing liner services.

205. These four points of agreement serve to frame the following principles that represent the "second-best" way forward on the matter of the organisation of liner markets. While elements of these principles can be found in the 1998 United States Ocean Shipping Reform Act or the EU's competition policies pertaining to consortia in liner shipping, it would be incorrect to view these principles as redundant, if only because OSRA only covers the US trades, just as the EU consortia policy only covers the EU trades. The vocation of these principles is to provide a framework for governments *throughout* the OECD within which to craft their competition policies for the liner shipping sector when these come up for examination.

Principle 1: Freedom to negotiate

206. *Shippers and carriers should always have the option of freely negotiating rates, surcharges and other terms of carriage on an individual and confidential basis.*

207. Shippers should be able to seek direct one-on-one negotiations with carriers. The current trend towards one-on-one negotiations should be strengthened, and, in particular, should be extended to reach into trades where such negotiations are not possible, or are rendered difficult, by national legislation or carrier actions. It is understood that some conferences, in the past, have rendered such negotiations more difficult, and in some cases have actively worked against this goal. The freedom for shippers and carriers to freely meet and discuss the terms of their relationship should not be constrained by outside parties.

Principle 2: Freedom to protect Contracts

208. *Carriers and shippers should always be able to contractually protect key terms of negotiated service contracts, including information regarding rates, and this confidentiality should be given maximum protection.*

209. While this freedom is currently law in US and Canadian trades, this is not the case for the rest of the world. Carriers *and* shippers should be able to stipulate which details of their negotiations they wish to protect from other parties. Carriers should be able to contractually stipulate that shippers will not reveal negotiated rates to other shippers and shippers should be able to ensure that carriers will not divulge or discuss negotiated rates with other carriers. Where both parties contractually agree to confidentiality terms, these confidentiality terms should be given robust protection. Breach of contractually agreed confidentiality terms should be treated with credible and deterring sanctions³⁹. Shippers and carriers should have the freedom to protect their privacy. In this way, discussion agreements can still operate by focusing on matters that are not considered confidential by shippers or carriers.

210. The strong protection of confidentiality in these contracts is necessary so that both shippers and carriers can be assured that privileged information resulting from their negotiations cannot provide the other party with market signals or the basis for "benchmarks". Simply put, when confidentiality clauses prevent parties from divulging contract terms, neither side should be able to use these items for any purpose when this involves a third party. Much of the value of individual contracting would be lost if confidential terms were able to be utilised, since this would mean that one side would enter into negotiations with prior and undue knowledge of their "competitors" negotiated rates and terms⁴⁰. These market signals are precisely what anti-trust regulations are intended to prevent, and they are also the intended aim of the confidentiality provisions in individual contracts contained in this Principle.

211. Both carriers and shippers have indicated their support of the twin objectives of individual contracting and confidentiality provisions, and so this report presumes that they would also fully support

39. How these sanctions are put in place depends entirely on each country. In the United States contract law governs the imposition of penalties for breach of contract and penalties are often defined in the governing contract. Other countries may wish to allow for the possibility of punitive damages above and beyond those set out in the contract as a deterrent, whereas yet others may wish to allow for the possibility of a third party (e.g. such as a Justice Ministry) to initiate judicial actions against parties breaching confidentiality terms in a contract.

40. Even if confidential terms were aggregated before being communicated to other parties, the basic problem would remain — confidential market information and trends related to privately negotiated contracts would still form the basis for future negotiations, at the detriment of market efficiency and the parties sitting on the opposite end of the negotiating table.

the allowance for, and strong protection of, these desirable elements in the regulatory framework surrounding liner shipping. Indeed, from the perspective of this report, the benefits of ensuring strict confidentiality are such that as well as contractual provisions, governments should give serious consideration to enhancing confidentiality protection through public law requirements, which should include appropriate sanctions and penalties for breaches. These could, for example, include the removal of other anti-trust exemptions available to the parties involved.

Principle 3: Freedom to co-ordinate operations

212. *Carriers should be able to pursue operational and/or capacity agreements with other carriers as long as these do not confer undue market power to the parties involved.*

Carriers should be able to rationalise their operations in order to better deliver, or improve, their services and/or lower their costs. While capacity agreements within an existing operational grouping such as a conference and/or alliance, can be seen to have an operational character, arrangements further outside of such groupings can be seen to be increasingly anti-competitive – especially as they involve a greater share of the market. The ultimate expression of the potential anti-competitive impact of these arrangements would be a capacity agreement that covered all (or virtually all) of a trade. Such an agreement would be tantamount to manipulating an entire market and should not be allowed. Any new legislative provisions should therefore include protocols (like the EU's market share test for alliances and consortia) to determine the acceptability of such arrangements. The freedom for carriers to manage their affairs should not lead to abuses of market power.

213. The approach encapsulated in the three principles would go far to remedy the fact that generally shippers do not have the power to manipulate demand in the way in which carriers can potentially manipulate supply. Of course, an alternative solution to this problem would be to grant shippers anti-trust exemptions allowing them to rig prices in liner shipping markets thus paralleling carriers ability to discuss and/or set rates. This, however, is the worst possible solution, and is certainly not supported by this report.

214. These three principles represent a way out of the carrier/shipper impasse since they allow shippers and carriers to better control what contract information the other parties to their negotiations can share. They can, and are meant to, co-exist side-by-side with a regulatory regime that continues to extend anti-trust exemptions to price-fixing and rate discussions in the liner-shipping sector. However, while under this format the ability of carriers to agree on common rates for customers not covered by individual contracts is unimpaired, their ability to utilise confidential information to set common rates and/or benchmarks would be limited.

215. These principles have built on recent developments in the liner sector that have received support from carriers, shippers and governments alike. Currently, while elements of these principles apply to some trades, they do not extend uniformly to all carriers and shippers within the OECD, and we suggest that they should. We therefore present them here as a resource for governments to seriously consider when they next re-evaluate their national liner shipping provisions as a means of improving the competitiveness of that industry.

BIBLIOGRAPHY

- “2020 Vision”, Containerisation International On-line (<http://www.ci-online.co.uk>), 1 January 2000.
- “A New Revolution Rebuttal”, Containerisation International On-line (<http://www.ci-online.co.uk>), 1 April 2001.
- “A New Revolution”, Containerisation International On-line (<http://www.ci-online.co.uk>), 1 January 2001.
- “A New Revolution”, Containerisation International On-line (<http://www.ci-online.co.uk>), 1 January 2001.
- “Asian Bandwagon on a Roll to Europe”, Containerisation International On-line (<http://www.ci-online.co.uk>), 1 March 2001.
- “Big is Not Always Beautiful”, Containerisation International On-line (<http://www.ci-online.co.uk>), 1 January 2001.
- Boylaud O. (2000), “Regulatory Reform in Road Freight and Retail Distribution”, OECD Economics Department Working Paper No. 255 [ECO/WKP(2000)28], August 2000.
- Brooks M.R. and Button, K. J. (1996), “The Determinants of Shipping Rates: A North Atlantic Case Study”, *Transport Logistics*, Vol. 1, No. 1 pp. 21-30.
- Brooks, M. (2000), *Sea Change in Liner Shipping: Regulation and managerial Decision-making in a Global Industry*, (Amsterdam: Pergamon, 2000).
- Brussels Goes on Warpath Again...”, Containerisation International On-line (<http://www.ci-online.co.uk>), 1 July 2001.
- Button, K. (1996), “Liberalising European Aviation: Is There an Empty Core Problem?”, *Journal of Transport Economics and Policy*, Vol. 30, No.3, pp.275–291.
- Canadian Shippers’ Council (2001), Canadian Shippers’ Council submission to the OECD Division of Transport Inquiry on Regulatory Reform in Maritime Transport, May 2001.
- Centre for International Economics (1999), “Guidelines for National Competition Policy (NCP) Legislation Reviews”, Prepared for the Australian National Competition Council, (Canberra and Sydney: Centre for International Economics).
- Clarke, R.L. (1997), “An Analysis of the International Ocean Shipping Conference System”, *Transportation Journal*, Vol. 36, No. 4, pp. 17-29.

Clyde, P.S. and Reitzes, J.D. (1995), "The Effectiveness of Collusion under Antitrust Immunity: The Case of Liner Shipping Conferences", United States Federal Trade Commission Bureau of Economics Staff Report, December 1995.

Containerisation International (2001), *Containerisation International Yearbook 2001*, (London: Informa Group).

Cullinane, K. and Khana, M. (2000), "Economies of Scale in Large Containerships: Optimal Size and Geographical Implications", *Journal of Transport Geography*, Vol. 8, No. 3, pp. 181-195.

Davies, J., Pirrong, C., Sjostrom, W., and Yarrow, G. (1995), "Stability and Related Problems in Liner Shipping: An Economic Overview", Paper submitted in September 1995 to the Court of First Instance of the European Communities in Case T-395/94.

Davies, J.E. (1990), "Destructive Competition and Market Unsustainability in the Liner Shipping Industry", *International Journal of Transport Economics*, Vol. 17, No. 3, pp. 227-245.

Drewry Shipping Consultants Ltd. Page, M. ed. (2000), *The Drewry Container market Quarterly*, (London: Drewry Shipping Consultants).

Easy as ABC", Containerisation International On-line (<http://www.ci-online.co.uk>), 1 March, 2001

Economic and Social Commission for Asia and the Pacific (2000), "Major Issues in Transport, Communications, Tourism and Infrastructure Development: Regional Shipping and port Development Strategies Under a Changing maritime Environment", Note by the Secretariat at the 3rd Session of the Committee on Transport, Communications, Tourism and Infrastructure Development [E/ESCAP/CTCTID(3)/2], 15-17 November 2000.

Economic Commission for Latin American and the Caribbean (ECLAC) (1998), "Concentration in Liner Shipping: Its Causes and Impacts for Ports and Shipping Services in Developing Regions", [Document LC/G.2027], United Nations ECLAC, Santiago, Chile.

European Commission (1994), "Commission Decision of 19 October 1994 Relating to a Proceeding Pursuant to Article 85 of the EC Treaty (IV/34.446 – Trans-Atlantic Agreement)", Document 394D0980, *Official Journal*, L 376, 31 December, 1994

European Commission (1994b), "Commission Decision of 21 December 1994 Relating to a Proceeding Pursuant to Article 85 of the EC Treaty (IV/33.218 – Far eastern Freight Conference)", Document 394D0985, *Official Journal*, L 378, 31 December, 1994.

European Commission (1999), "Commission Decision of 30 April 1999 Relating to a Proceeding Pursuant to Article 85 of the Treaty (IV/34.250) – Europe-East Asia Trades", Document 399D0485, *Official Journal*, L 193, 26 July, 1999.

European Conference of Ministers of Transport (2001), *Railway Reform: Regulation of Freight Transport Markets*, (Paris: European Conference of Ministers of Transport, 2001).

European Shippers' Council (ESC) (2001), "Maritime Regulatory Reform", European Shippers' Council Submission to the OECD Division of Transport Inquiry on Regulatory Reform in Maritime Transport, 10 April, 2001.

- Fink, C., Matoo, A. and Neagru, C. (2000), "Trade in International Maritime Services: How Much Does Policy Matter?" World Bank Development Research Group Working Paper No. 2522, available at: http://econ.worldbank.org/files/1338_wps2522.pdf.
- Fox, N.R. (1994), "An Oligopoly Model of Ocean Liner Shipping", *Review of Industrial Organization*, Vol 9, No. 3, pp. 343-355.
- Franck, B. and Bunel, J.C. (1991), "Contestability, Competition and Regulation, The Case of Liner Shipping," *International Journal of Industrial Organization*, Vol. 9, No. 1, pp. 141-59.
- Francois, J. and Wooton, M. (2000), "Trade in International Transport Service: the Role of Competition," Centre For Economic Policy Research Discussion Paper No. 2377, pp. 1-21.
- Frustrated Shippers", Containerisation International On-line (<http://www.ci-online.co.uk>), 1 February 2001.
- Gardner, B. (1997), "EU Competition Policy and Liner Shipping Conferences", *Journal of Transport Economics and Policy*, Vol 31, No. 3, pp. 317-324.
- Gómez-Ibáñez, J.A., Tye, W.B. (ed), Winston, C. (ed) (1999), *Essays in Transportation Economics and Policy: A Handbook in Honor of John R. Meyer*, (Washington: Brookings, 1999).
- Gonenc, R. and Nicoletti, G. (2000), "Regulation, Market Structure and Performance in Air Passenger Transportation", OECD Economics Department Working Paper No. 254, August 2000.
- Haralambides, H.E. Cheung Tam He, C. and Tsolakis, S.D. (2000), "The Future of the Hub-and-Spoke System in Liner Shipping", Paper presented at the 16th International Port Logistics Conference, Alexandria, Egypt, 6-8 February 2000.
- Haralambides, H.E. Cheung Tam He, C. and Tsolakis, S.D. (2000b), "The Global Outlook of Liner Shipping and Port Networks in the Information Society of the 21st Century", Paper presented at the 16th International Port Logistics Conference, Alexandria, Egypt, 6-8 February 2000.
- "Heaven or Hell?", Containerisation International On-line (<http://www.ci-online.co.uk>), 1 October 1999.
- Heaver, T., Meersman, H., Moglia, F., Van De Voorde, E. (2000), "Do Mergers and Alliances Influence European Shipping and Port Competition?", *Journal of Maritime Policy and Management*, Vol. 27, No. 4, pp. 363-373.
- Hoffmann, J. (1998), "Concentration in Liner Shipping: Its Causes and Impacts for Ports and Shipping Services in Developing Regions", available at: <http://www.eclac.cl/english/research/dcitf/lcg2027/contents.htm>.
- Hummels, D. (1999), "Have International Transportation Costs Declined?", University of Chicago Working paper, September 1999.
- Laaser, C-F., Sichelschmidt, H. and Soltwedel, R. (2000), "Global Strategic Alliances in Scheduled Air Transport – Implications for Policy", The Kiel Institute of World Economics, Paper submitted to 3rd KFB Research Conference "Transport Systems – Organisation and Planning", June 13-14, 2000, Stockholm, Sweden.

Liner Shipping Services Ltd (2001), Liner Shipping Services Ltd submission to the OECD Division of Transport Inquiry on Regulatory Reform in Maritime Transport, February 2001.

Lu, C-S and Marlow, P. (1999), "Strategic Groups in Taiwanese Liner Shipping", *Journal of Maritime Policy and Management*, Vol 26, No. 1, pp. 1-26.

Marin, P.L. and Sicotte, R. (1999), "Exclusive Contracts and Market Power: The Case of Ocean Shipping", Centre for Economic Policy Research discussion paper no. 2828, available at: <http://econ.ucalgary.ca/fac-files/rs/dp2828.pdf>.

McWilliams, A. (1990), "Rethinking Horizontal Market Restrictions: In Defense of Co-operation in Empty Core Markets", *Quarterly Review of Economics and Business*, Vol. 30, No. 3.

Menachof, D. (1996), Risk management methods for the Liner Shipping Industry: the Response to Customer Service Demands for Simplified Tariffs", *Journal of Business Logistics*, Vol. 17, No. 1, pp. 259-290.

Menachof, D. (2001), "Risk Management Methods for the Liner Shipping Industry: the Case of the Bunker Adjustment Factor", *Journal of Maritime Policy and Management*, Vol. 28, No. 2, pp. 141-155.

Mensching, Jurgen (2000), "Liner Shipping: Examining the Development and Impact of European Legislation", European Commission Competition Directorate-General, Speech given at Containerisation International's 3rd Annual Conference "Global 2000", London, 22 March, 2000.

Mercer management Consulting, Inc. (2000), Testimony before the United States House Committee on the Judiciary on H.R. 3138 (Free Market Antitrust Reform Act of 1999), 22 March, 2000.

Meyrick and Associates, Pty Ltd (1999), "Economics of Liner Shipping Conferences: A Critical Review of the Literature and its Implications for Australian Policy", Paper commissioned by Liner Shipping Services as a submission to the Australian Productivity Commission Inquiry into International Liner Cargo Shipping (A review of Part X of the Trade Practices Act), April 1999.

Midoro, R. and Pitto, A. (2000), "A Critical Evaluation of Strategic Alliances in Liner Shipping", *Journal of Maritime Policy and Management*, Vol 27, No. 1, pp. 31-40.

Molenaar H.J. and Van de Voorde E. [eds.], (1994), "Competition Policy in Liner Shipping: Proceedings of a Conference", February 1994, Antwerp, Belgium, (International Association of Maritime Economists - IAME), 126 p.

Munster, Mark (2000), "Confidentiality in Service Contracting under the Ocean Shipping Reform Act of 1998", Williams, Mullen, Clarke and Dobbins, Attorneys and Counselors at Law, available at: <http://www.wmcd.com/articles/maritime/reform.html>.

Murto, P. (2000), "Models of Capacity Invest Regulated Electricity Markets", Thesis presented September 19, 2000, Helsinki University of Technology Department of Physics and Mathematics.

National Industrial Transportation League (2001), National Industrial Transportation League submission to the OECD Division of Transport Inquiry on Regulatory Reform in Maritime Transport, March 2001

OECD (1997), *The OECD Report on Regulatory Reform: Synthesis*, (Paris: OECD).

- OECD (1999) *Oligopoly*, 19 October, 1999 [DAFFE/CLP(99)25].
- OECD (2000), “Joint MTC/CLP Workshop on Regulatory Reform in Maritime Transport: Submissions”, 12 May, 2000 [DSTI/DOT/MTC/(2000)8 and addendum 1-3].
- On the Mend”, Containerisation International On-line (<http://www.ci-online.co.uk>), 1 October 2000.
- On the Up”, Containerisation International On-line (<http://www.ci-online.co.uk>), 1 March, 2000
- Perakis, A. and Jaramillo, D. (1991), “Fleet Deployment Optimization for Liner Shipping”, Maritime Policy and Management, Vol. 18, No. 3, pp. 183-200
- Pirrong, S.C. (1992), “An Application of Core Theory to the Analysis of Ocean Shipping Markets”, Journal of Law and Economics, vol. 15, no. 1, pp. 89–131.
- Pons, J-F. (2000), “Liner Shipping: Market Developments and Government Action – The EU Perspective”, European Commission Competition Directorate-General, Speech given at the 1st International Shipping Convention, London, 18-20 October 2000
- Productivity Commission (1999), "International Liner Cargo Shipping: A Review of Part X of the Trade Practices Act of 1974", Inquiry report of the Australian Productivity Commission (Melbourne: Commonwealth of Australia)
- R.L. Banks and Associates, Inc. and Fieldston Company, Inc. (1998), “Rail Freight Rates in the Post-Staggers Era”, April 1998, available at: <http://www.railcompetition.org/library/studies/arcfinal.pdf>.
- "Reasons to be Cheerful”, Containerisation International On-line (<http://www.ci-online.co.uk>), 1 December 2000.
- "Record Level of Capacity Ordered”, Containerisation International On-line (<http://www.ci-online.co.uk>), 1 February 2001.
- "Revolution Revisited”, Containerisation International On-line, 1 June 2001.
- Shashikumar, N. (1995), “Competition and Models of Market Structure in Liner Shipping”, Transport Reviews, Vol. 15, No. 1, pp. 3-26.
- Shashikumar, N. (1999), “The United States Ocean Shipping Reform Act of 1998: An Analysis of its Economic Impact on Carriers, Shippers and Third Parties”, Speech given at the International Association of Maritime Economists Annual Conference “Liner Shipping: What’s next?”, Halifax, Canada, 13 September, 1999.
- "Shippers Know Best”, Containerisation International On-line (<http://www.ci-online.co.uk>), 1 November 1996
- Sjostrom, W. (1989), “Collusion in Ocean Shipping: A Test of Monopoly and Empty Core Models”, Journal of Political Economy, Vol. 97, No. 5, pp. 1160–1179.
- Sjostrom, W. (1993), “Antitrust Immunity for Shipping Conferences: an Empty Core Approach”, Antitrust Bulletin, Vol. 38, No. 2, pp. 419–423.

Stoft, S. (2001), *Power System Economics: Designing Markets for Electricity*, IEEE Press, 2001.

Stopford, M. (1997), *Maritime Economics, 2nd edn*, Routledge, London and New York.

Thanopoulou, H., Ryoo, D-K. and Lee, T-W (1999), "Korean Liner Shipping in the Era of Global Alliances", *Journal of Maritime Policy and Management*, Vol 26, No. 3, pp. 209-229

"Time's Up for Ageing Boxships", Containerisation International On-line (<http://www.ci-online.co.uk>), 1 June 2001

Trans-Atlantic Conference Agreement (TACA) (2001), Trans-Atlantic Conference Agreement submission to the OECD Division of Transport Inquiry on Regulatory Reform in Maritime Transport, March 2001.

Trans-Pacific Stabilization Agreement (2001), Trans-Pacific Stabilization Agreement submission to the OECD Division of Transport Inquiry on Regulatory Reform in Maritime Transport, March 2001.

Transport Canada (1998), "Transportation in Canada, 1998 Annual Report", available at: <http://www.tc.gc.ca/pol/en/anre1998/>.

Transport Canada (1999), "Shipping Conferences Exemption Act of 1987: Consultation Paper", Transport Canada, July 1999.

Transport Intermediaries Association (2001), Transport Intermediaries Association and American International Freight Association submission to the OECD Division of Transport Inquiry on Regulatory Reform in Maritime Transport, June 2001.

United Kingdom Civil Aviation Authority (2001), "Economic Regulation and Incremental Costs", Consultation paper, Civil Aviation Authority, London, February 2001.

United Kingdom Office of Fair Trading (1999), "Assessment of Market power: The Competition Act of 1998", (London: Office of Fair Trading).

United Nations Conference on Trade and Development (UNCTAD) (1996), Review of Maritime Transport 1996, United Nations, New York and Geneva.

United Nations Conference on Trade and Development (UNCTAD) (1997), Review of Maritime Transport 1997, United Nations, New York and Geneva.

United Nations Conference on Trade and Development (UNCTAD) (1998), Review of Maritime Transport 1998, United Nations, New York and Geneva.

United Nations Conference on Trade and Development (UNCTAD) (1999), Review of Maritime Transport 1999, United Nations, New York and Geneva.

United Nations Conference on Trade and Development (UNCTAD) (2000), Review of Maritime Transport 2000, United Nations, New York and Geneva.

United States Department of Justice, Nannes, J. (2000), Free market Antitrust Immunity Reform Act of 1999: Statement of John Nannes, Deputy Assistant Attorney General, Antitrust Division, US Department of Justice before the House Committee on the Judiciary on H.R. 3138, March 22, 2000.

- United States Department of Transportation (1999), *Maritime Trade and Transportation 1999*, (Washington: US Department of Transportation).
- United States Federal Maritime Commission (2001), “The Impact of the Ocean Shipping reform Act of 1998”, Report published by the Federal Maritime Commission, Washington, September 2001.
- United States House of Representatives Committee on the Judiciary (1999), “Antitrust Aspects of the Ocean Shipping Reform Act of 1998”, Transcript of the Hearing before the Committee on the Judiciary, Serial No. 30, 5 May, 1999.
- United States House of Representatives Committee on Transportation and Infrastructure (1995), “Shipping Act of 1984”, Transcript of the Hearing before the Subcommittee on Coast Guard and Maritime Transportation, 2 February, 1995.
- Williams, C. (2000), “Adoption of Regulation 823/2000 renewing the Block Exemption for Liner Shipping Consortia”, *EU Competition Policy Newsletter*, October 2000, No. 3, pp. 44-47.
- World Shipping Council (2001), “International Liner Shipping Regulation: Its Rationale and Its Benefits”, World Shipping Council submission to the OECD Division of Transport Inquiry on Regulatory Reform in Maritime Transport, March 2001.
- World Shipping Council (2001b), Testimony before the United States Department of Transport US Coast Guard in the Matter of Notification of Arrival: Addition of Charterer to Required Information [Docket Number USCG-2001-8659], June 27, 2001.
- World Shipping Council (2001c), “Comments on Rate Volatility in Liner Shipping”, World Shipping Council submission to the OECD Division of Transport Inquiry on Regulatory Reform in Maritime Transport, May 2001.