


# **Analysis of Supply and Demand of Liner Shipping Services**

Final Report

Prepared for:  
European Commission DG VII

1st September 1997

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## **Background**

- For the last decade and a half the liner shipping industry has been characterised by very poor financial returns
- Conventional wisdom holds that capacity expansion and poor utilisation have led to poor rate levels and hence poor profits
- However, there is also evidence that, large newbuilding programmes notwithstanding, most container vessels are sailing reasonably full, and that begs the question whether other forces are at work that result in less than satisfactory financial outcomes

## **Objectives**

The overall aim of the project was to provide insight into the commercial realities of today's liner industry; an investigation into overcapacity and what drives it was the cornerstone of the study. The following specific objectives were agreed on with the Commission:

- Assess the supply/demand situation in the container shipping industry markets, with particular emphasis on European trade routes
- Assess the current competitive position of the EU shipping industry
- Review industry responses
- Examine linkages with flag selection, employment, and port selection
- Evaluate policy implications

### **The project consisted of three partners:**

- Mercer Management Consulting was the lead partner
- Two associated partners completed the team:
  - Lloyd's Maritime Information Services (LMIS)
  - Department of Maritime Studies of the University of Piraeus

### **The team used a very data-driven and analytical approach:**

- Large databases on trade flows, vessels, sailing patterns and port calls were built
- These databases were linked into an economic model of the liner industry
- The model included data on cost structures, activity levels, factor costs and freight rates
- We interviewed industry executives on a range of relevant subjects
- Wide ranging research was conducted to round out the analyses



**For an extensive discussion of methodology, tools and data sources, please refer to pages 254 to 281 of the Appendices**

### **Industry Structure and Economics**

- Over the last decade and a half, the world liner industry has shown poor financial returns, well below the industry's cost of capital
- While many factors have contributed to disappointing financial results, poor capacity utilisation does not seem to be the main driver
  - Between the early 1980's and the mid 1990's, the industry has seen steady demand growth, roughly on par with capacity expansion
  - Overall, capacity utilisation appears to have been high and stable between 1990 and 1995
  - Interviews with liner operators have confirmed that vessel utilisation levels have been good
- Commercial fragmentation appears to have a greater influence on rate pressure and poor profitability
  - On every major trade route, over 30 commercial entities compete with products that are not necessarily very differentiated
  - In addition, when innovations on cost saving initiatives (e.g. Post-Panamax vessels) are introduced this often results in anticipatory rate cutting by competitors

- Cost improvements are easily copied across the industry and then competed away through lower freight rates to the ultimate benefit of customers
- At present there is little counterbalance to this force of intense cost-based rivalry
  - There has been significant growth in partnering between carriers but this cooperation is focused on vessels and the resulting joint capacity is still divided up between the individual commercial entities
  - The more comprehensive global strategic partnerships that have been initiated since 1995 are also more operational than commercial in scope, resulting in partners still competing to sell the same slot
  - Traditional conferences are in decline and are unable to build market co-operation between players
- This pattern of competition explains the continued decline in real freight rates seen in the industry during the 1990s

### **Operator Responses and Outlook**

- Operators' responses to the industry's situation continue to concentrate on cost reduction. New areas of the value chain are being addressed but the historic cost focus remains the same
- Limited progress has been made in the area of customer or revenue initiatives
- Operators remain pessimistic about the success of collective industry actions
- Under the above conditions the outlook is for continued poor profitability in the industry

### **Impact on EU Liner Sector**

- While the EU owned fleet has remained fairly stable, EU operators, together with their commercial partners, have increased market share
- The proportion of the EU owned fleet that has flagged out is lower than the world average
- EU seafarer employment in the industry may be affected by further flagging out of the EU owned fleet, but the main future impact on EU jobs will be on-shore losses due to the rationalisation or merger of operators
- Given average vessel size increases, total port calls by container vessels are actually decreasing (particularly calls by mid-size operators). As a group and individually, the top ten North European ports have seen relatively small changes in overall market shares (although their 'portfolio' of calls may have evolved differently)


### **Beyond this introduction, the report contains seven main sections**

- Chapter one (Context) examines recent financial performance of the liner industry and positions the major study themes
- Chapter two (Supply and Demand) reviews main findings on supply, demand and capacity utilisation, and examines the hypothesis that low and/or declining capacity utilisation levels might be driving freight declines
- Chapter three (Industry Structure) examines the liner industry's commercial structure and its impact on rate making and financial performance
- Chapter four (Industry Economics) introduces a model to review how the combination of high capacity utilisation and high commercial dispersion impacts the industry's economic cost structure and profitability
- Chapter five (Operator Responses) examines whether operators – in the face of long-standing poor profitability - are taking, or planning to take, different approaches
- Chapter six (EU Liner Industry) examines the position of various participants in the EU's liner industry (vessel owners, EU, liner operators, seafarers/on-shore labour, ports)
- Chapter seven reviews Policy Implications of the study findings

**More extensive documentation on areas covered in this report can be found in a set of Appendices**

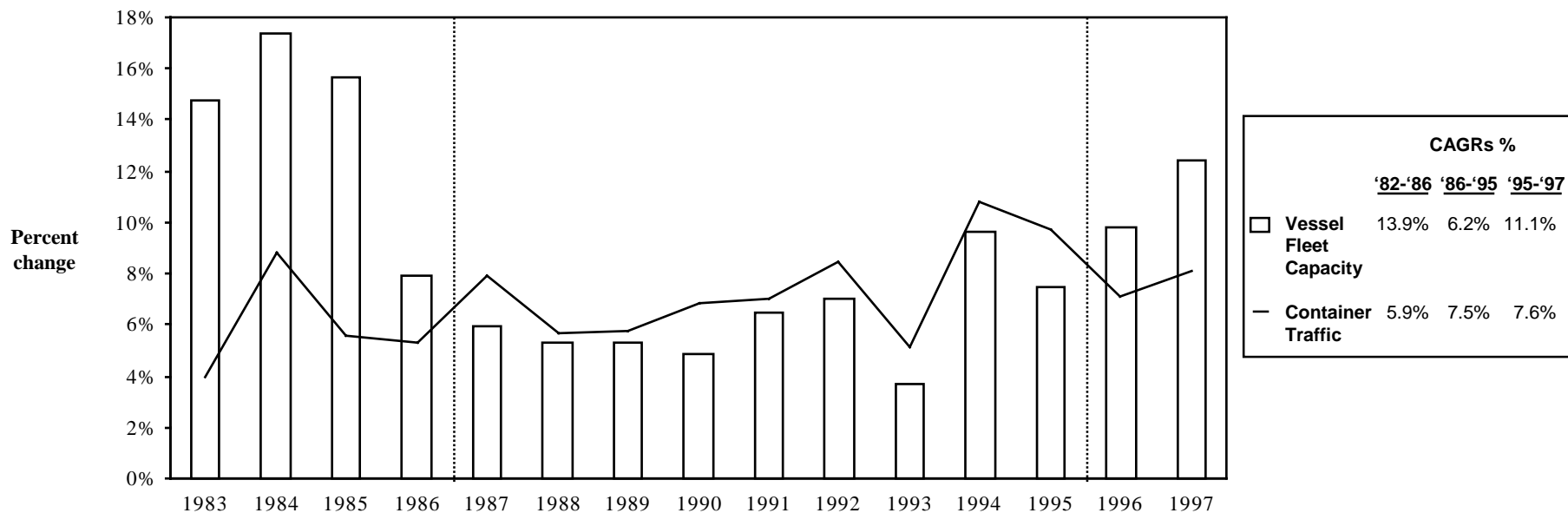
- Competitiveness of EU container shipping
    - Current competitive position
    - Supply and demand
    - Industry structure
    - Industry economics
  - Social development
    - Flag selection and safety
    - EU employment
  - Integration of transport modes
    - Post-Panamax
    - Port selection
  - Clustering
  - Methodology
- 
- Part 1
- Part 2

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### Annual Growth in World Container Carrying Fleet Capacity and Demand (TEUs)



<b>Fleet Capacity</b>	<b>14.8%</b>	<b>17.4%</b>	<b>15.7%</b>	<b>7.9%</b>	<b>5.9%</b>	<b>5.3%</b>	<b>5.3%</b>	<b>4.9%</b>	<b>6.5%</b>	<b>7.0%</b>	<b>3.7%</b>	<b>9.6%</b>	<b>7.5%</b>	<b>9.8%</b>	<b>12.4%</b>
<b>Container Traffic</b>	<b>4.0%</b>	<b>8.8%</b>	<b>5.6%</b>	<b>5.3%</b>	<b>7.9%</b>	<b>5.7%</b>	<b>5.8%</b>	<b>6.8%</b>	<b>7.0%</b>	<b>8.5%</b>	<b>5.1%</b>	<b>10.8%</b>	<b>9.7%</b>	<b>7.1%</b>	<b>8.1%</b>

Note: Demand data is based on world trade, all routes

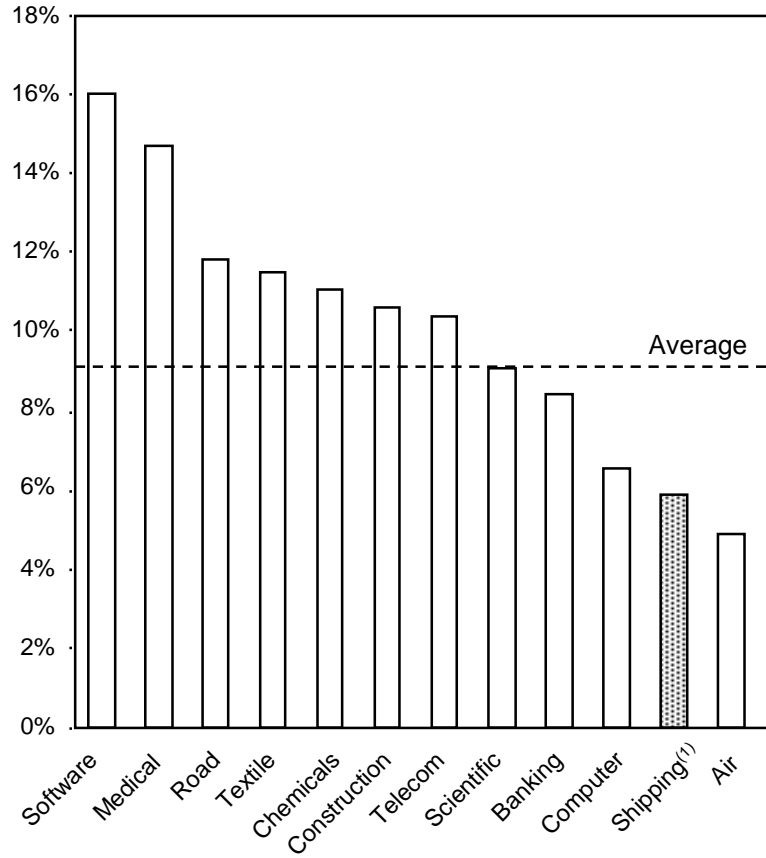
CI database based on all vessels in operation in specific year

Source: Containerisation International, Fairplay Newbuilding Database, WSTS, LMIS, Mercer Analysis

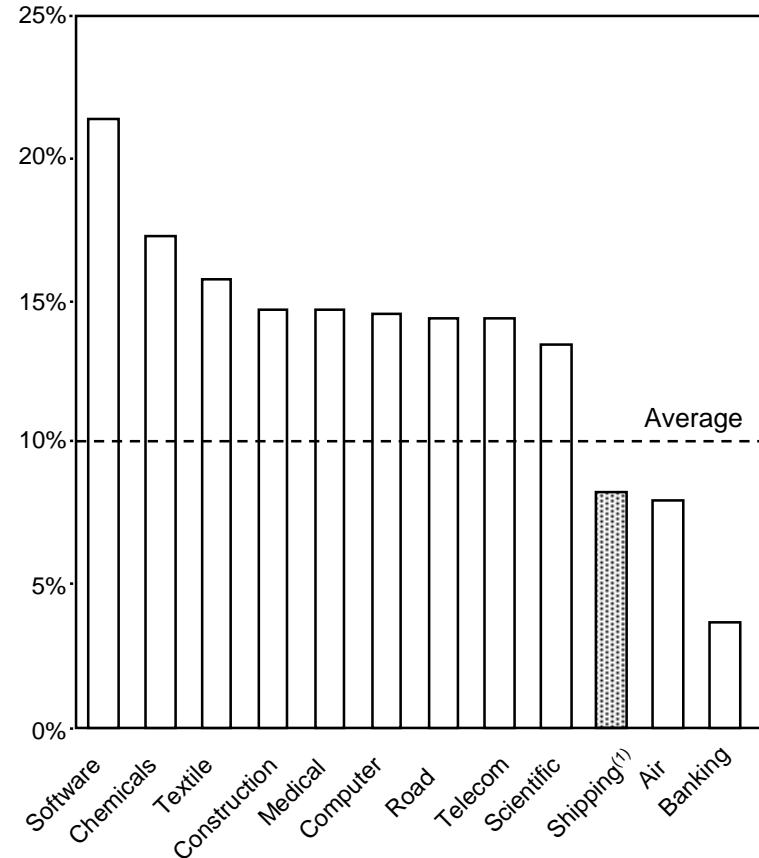
**Following a sharp increase in supply in the early 1980s, overall supply and demand were in reasonable balance between 1987 and 1995. But in the past two years supply has grown faster again than demand.**

- Since 1983 the world liner shipping industry has seen three distinct periods of supply/demand evolution
- The first period (1983-86) saw a wave of investment resulting in large growth in supply relative to growth in TEU movement demand (due, among others, to investment by Round the World operators)
- Much of this growth in supply was absorbed in the second period from 1987-95 as demand growth outstripped supply
- Since 1996 the world fleet's growth has again started to outstrip demand, although as yet the gap between supply and demand growth rates is not nearly as wide as in the 1983-86 period

**ROE of Different Sectors in Europe**  
(1984-1993 average)



**ROI of Different Sectors in Europe**  
(1984-1993 average)

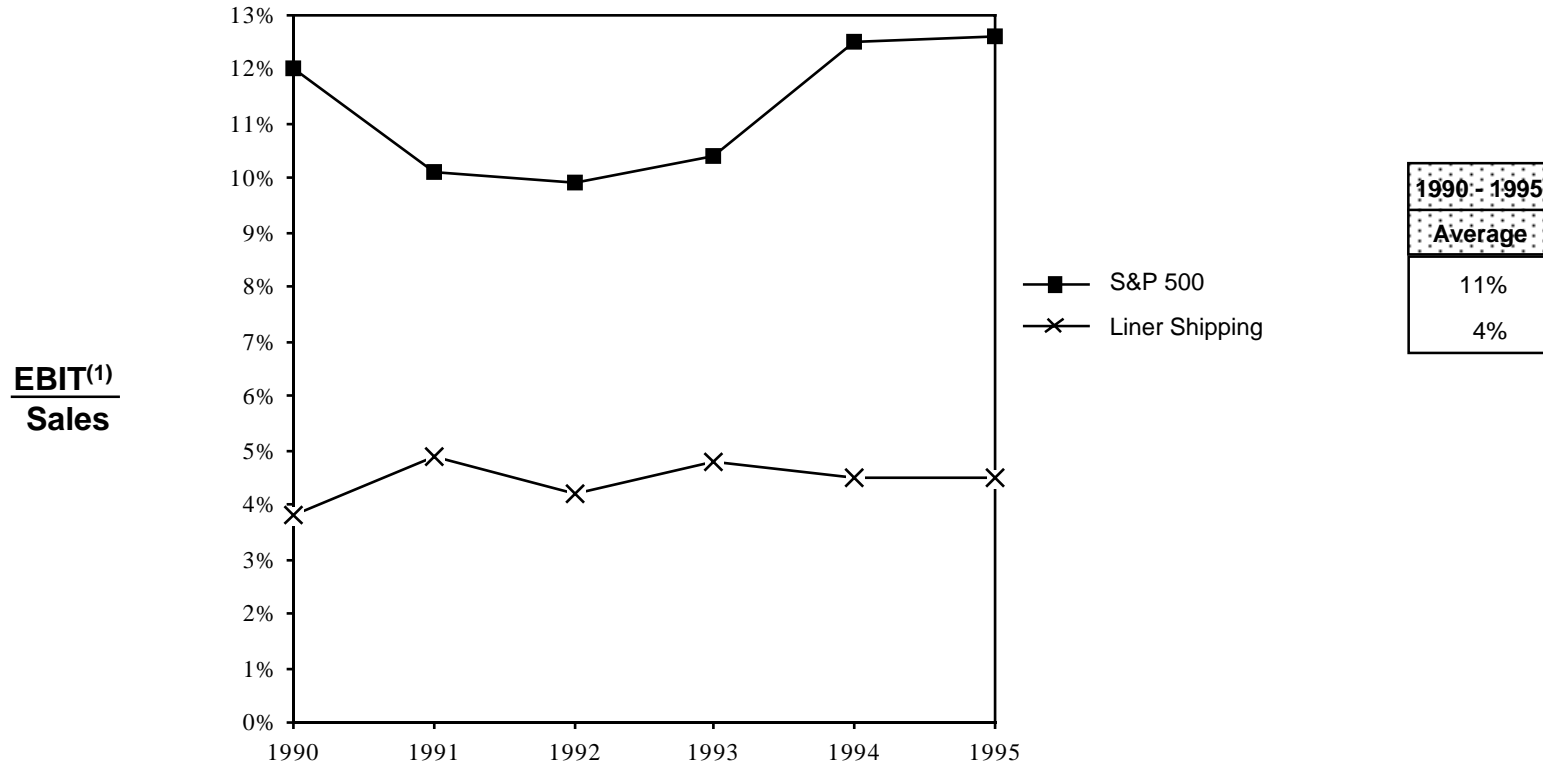


Note: (1) Includes liner, bulk and other businesses  
Source: Worldscope, Annual Reports, Mercer Analysis

**Over the same period the financial returns of shipping companies, including liner shipping businesses, have been lower than those in most other sectors and below the industry's cost of capital.**

- Among 12 industry sectors, only the aviation industry performed worse on both measures of Return on Investment (ROI) and Return on Equity (ROE)
- The industry's cost of capital is at least double digit on any measure

### Liner shipping operating margins versus S&P 500

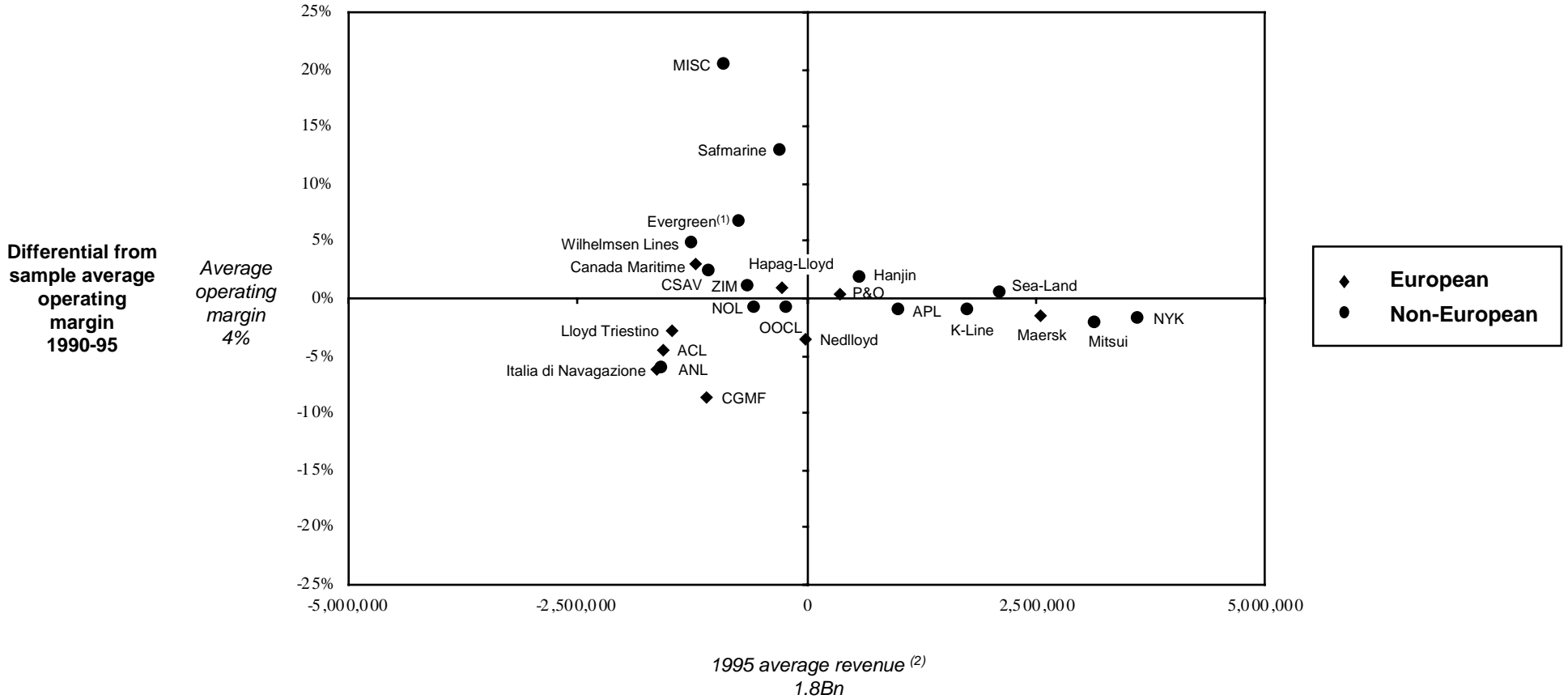


Note: (1) Earnings before interest and taxes  
 (2) Sample size for liner shipping: 24 companies, nominal \$  
 Source: Worldscope, Annual Reports, Mercer Analysis

### **The liner shipping industry mirrors the poor performance of shipping in general.**

- Shown above is a comparison of 24 liner shipping company results with those of 500 of the USA's largest companies ("Standard & Poor's 500")
- The industry's operating margins continue to lag corporate averages
- Similar differences can be observed with listed companies in other countries

### Comparison of size and operating margin of liner shipping companies



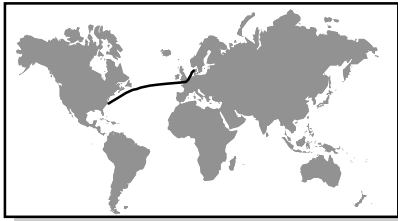
Note: (1) Uniglory only  
(2) Nominal \$

Source: Worldscope, Annual Reports, Mercer Analysis

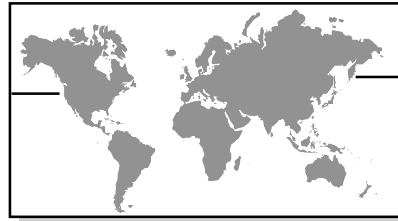
### **Larger liner companies have surprisingly similar (and mediocre) operating margins.**

- The above figure shows:
  - On the x-axis, the differentials over or under the average size in revenue terms (the average liner company in the sample has revenues of \$1.8 billion)
  - On the y-axis, the differentials in operating margin (the average in the sample is 4%)
- It is obvious that the spread in operating margins is much larger for smaller companies than for larger ones. This suggests either:
  - Relative absence of scale effects in liner shipping
  - Continued investment in developing global networks by large operators
  - Little differentiation between larger operators, while among the smaller carriers some enjoy the benefits of defendable niches, while those that do not operate in niches are being squeezed heavily by large operators

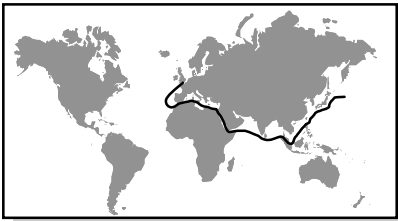
## East/West Routes



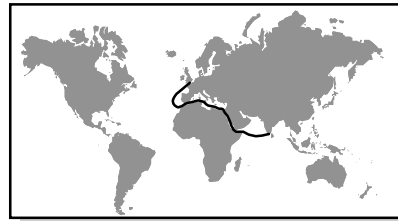
*Transatlantic*



*Transpacific*

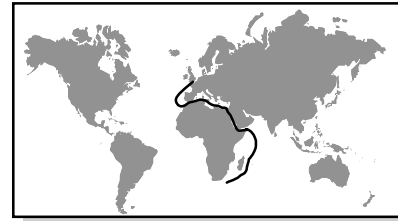


*Europe-Far East*

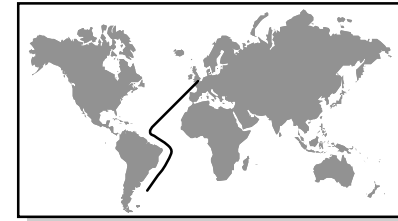


*Europe-Gulf/Indian Subcontinent*

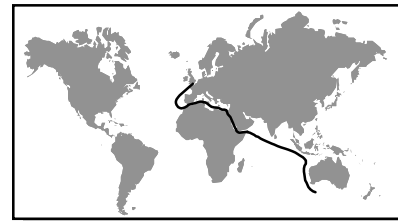
## North/South Routes



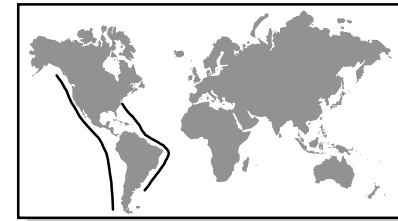
*Europe-Southern & Eastern Africa*



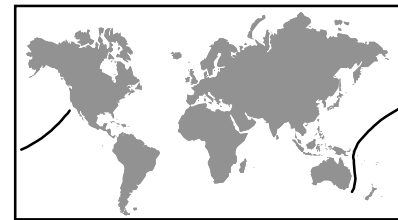
*Europe-South America*



*Europe-Australasia*



*North America-South America*



*North America-Australasia*

**In studying the underlying dynamics behind the industry's poor returns, we have focused on nine major intercontinental trade routes.**

- The nine major intercontinental trade routes studied consist of four East/West trades, including the three main “axial” trade flows plus five North/South trades
- Collectively these intercontinental routes make up around 60% of total world sea container trade demand
- The major trades outside these routes are the intra-regional trades of Asia, Europe and North America
- Also excluded are some selected North-South trades (e.g. Far East-South America) and all of the South-South trades

### Capacity utilisation is good...

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- Overall capacity utilisation was high and stable between 1990 and 1995
- Much of the increase in supply during 1996 appears to have been absorbed by increased demand – erosion was relatively small
- Future capacity on order will probably erode utilisation further, but on current trends levels are likely to remain relatively high

### ... but the industry remains commercially fragmented

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- Despite growth in joint-service partnerships between 1990 and 1995 the industry remains commercially fragmented
- The subsequent emergence of the Alliances, although in principle tying together more capacity, still leaves commercial fragmentation largely unchanged as the link-ups are mostly operational and not commercial
- Much more needs to be done to realise real consolidation in the industry




#### **These findings have key implications for:**

- **Industry's economics and competitive dynamics**
- **Likely effectiveness of responses by industry or individual operators to improve industry profitability**
- **Future EU policy actions**

**The results of the study suggest that the industry's problems stem not so much from poor capacity utilisation but rather from its continued commercial fragmentation.**

- Firstly, we find that the industry's capacity utilisation looks rather good. Overall, on the routes analysed, capacity utilisation was high and stable between 1990 and 1995 and industry comments regarding 1996 suggest much of the increase in supply was absorbed. Although the continuing sharp increase in capacity will result in future erosion of utilisation, utilisation levels are still likely to remain relatively high
- Secondly, despite significant developments in partnering between operators, we find that the industry's pattern remains one of fragmentation rather than consolidation. Joint-service partnering has still left many separate entities competing on each trade. Moreover, these partnerships and the more recent Alliances remain operational rather than true commercial link-ups. Industry consolidation remains a long way off
- We believe these findings have key implications for the underlying economics and dynamics of the industry and in turn the likely effectiveness of future initiatives to improve the industry's situation

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- In this section we review in detail our main findings on supply and demand trends and the implications for capacity utilisation
- In particular, we want to examine the hypothesis that low and/or declining capacity utilisation levels are driving freight rate declines

### Demand

- Healthy volume growth
- Reasonably balanced routes
- Relatively limited impact of repositioning, seasonality, weight restrictions at the aggregate trade route level
- Equipment and flow imbalances and weight restrictions at the individual operator level add to effective demand



### Supply

- Fewer, but bigger vessels
- Significant redeployment
- Most growth is flexibly deployed capacity ...
- ... particularly on E/W routes
- More productive deployment (more voyages/vessel)



### Capacity Utilisation

- Overall figure already at high base in 1990
- No indication of significant erosion between 1990 and 1995
- Effective capacity utilisation is even higher due to other demand-related factors (e.g. interport cargo)
- Current trend in supply will erode future levels but still likely to remain relatively high

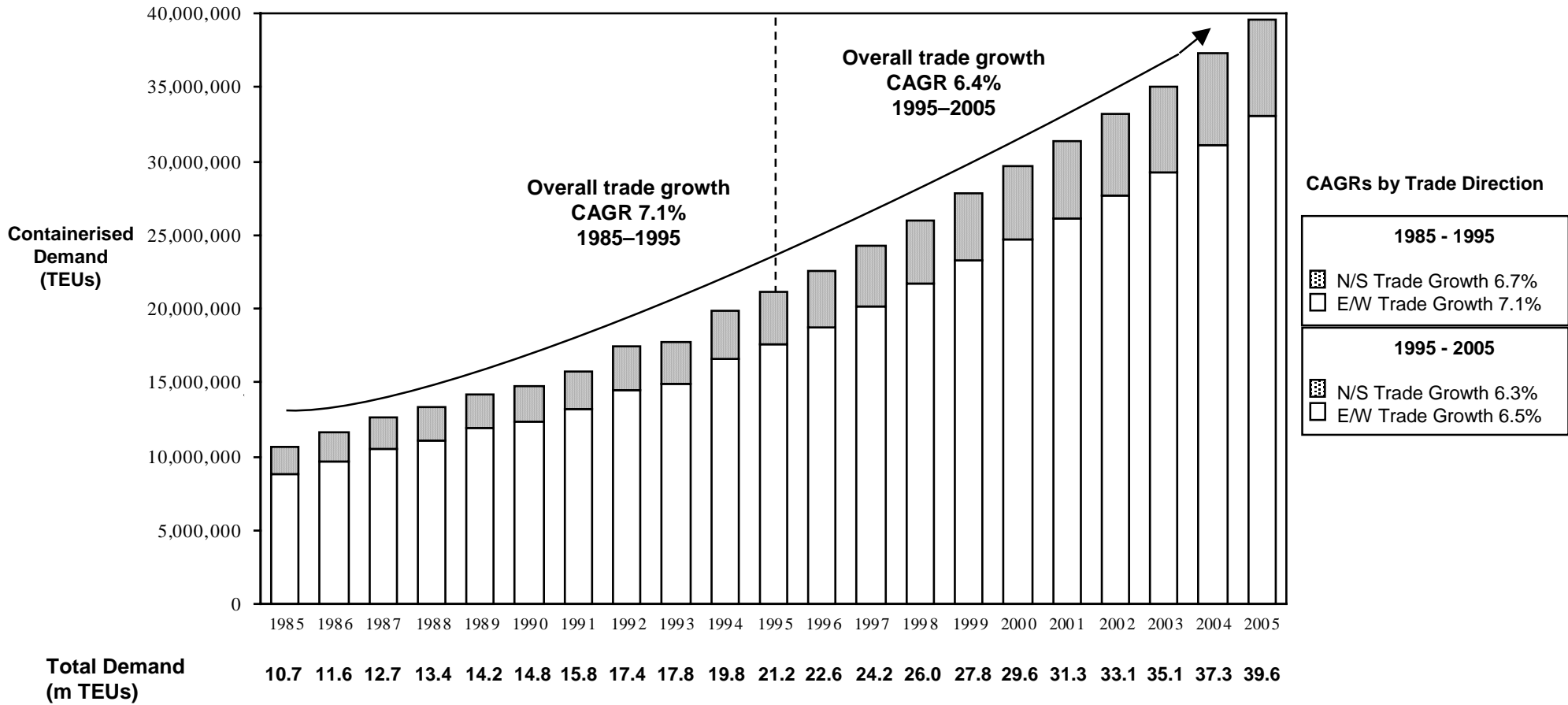
### **Capacity utilisation has historically been high and is set to maintain at relatively high levels despite the recent growth in supply.**

- World trade demand on the nine routes has shown steady growth. At the industry level the impact of flow imbalances and seasonality on effective demand is only limited. For individual operators these factors, together with weight restrictions, are more significant, therefore there are some additions to effective demand
- There have been significant changes in the nature of supply on the nine routes. The number of slots operated has grown but the number of vessels operated has fallen as operators have moved to large vessels, which are also being operated more productively in terms of miles covered. In addition many vessels in particular on East/West routes are now deployed “flexibly” so they effectively serve two or more trade flows at the same time
- Together these patterns result in high overall capacity utilisation between 1990 and 1995. A review of trends into 1996 and 1997, together with comments from the industry, confirms that despite the current trends in supply growth the future outlook suggests utilisation will remain relatively high
- In addition, several additional demand factors, which we did not factor into demand, would add to the true level of utilisation



**This suggests issues on capacity utilisation do not fully explain the steady erosion of freight rate levels**

### Aggregate Nine Route Containerised Demand 1985-2005

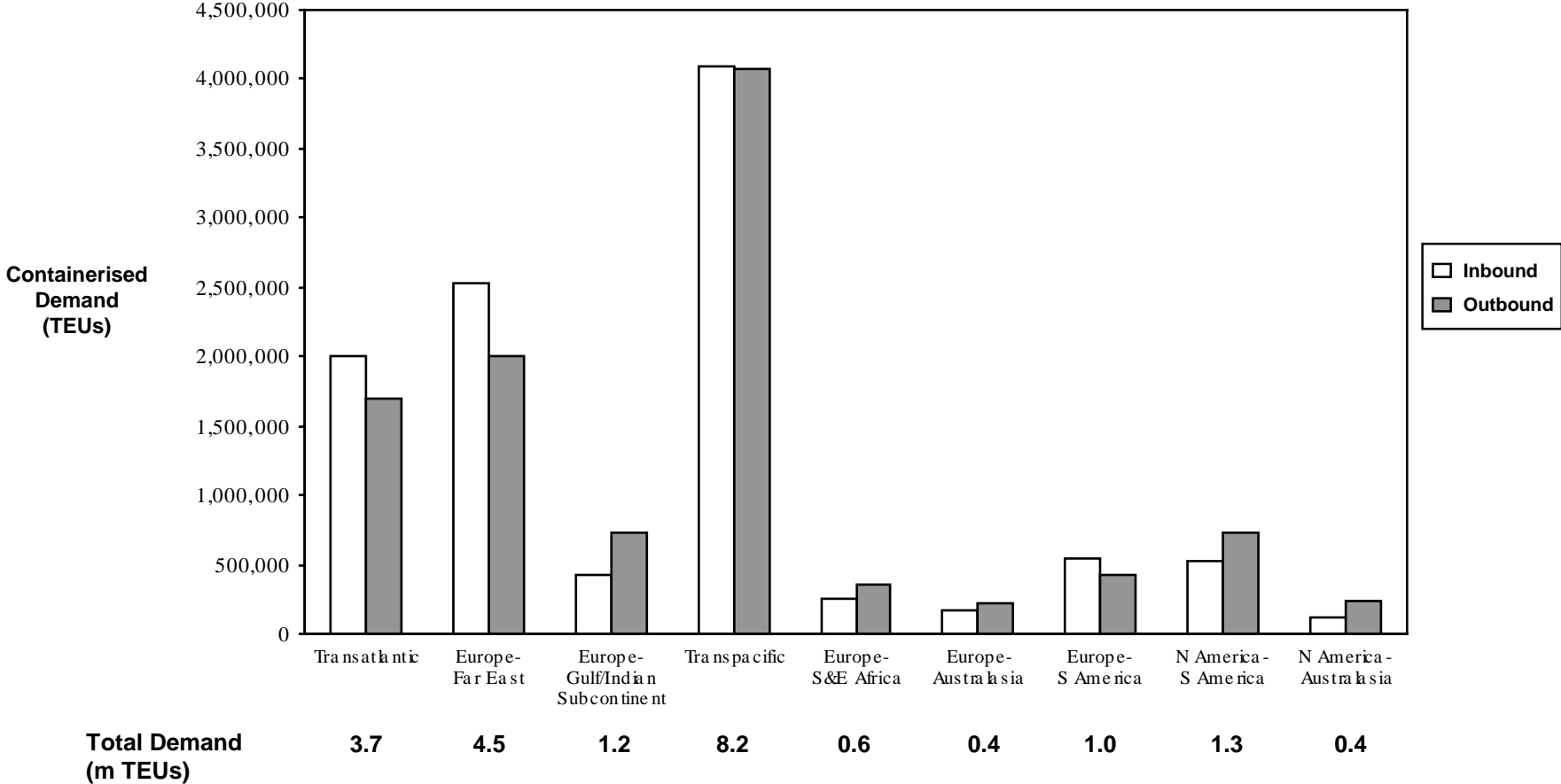


Source: WSTS, Mercer Analysis

**World trade has shown healthy volume growth of 7% p.a. Growth is expected to continue at only marginally lower rates.**

- Most volume is on the East/West axial routes with the Far-East showing the strongest growth (1985-2005 projected CAGR of 9.1% p.a.) followed by the Transpacific (7.4% p.a.) and Transatlantic (4.4% p.a.)
- On North-South trades the S. America routes show the strongest growth, impacted by the liberalisation of trade policies in this region

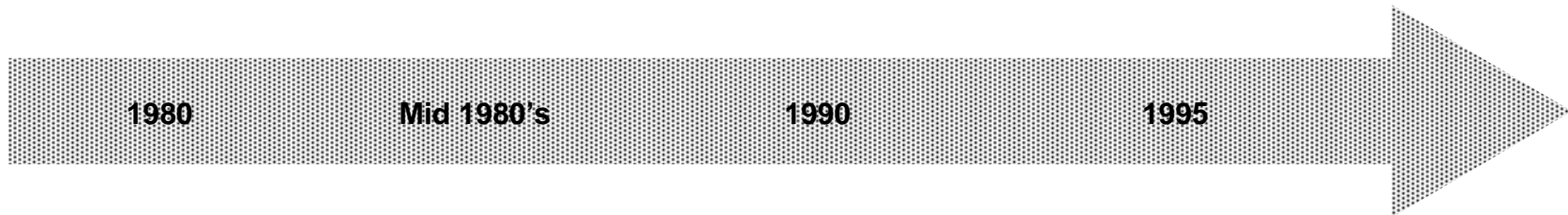
### Route Containerised Demand by Direction 1995



Source: WSTS, Mercer Analysis

### **At the aggregate level, most trade routes' flows are reasonably well balanced.**

- Looking at the aggregate trade flows on each route, the inbound and outbound movements appear reasonably well balanced. Together with estimates of equipment type mix, this would imply an additional demand factor of 9% which we have adjusted for
- After making the above adjustment for aggregate flow imbalances, there still are imbalances at the operator level that would imply an even higher level of effective demand. These would include:
  - The fact that individual operators often experience significant deviations from aggregate flow balance levels
  - Weight restriction also tend to vary more at the operator level than at the route level (e.g. a carrier with significant chemical customers)



- All dedicated supply

- Introduction of first round-the-world services:
  - Evergreen
  - US Lines
- But US Lines goes bankrupt and its vessels are redeployed on dedicated routes

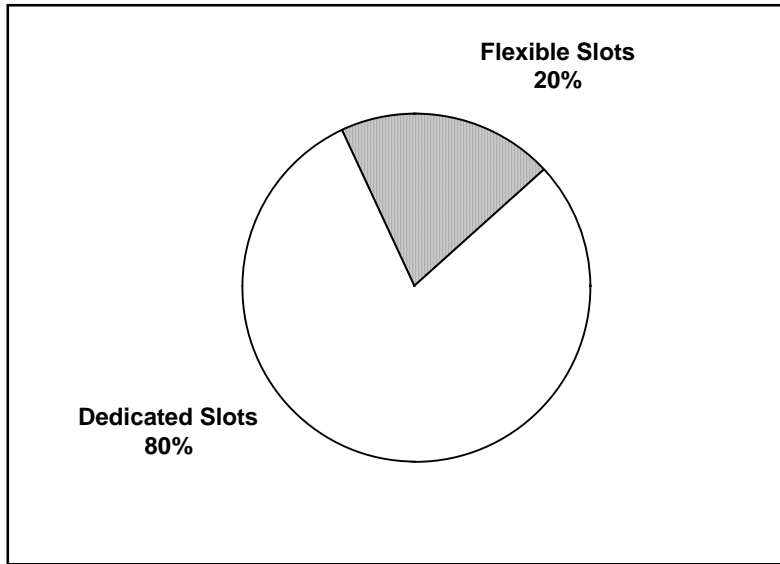
- Gradual emergence of round-the-world and pendulum services
- Flexible capacity represents 20% of fleet slots on the nine routes

- Flexibility deployed slots now make up 31% of all slots on the nine routes
- ...and 35% of slots deployed on E/W routes

### **Services on the nine routes have undergone a structural change with the emergence of flexible capacity.**

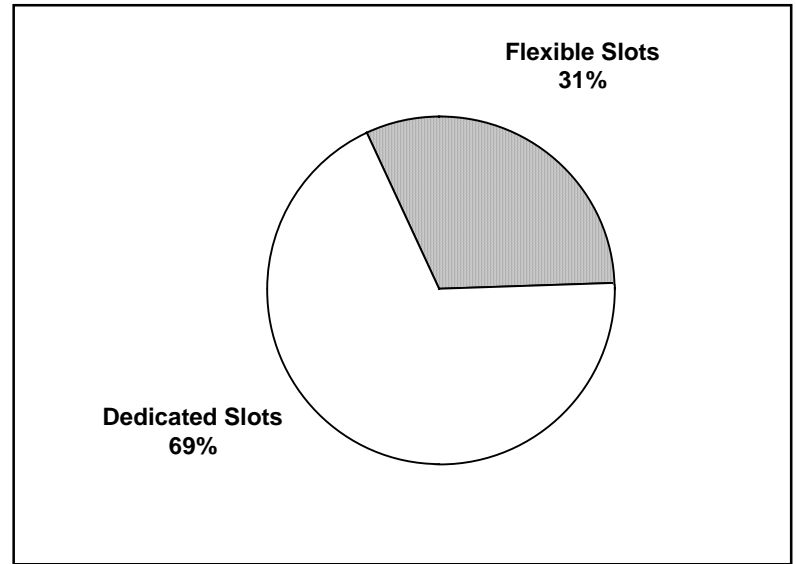
- One of the most significant developments in supply has been the emergence of “flexible” capacity. Rather than simply travelling back and forth between two regions on a dedicated basis, a flexible service travels between three or more continental regions and thus, in effect, the vessel is serving at least two or more trade flow markets concurrently. In principle this allows operators to balance out the impact of fluctuations in demand between specific routes and also increases a vessel’s connectivity with the rest of the network e.g. transshipment to feeder services, etc.
- The first flexible services appeared in the mid 1980s with the emergence of the first round-the-world services. However it is only in the 1990s that the emergence of flexible round-the-world and pendulum services has had a major impact on the structure of supply, especially on East/West routes

**Fleet Slots by Route Type 1990**



**Total 1.9 million TEUs**

**Fleet Slots by Route Type 1995**



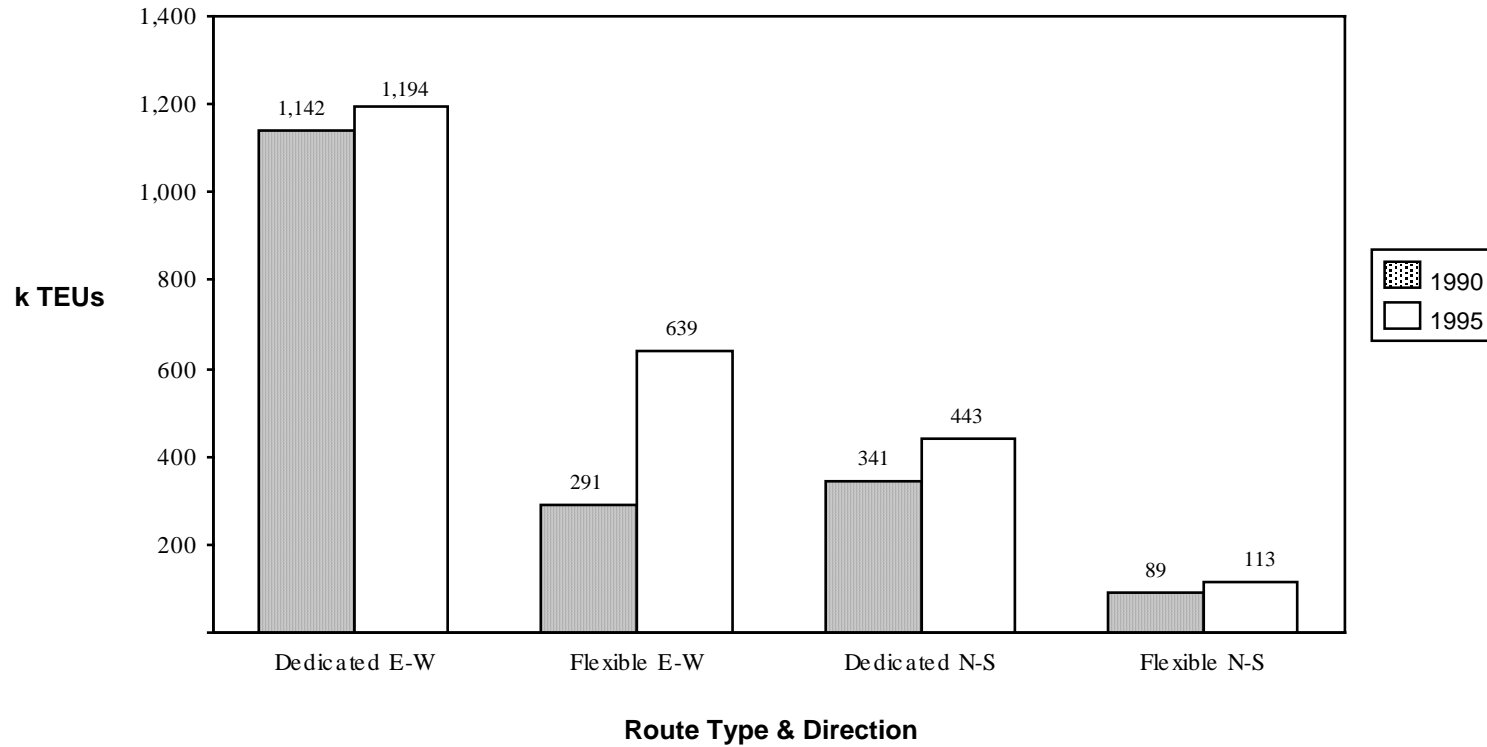
**Total 2.4 million TEUs**

Source: LMIS, Mercer Analysis

### **Flexibly operated slots have grown faster than dedicated slots between 1990 and 1995.**

- In 1990, flexible slots accounted for 20% of the aggregate slot supply of 1.9 million TEU on the major nine routes
- By 1995, flexible slots accounted for 31% of the aggregate 2.4 million TEU

**Slots in Fleet by Type & Direction 1990-1995**

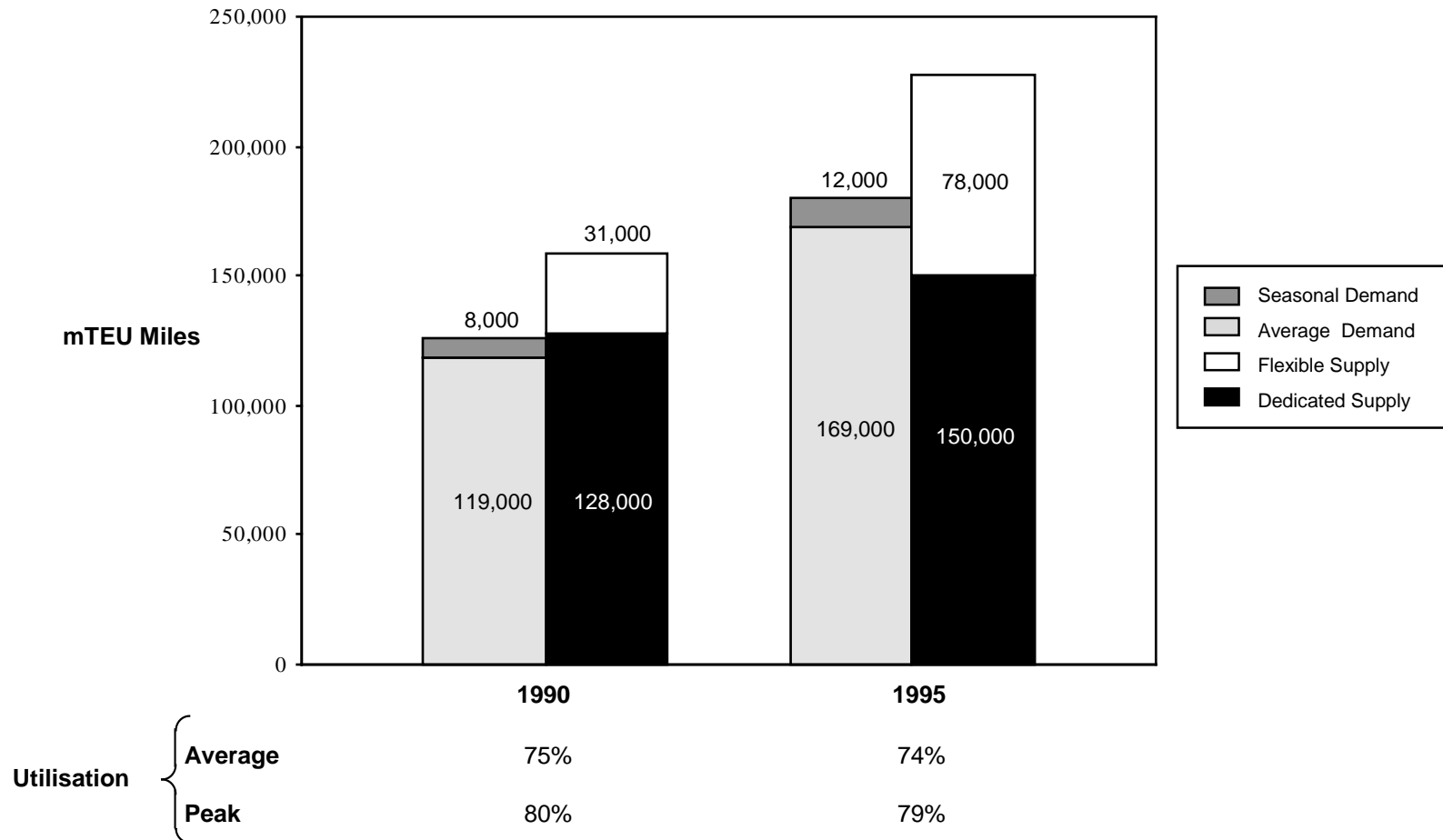


Source: LMIS, Mercer Analysis

**Fleet slot growth has been primarily in flexible capacity on East-West routes and in dedicated capacity on North-South routes.**

- Flexible supply is largely an East/West service phenomenon. The overall growth in East/West supply has essentially been provided by an increase in flexible services
- The growth in North/South supply has primarily been in the form of dedicated services

### Aggregate Supply Demand Balance 1990-1995

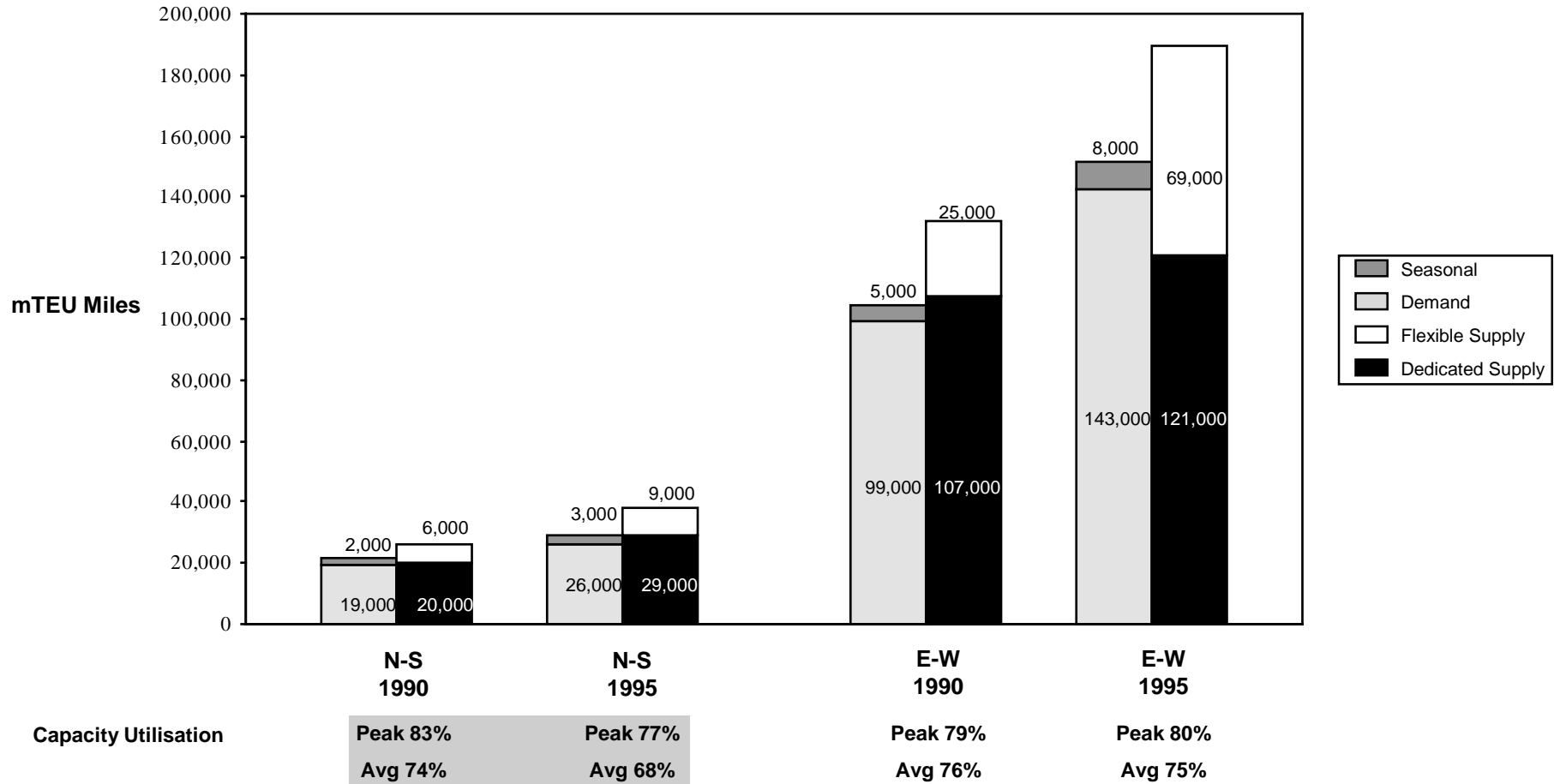


Source: WSTS, LMIS, Mercer Analysis

### **Overall capacity utilisation has been stable over the last five years at around 75%...**

- The emergence of flexible supply requires that we rethink how we measure capacity utilisation in the industry as a flexible slot sailed in principle is serving more than one trade flow at the same time. We believe the best way to do this is to measure and compare supply and demand in terms of TEU miles, ie. slots or boxes multiplied by distance. This allows us to measure overall capacity utilisation across all nine trade routes
- Our analysis of demand and supply shows that aggregate capacity utilisation on the nine trade routes was stable at around 75% between 1990 and 1995 with seasonal demand based on quarterly fluctuations producing a peak figure around 5% higher
  - This relatively modest difference between average and peak capacity utilisation suggests there is no need for liner companies to put ships to sea just to cover capacity needs during high-peak seasons
- The importance of flexible capacity is clearly illustrated – in 1995 dedicated supply alone was not large enough to carry the trade demand

### Aggregate Supply Demand Balance 1990 & 1995 by Route Type

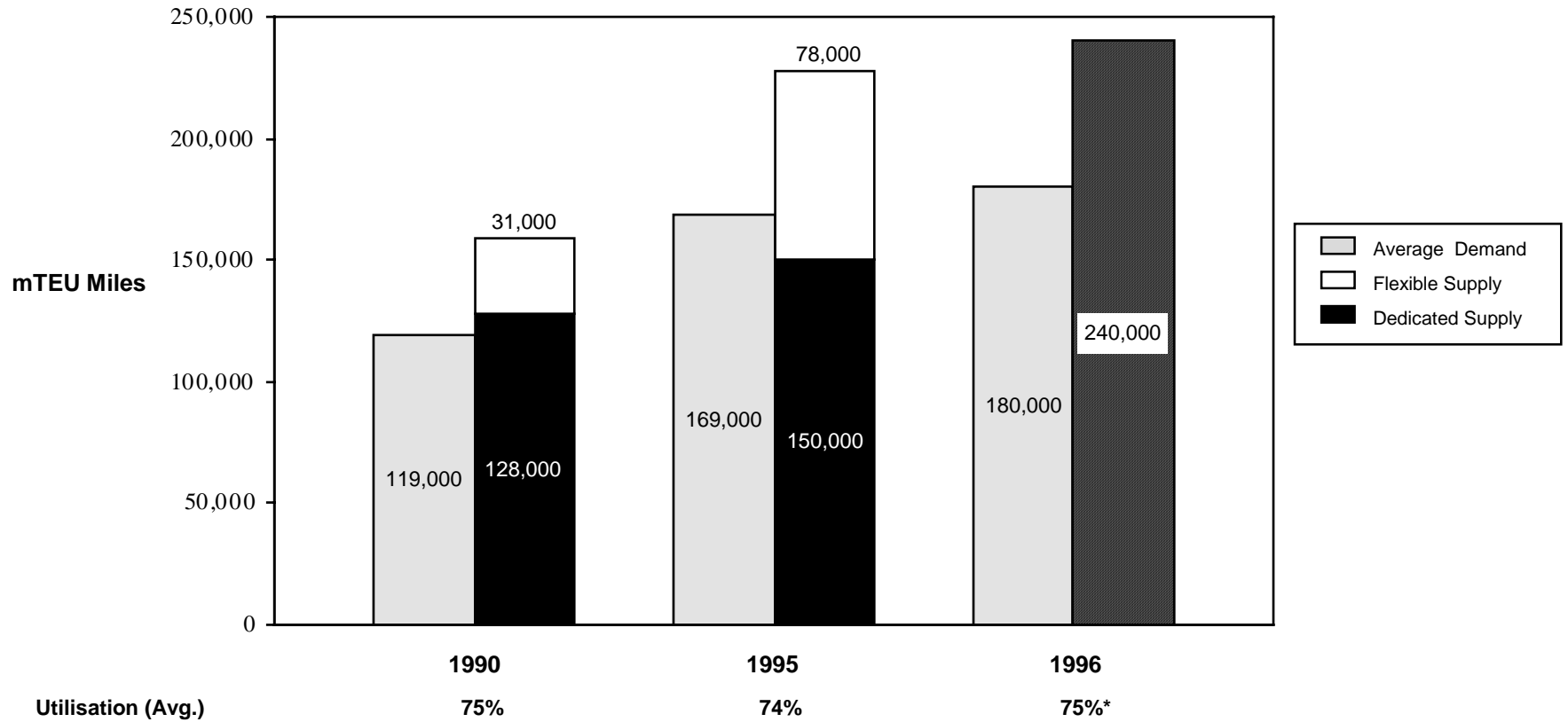


Source: WSTS, LMIS, Mercer Analysis

**... but while East-West utilisation has held at the same level over the period some erosion has occurred on North-South trades.**

- Although trade on the individual East-West axials has grown at significantly higher rates than dedicated supply growth, the emergence of flexible capacity has resulted in relatively stable capacity utilisation rates
  - This also illustrates the connectivity of the present day supply network
- North-South erosion has been due to two factors. Firstly, new capacity has been introduced directly onto North-South services where formerly major East-West operators have entered with new, directly competing services. Secondly, East-West operators are competing for some North-South trades by using feeding services to tranship boxes onto their main East-West services e.g. transshipping boxes to and from Australasia in the Far-East
- North-South trades also appear to experience greater seasonality in trade which is due to a greater proportion of agricultural flows in the trades

### Supply Demand Trend 1990 – 1995 – 1996 (estimate)

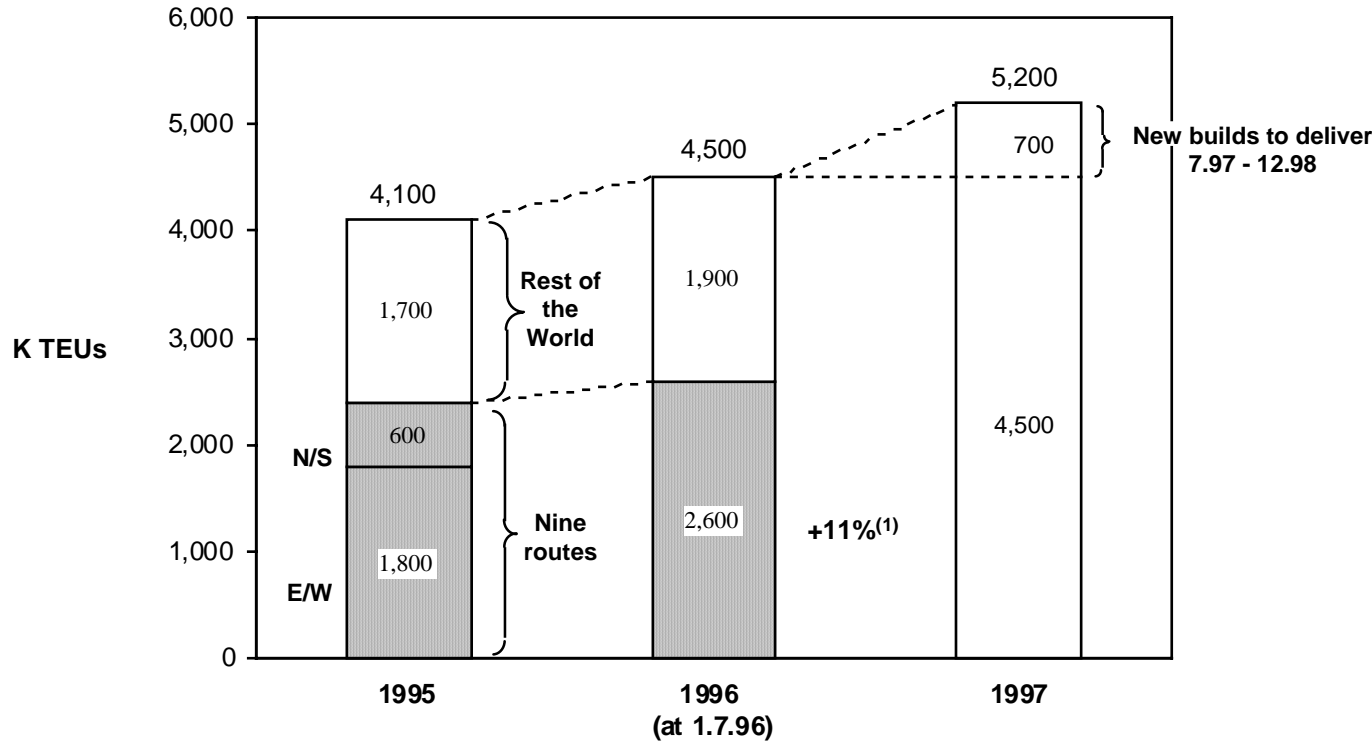


Notes: \*1996 estimate based on projection of first half of year data and no disaggregation of flexible and dedicated supply  
 New build vessels do not appear to have started voyages at beginning of year  
 Source: LMIS, Mercer Analysis

**During the first half of 1996 overall capacity utilisation appears to have continued at a similar level to 1995 ...**

- Extending our analysis of capacity utilisation into the first half of 1996 suggests that the overall figure remained around 75%
- It has to be noted, though, that many of the new vessels deployed in 1996 did not start operations at the start of the year

### Deployment of World Fleet Slots



➔ • World fleet slots on order suggest pressure on utilisation may continue in 1997

Note: (1) Rounded  
 (2) Includes all vessels with container capacity  
 Source: LMIS, Mercer Analysis

**... but new builds entering onto the nine routes during 1996 grew fleet slots by 11% in the first half suggesting a potential downward pressure on utilisation in the second half of the year.**

- With trade flow TEU demand growing at 6.6% p.a., slot growth of 11% suggests downward pressure on utilisation in the second half of 1996
- Although it is not possible to fully allocate the new vessel order book to routes – significant further growth in world slots in 1997 suggests pressure on utilisation will continue

## **Additional factors boosting capacity utilisation above the measured estimates**

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- Trade flows from other regions feeding onto the nine trade routes (e.g. West Africa-Far East trade)
- Interport cargoes within regional markets: Intra-Europe and Intra-Asia are major markets
- Seasonality may be more peaked in a single month than suggested by our quarterly estimate
- Individual operators may have empty imbalances related to flows and equipment mix larger than industry aggregates
- Individual operators may have a heavier trade flow mix reducing effective vessel capacity

**Despite some anticipated erosion, overall capacity utilisation is likely to remain at relatively high levels, in particular because of additional demand factors.**

- Our estimates systematically underestimate the true level of utilisation by not taking into account five factors which boost demand above the already high levels calculated (see above)
- It has to be noted that although our analysis has focused on nine major routes, we believe the trends shown are representative of the industry's overall position
  - Even though slots in the rest of the world fleet have grown more rapidly than those on the nine routes, increases in demand on those routes will have absorbed a lot of that capacity
  - In addition, demand for transshipment tonnage has increased (particularly with the growth of flexible capacity on the E/W routes). This can be observed by comparing the growth the TEU handled in major ports with trade growth (the former is higher)
  - Finally, on routes other than the nine major routes we focused on, the fleet contains a larger proportion of semi-container vessels which have much lower productivity in terms of TEU carried per annum (therefore reducing effective supply as measured in TEU miles).

### East-West Operators

- “We’ve seen 80% utilisation over the past few years and it remains good today... although capacity will outstrip demand over the next two years the impact will only be a few percentage points”
- “We had figures of 85-90% in 1995 which have continued to today... the current sharp growth in capacity is not a problem on a four year view”
- “Things started to turn down from 75-77% in the second half of 1995... we’re now at 72%, but growth in capacity is simply a cyclical phenomenon”
- “1996 was a good year with figures of 83-90% on different trades and 1997 has started at the same levels... Europe-Far East will absorb new vessels but the Transpacific may be impacted by displaced capacity”
- “We’re seeing 90% on all European routes with no erosion, although new capacity will exceed trading growth”

### North-South Operators

- “We’re seeing utilisation in excess of 85% today... but have experienced falls of up to 10%”
- “Average route rates are 65-80%. New entrants and capacity are coming on stream... but we hope to maintain our utilisation”
- “We’re experiencing 80% today following erosion which largely occurred in 1994”



- **One observer remarked: “Vessels in the industry as a whole are still operating at high utilisations but you need to run an extraordinarily high levels to make money”**

Source: Industry Sources

### **Operator's comments confirm our view that utilisation has been and will, despite some erosion, remain high.**

- Figures quoted are generally higher than our own estimates. This can be explained largely due to the effect of demand adjustment factors. Given seasonality needs, some of the averages reported could not be higher – the vessels are full!
- Operators are relatively unconcerned with the impact of new capacity on utilisation levels as opposed to its impact on freight rates where falls have been much more dramatic, leaving the industry with high levels of utilisation but poor profitability



- **It would seem that the problems of the industry do not stem from low capacity utilisation per se, i.e. there is no strong evidence that low or rapidly falling capacity utilisation fully explain the erosion in freight rates, but from poor freight rates**
- **The next section on Industry Structure will examine another likely driver of falling freight rates: commercial fragmentation**

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- This chapter considers various aspects of the liner industry's structure
- In particular, we aim to review to what extent structural competition might drive down freight rates to levels that result in poor financial performance, notwithstanding relatively high capacity utilisation

### Definitions

- *In this analysis we have divided carriers into two groups: 'Sector 1' carriers who consist of the top twenty industry players in terms of slots; and the remaining players, 'Sector 2' players. In addition we have defined 'Sector 1 Involvement' joint-services as all services where a Sector 1 player is involved.*

### **Growth in partnering...**

- The top twenty Sector 1 carriers are increasing their presence on the nine routes...
- ... but primarily through collaboration with other Sector 1 operators rather than the development of their own independent operations

### **...but there is still a pattern of underlying commercial fragmentation...**

- However the overall capacity supplied on each trade remains fragmented across a wide number of commercial entities
- Moreover, collaborative joint service partnerships are really operational rather than fully commercial...
- ...and operators' patterns of collaboration covers many and inconsistent partnering choices across different trade routes

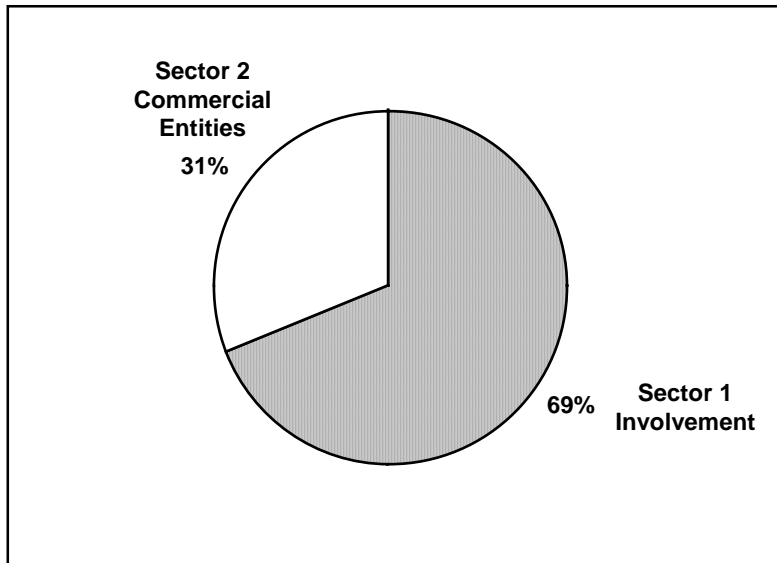
### **...which is not being adequately addressed by industry restructuring**

- The traditional conference structures are in decline and are failing to build market co-operation in most trades
- The new Alliances are not meeting the need to address commercial as opposed to operational co-operation.
- In addition, significant capacity remains outside the Alliances

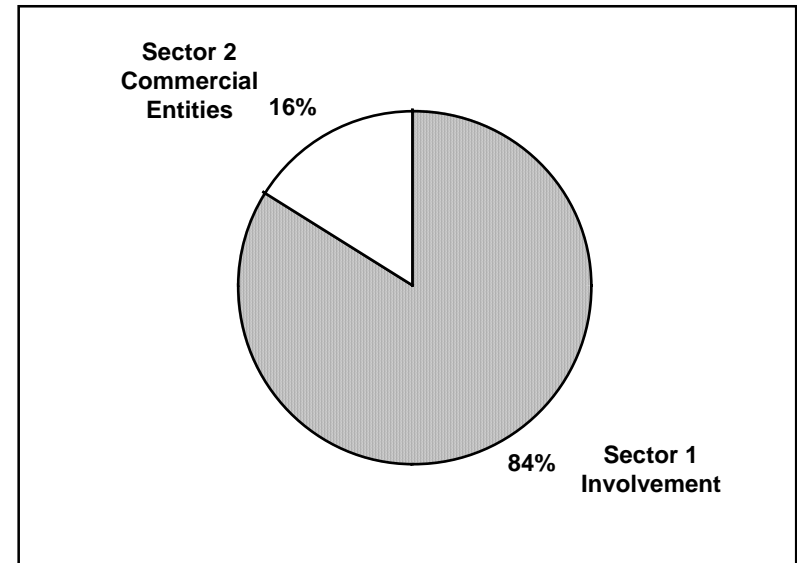
**The liner industry structure remains commercially fragmented despite significant changes in the industry during the current decade.**

- On every trade route a multitude of commercial entities compete
- While the major carriers have increased their presence through growth in partnering, most of this partnering has been in operational areas (vessel sharing, equipment interchange)
- The conferences have lost influence in their ability to promote market co-operation on most trade
- The alliances as currently structured remain focused on tackling operational rather than commercial cooperation

**Share of TEU Miles Supplied  
on the Nine Routes 1990**



**Share of TEU Miles Supplied  
on the Nine Routes 1995**



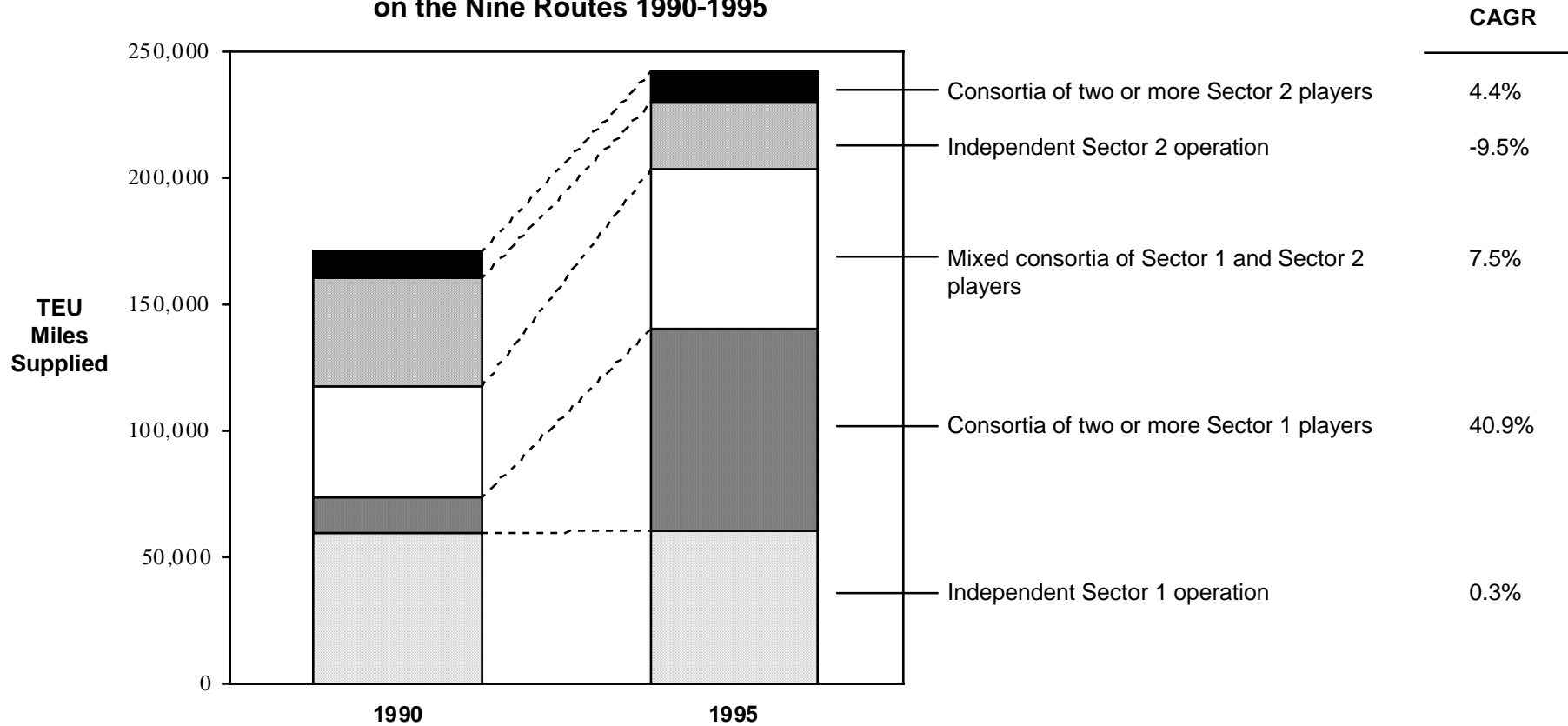
Note: Sector 1 Involvement includes total supply of all individual or joint services where at least one of the partners is a Sector 1 player; Sector 2 Commercial Entities involves all supply without any Sector 1 participation

Source: LMIS, Mercer Analysis

### **The top twenty Sector 1 carriers have increased their presence on the nine trade routes.**

- Services where the top twenty 'Sector 1' carriers have an involvement either alone or in partnership with other Sector 1 or Sector 2 carriers have increased their share of supply on the nine trade routes
- Operations involving 'Sector 2' carriers only have declined in relative importance

### Commercial Entity Development on the Nine Routes 1990-1995



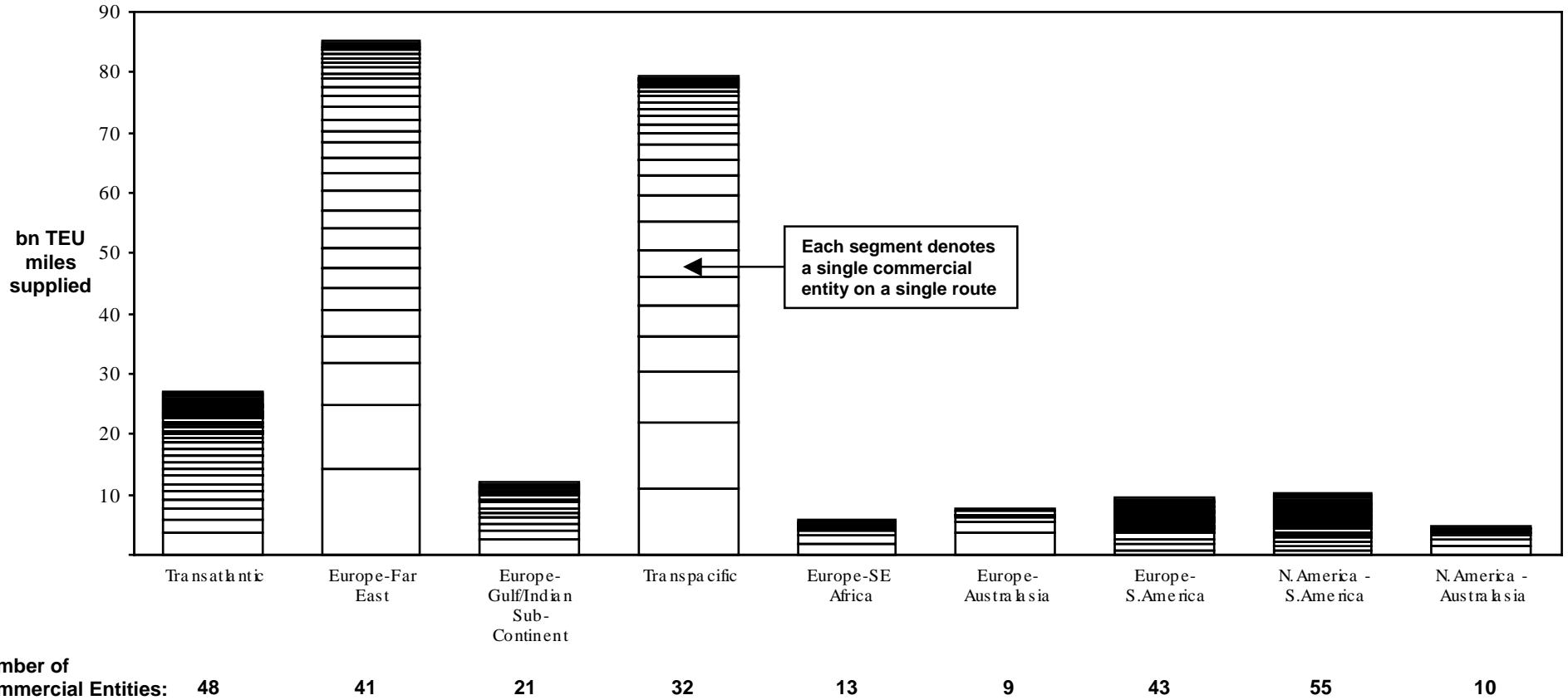
- Notes: (1) 'Commercial entity' defined as a group of operators operating under a commercial agreement  
 (2) The same operator working the same route with different partners or individually will be counted in 2 separate entities  
 (3) Potentially includes 'one-off' charters

Source: LMIS, Mercer Analysis

### **Sector 1 carriers' growth has come largely in the form of collaborative Sector 1 consortia.**

- Collaborative joint service operations with other Sector 1 players have seen tremendous growth between 1990 and 1995, and these now form the single largest type of capacity offered
- Between 1990 and 1995, capacity offered by independently operated Sector 1 services has been flat
- Independent Sector 2 operations have declined in absolute terms

## Capacity Fragmentation by Commercial Entity by Route 1995



Number of Commercial Entities: 48

41

21

32

13

9

43

55

10

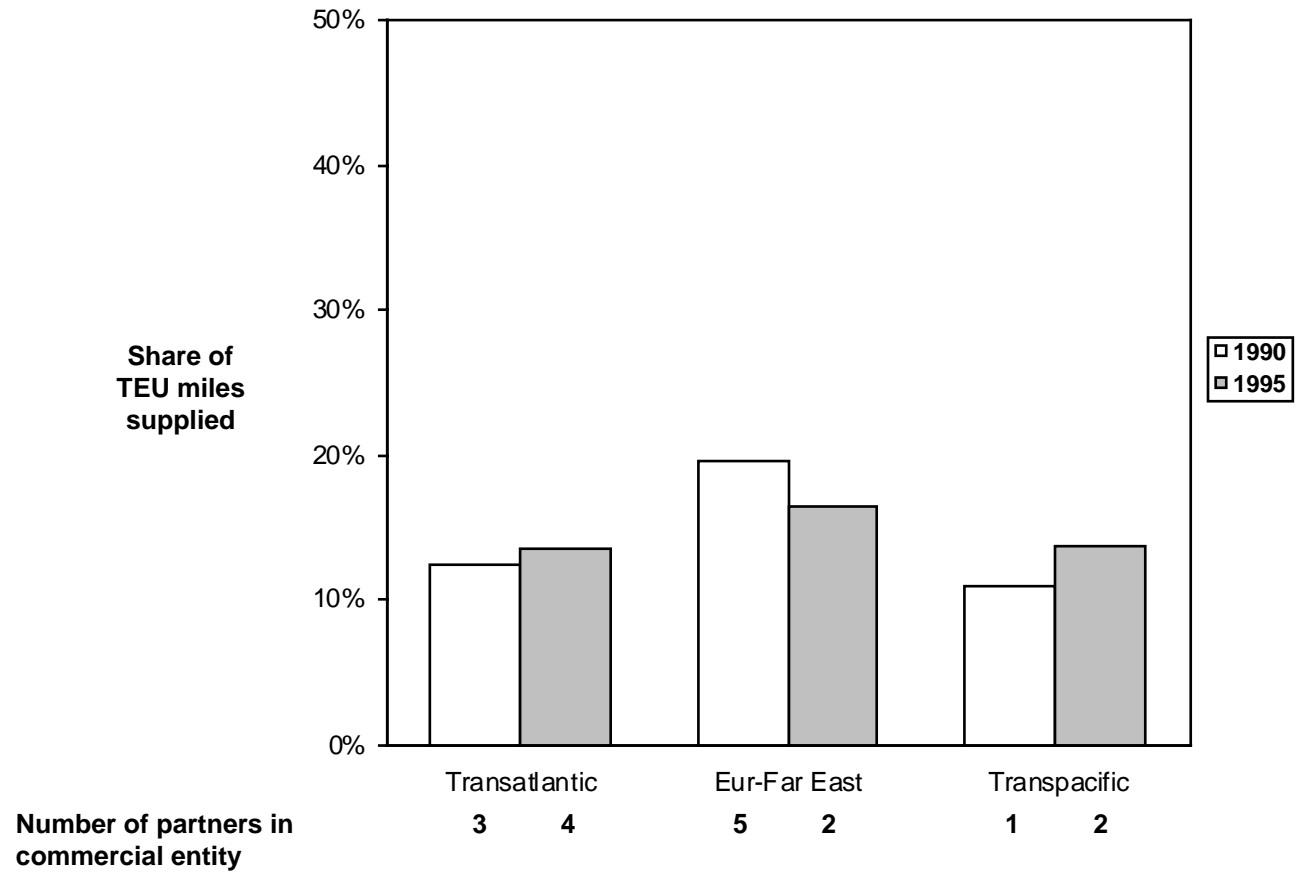
Notes: Capacity in TEU miles on nine route end-to-end basis

Source: LMIS, Mercer Analysis

### **Commercially, the liner industry remains very fragmented.**

- The supply on each trade can be divided up into the individual shares operated by each commercial entity, which could be either services offered under joint services partnerships or by individual operators
- On every trade route a multitude of commercial entities compete (on the large E-W routes over 30 each)
- In addition to the commercial entities shown there are flexible operators and NVOCC's offering commercial service as well
- The consolidation of commercial entities through the development of joint services has made only a limited impact on improving market fragmentation on each trade

### Capacity Supplied by Largest Player on each Axial Trade

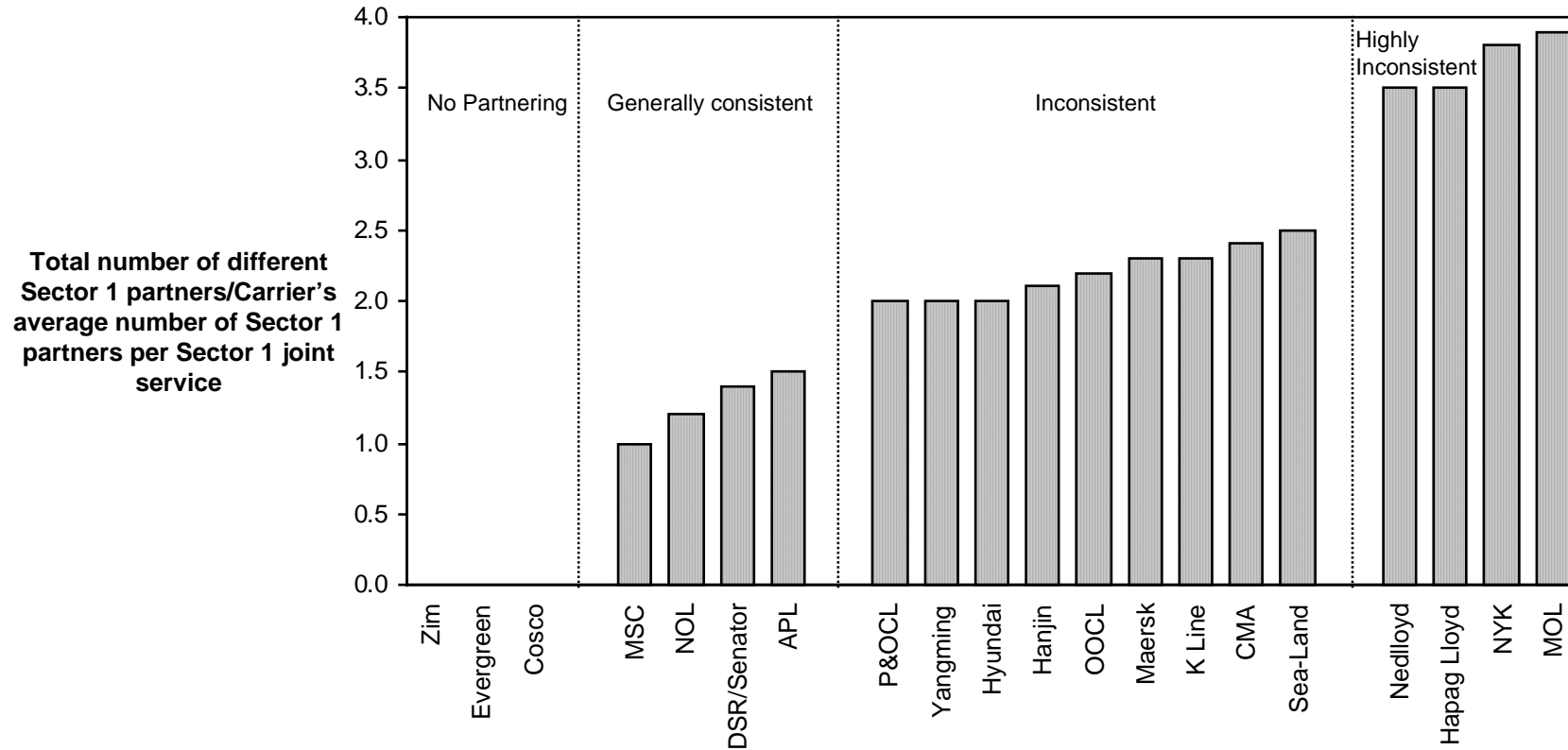


Source: LMIS, Mercer Analysis

### **There are still no dominant players in the industry.**

- The largest joint service on each of the axials controls only 16% of total supply between two partners
- Carriers' approach to joint services remains operational. The existing benefits are seen in terms of improved service frequencies and coverage plus, possibly, developing deeper operational links through terminal and equipment sharing, etc.
- The commercial side of their businesses, however, remain untouched by such partnerships. Marketing and selling operations remain separate to "preserve the carriers' identity"
- This results in the partners actively competing to sell the same slots on the same vessel with no co-ordination on the setting of rates. Partners in effect compete for business no differently than they would if they had no joint service relationship at all. One carrier remarked, "It is usually easier to win business from your partner than from another carrier"
- The true commercial structure of the industry remains even more fragmented than the joint service picture suggests

### Partnering consistency across Sector 1 joint services on the nine routes – 1995



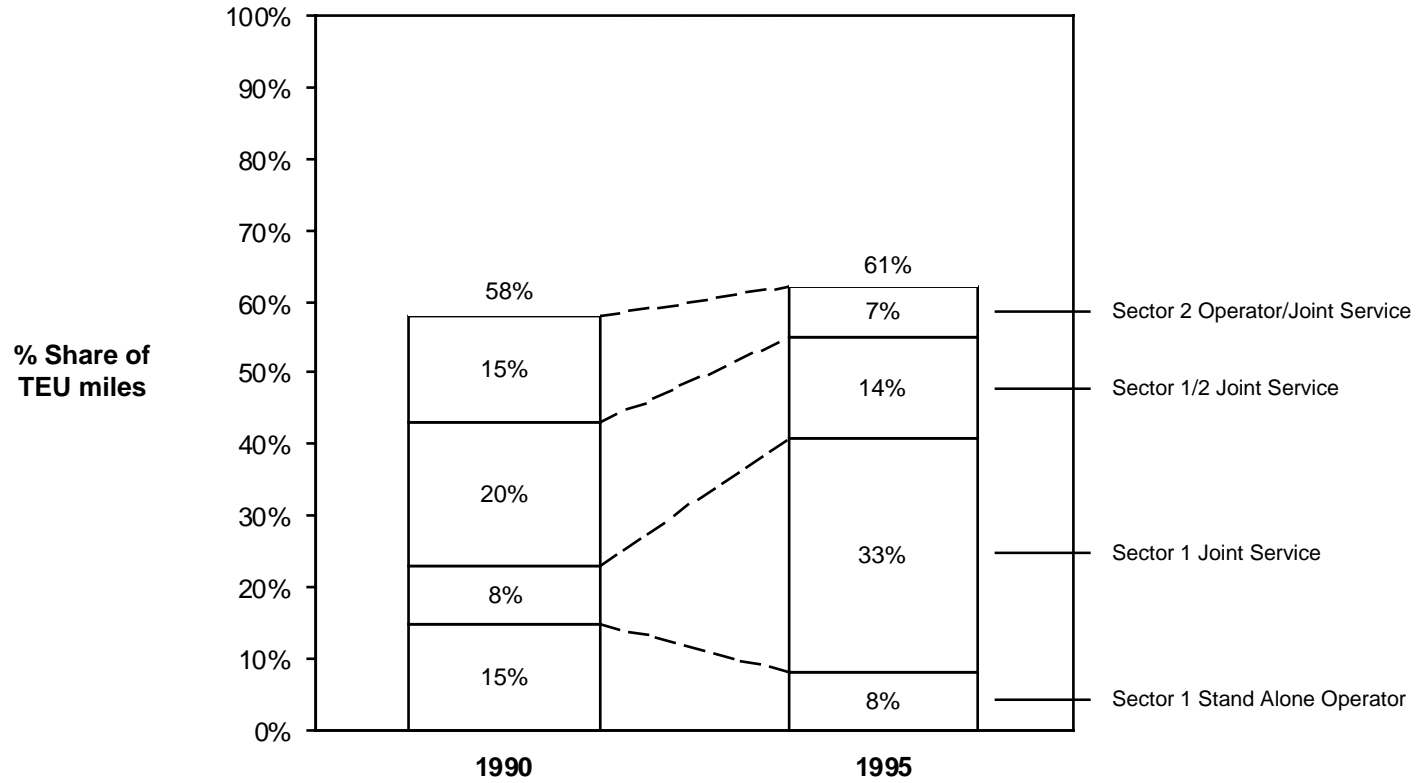
Notes: (1) Zim, Evergreen & Cosco are not involved in and Sector 1 joint services on the nine routes

Source: LMIS, Mercer analysis

### **Sector 1 carriers' patterns of collaboration with other Sector 1 partners do not show consistency, across or sometimes within the nine trade routes. This impacts the opportunities for wider industry co-ordination.**

- One measure of a Sector 1 carrier's partnering consistency is the ratio of its total number of *different* Sector 1 partners divided by the average number of *all* Sector 1 partnerships per joint service across all its Sector 1 joint services
  - Example: Carrier X partners with A, B and C on the Transatlantic and with A, B and D on the Europe - Far East trade. Therefore Carrier X has 4 partners (A, B, C, D) and on average 3 partners for each joint service. Its partnering consistency ratio is therefore  $\frac{4}{3} = 1.33$
  - A figure of one implies total partnering consistency; numbers higher than this represent increasing degrees of inconsistency in partnering
- Joint service partnering between Sector 1 carriers in 1995 was generally not consistent across their networks with carriers linking up with different names on different routes
- Consequently, a large number of carriers have links with a wide variety of different Sector 1 carriers. This lack of global consistency impacts carriers' ability to form closer commercial arrangements on a global basis
- In addition, there tend to be quite some changes in partnership arrangements over time, so not only is there inconsistency at any give time on a cross-section of routes, there is also "intertemporal" inconsistency

### Share of Conference TEU Miles by Commercial Entity

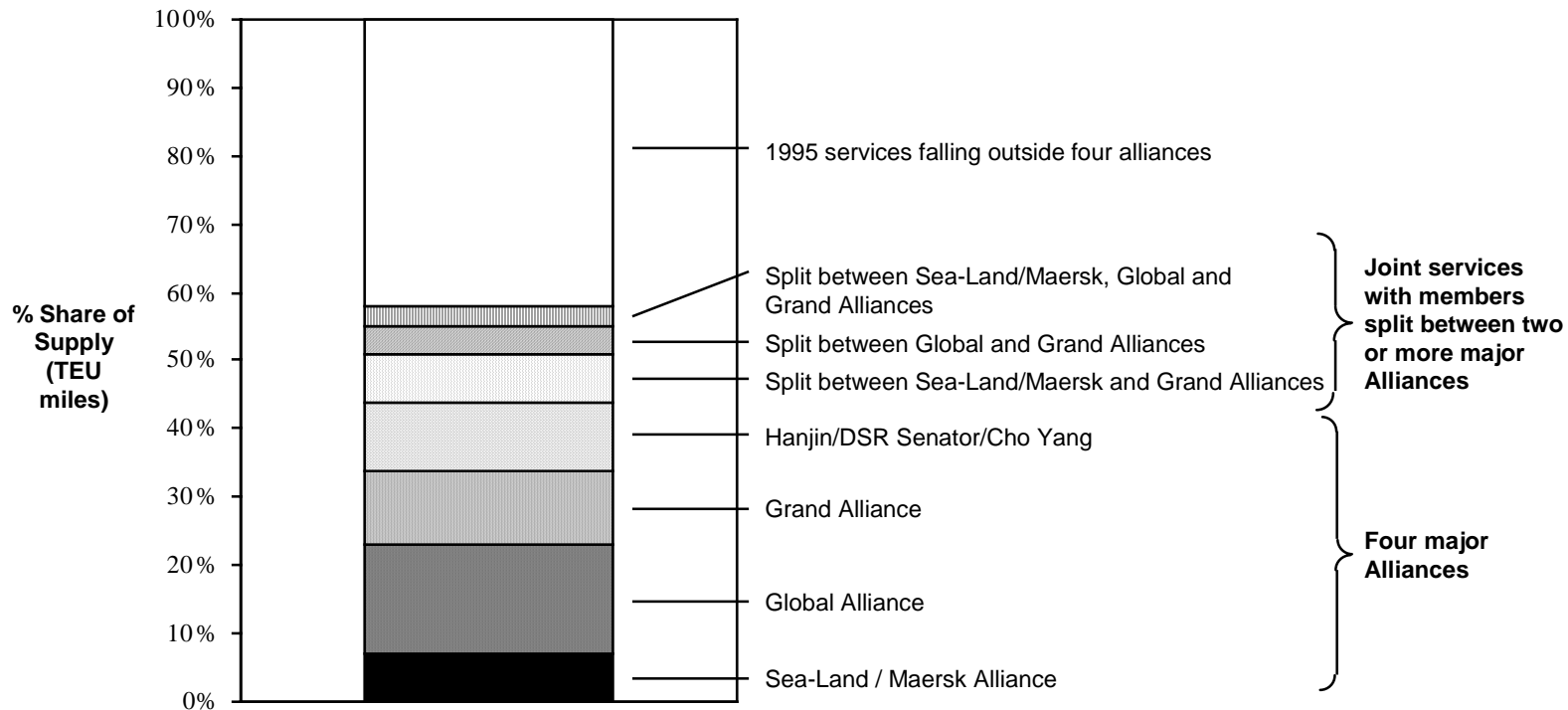


Source: LMIS, Mercer Analysis

**Although the conferences have slightly increased their overall share of miles supplied, their influence over market pricing continues to decline due to the continuing high level of commercial fragmentation.**

- Sector 1 consortia now account for one-third of capacity offered under conference membership, but by its very nature decision-making within consortia is more cumbersome and constrained to finding the “least common denominator”
- The absence of dominant players means no individual or small group of carriers can control the conference and the opportunities for conference members to defect from public agreements are rife
- The advent of confidential contracts under the proposed new US Shipping Act will further impact conferences’ ability to impact pricing on US trades

### Alliances' Share of Nine Routes including all Existing Joint Services in 1995




Note: Global Alliance is Nedlloyd /OOCL-Mitsui/OSK/APL; Grand Alliance is Hapag-Lloyd/NYK/NOL/P&O  
 Source: LMIS, Mercer Analysis

**The four global alliances continue the industry's operational approach to partnering and would still control only 58% of supply even if all 1995 joint-service relationships are retained within the alliances.**

- The fact that the four largest global alliances still control only 58% of all supply (assuming all 'conflicts' on pre-existing partnerships with 1995 joint service structures have been resolved) only serves to underline the industry's lack of consolidation
- Note that over one quarter of conference supply involves joint services containing two or more Sector 1 players now in different alliances
- The newly formed Alliances continue the industry's emphasis on operational rather than fully commercial partnerships
- The impact of alliances on industry structure may be further compromised by mergers between members of different alliances (e.g. the P&O/Nedlloyd merger, which cut across the Grand and Global Alliances, and the proposed NOL/APL alliance which affects the same two Alliances)

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- How does the combination of high capacity utilisation but high commercial dispersion impact the industry's economics and its resulting poor levels of profitability? What are the implications for future trends?

## East-West trades

---

- Dominated by the three axial volume markets
- Rates stable in nominal terms between 1990 and 1995, but falling in real terms . . .
- . . . and sharp falls post 1995 on the Transpacific and Far East trades
- Growth in capacity through larger, lower cost vessels creates market uncertainty and results in competitive rate reduction spiral despite no change in capacity utilisation

## North-South trades

---

- Traditionally low volume markets 'niche' markets . . .
- . . . but have attracted larger new entrant East-West carriers during 1990s resulting in large falls in nominal rates
- Generate higher flow contribution per TEU mile than East-West routes but higher vessel supply costs bring operating margins into line
- . . . but further competition from East-West operators with cost advantages through feeder or further redeployment of larger vessels is likely
- Eventually, through, competition will simply surrender cost improvements through lower freight rates, passing on \$ billions of value in the market to shippers

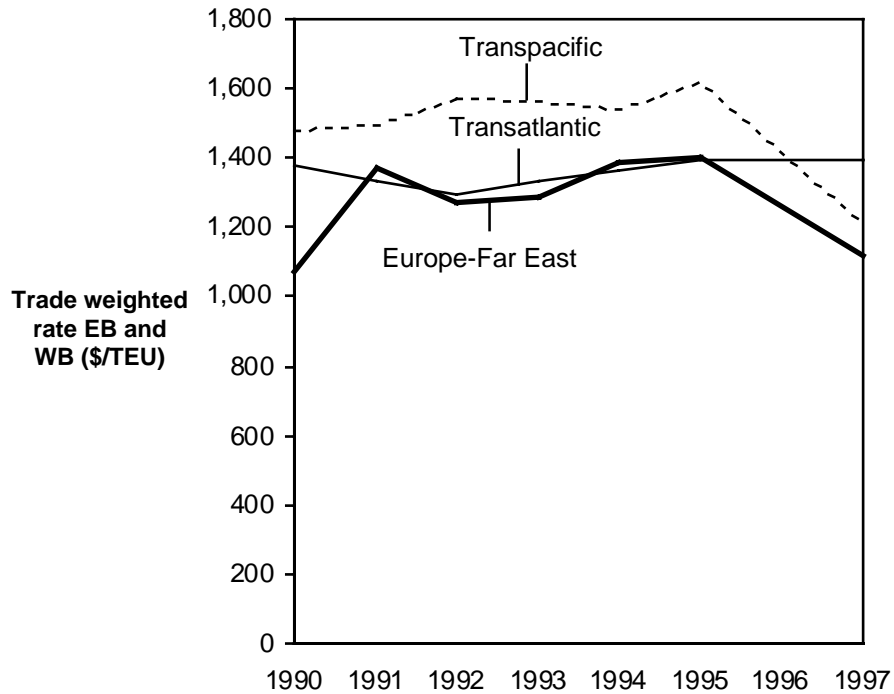


**Rates fall quickly, often in anticipation of lower costs: low cost strategies do not win even in the short term**

**Our analysis indicates the industry's poor economics are driven by its fragmented structure where, despite generally high capacity utilisation, cost improvements are easily copied across the industry and are quickly competed away through lower freight rates.**

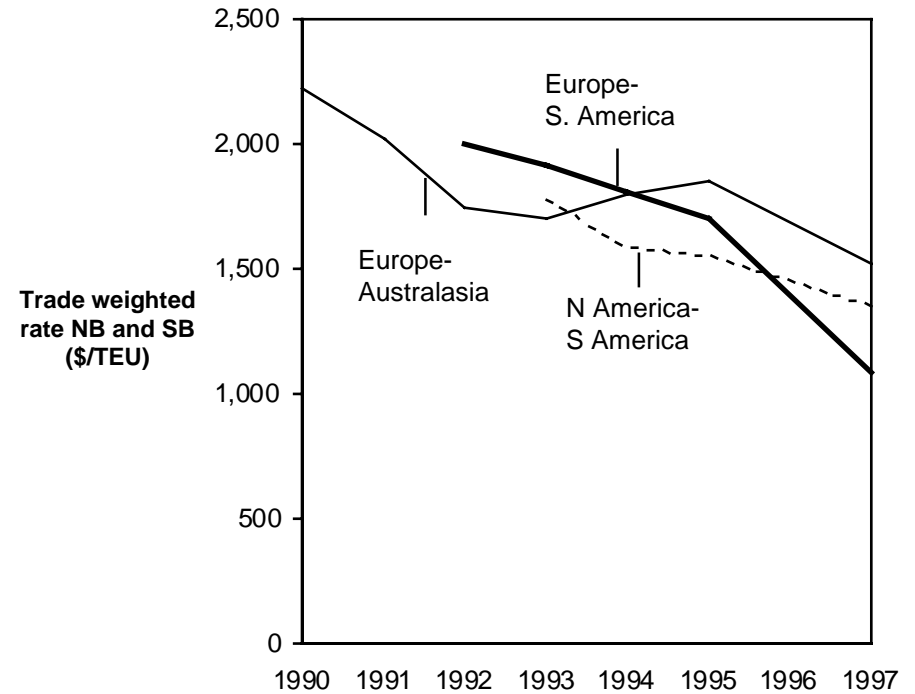
- The industry's fragmented structure allied with competitive strategies focused primarily on cost generates minimal gains for the industry players as opposed to its customers; the latter rapidly reap most of the benefits through lower freight rates
- This pattern continues despite generally high levels of capacity utilisation being maintained in the industry
- The patterns of competition on the East-West versus North-South trades are slightly different, but the trends in rates bear witness to the ultimate surrender of value
- In particular, increasing competition on the traditionally higher revenue per TEU mile North-South trades from larger East-West players pursuing richer pickings is likely to result in the transfer of significant value from liner operators to their customers
- The speed of rate reactions, sometimes even in advance of actually realised cost reductions, suggests that competing on low cost only is not likely to be a winning strategy long term

**Nominal East-West port-to-port 20ft freight rates:  
Trade weighted Eastbound and Westbound**



- Rates flat in nominal terms between 1990-95 but sharp declines on two of the three axials – Transpacific and Europe-Far East in last two years

**Nominal North-South port-to-port 20ft freight rates:  
Trade weighted Northbound and Southbound**



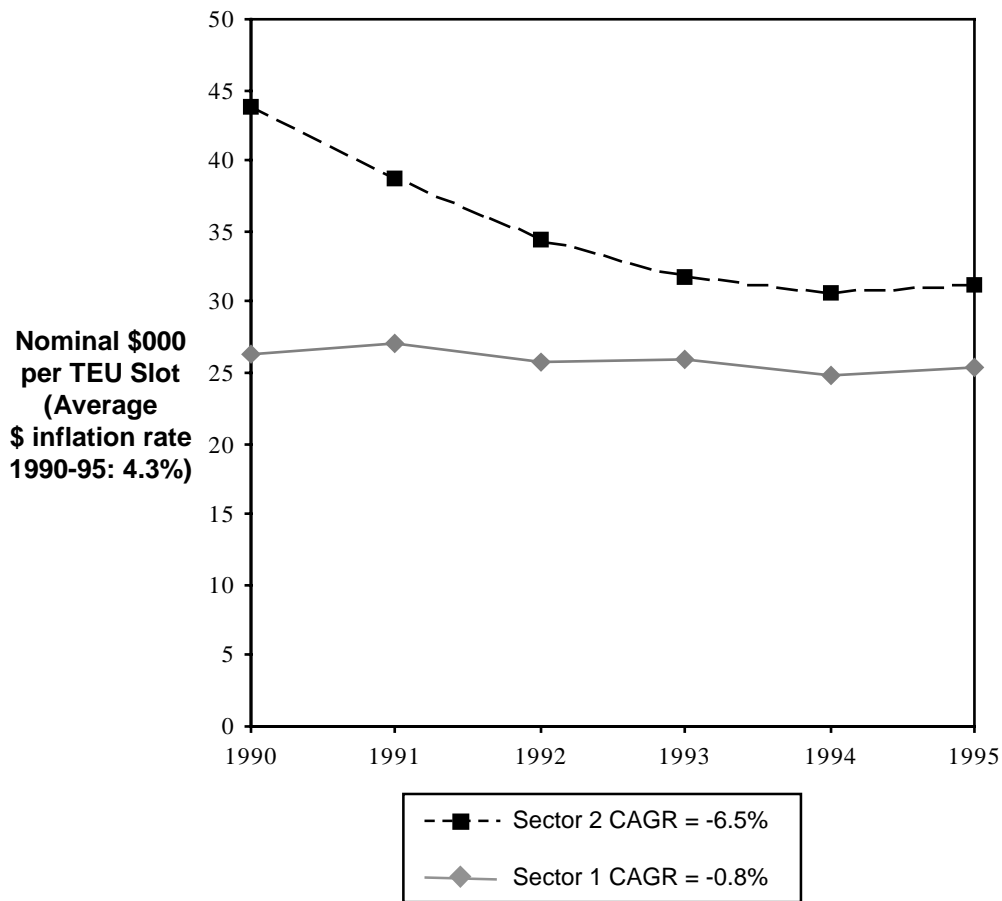
- Nominal declines throughout the period

Source: CI, Press Research, Industry sources, WSTS, Mercer analysis

**The industry has experienced real declines in freight rates across both East-West and North-South trades throughout the 1990s. Recent years have seen sharper declines resulting in falls in nominal terms.**

- East-West rates were flat in nominal terms between 1990 and 1995, but have undergone sharp declines in the Transpacific and Europe-Far East trades in the last two years
- North-South rates have declined more steeply throughout the decade showing a long term decline in nominal terms

### Annual Revenue / Slot Capacity



#### Sector 2: Smaller carriers with larger exposure to North-South niche routes:

- Some erosion in North-South capacity utilisation
- Nominal declines in North-South freight rates
- Marked decline in nominal revenue/slot capacity

#### Sector 1: Large volume carriers with main business on East-West routes:

- Stable East-West capacity utilisation
- Stable nominal East-West freight rates
- Proportionately adding more higher-rated north-south traffic to their mix
- Fairly stable nominal revenue/slot capacity

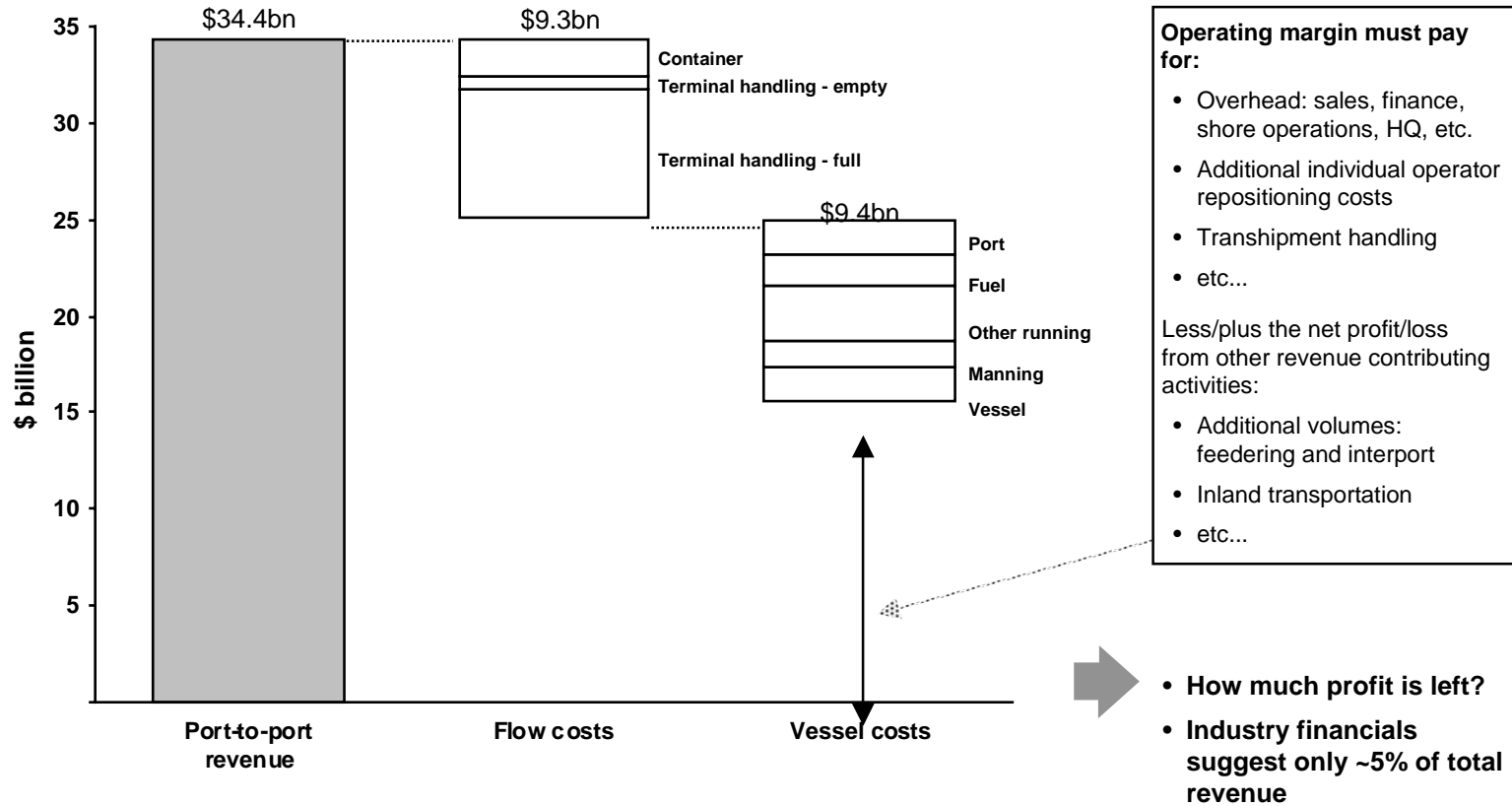
Note: n = 32

Source: CI, Worldscope, Annual Reports

**Different freight rate and capacity utilisation trends and mix explain the markedly different trends in revenue slot/capacity between Sector 1 and Sector 2 carriers.**

- The sharper falls in North-South rates together with the greater erosion in capacity utilisation seen on these routes explains the sharper fall in revenue per slot of capacity experienced by Sector 2 carriers
- The top twenty Sector 1 players are focused more on East-West trades, where freight rates have declined less dramatically and capacity utilisation has been quite stable
- In addition, Sector 1 players are proportionately adding more higher-rated North-South traffic to their mix. The combination of these factors has led to remarkably stable revenues per slot of capacity, at least in nominal terms

## 1995 P&L of the Nine Trade Routes (\$bn)

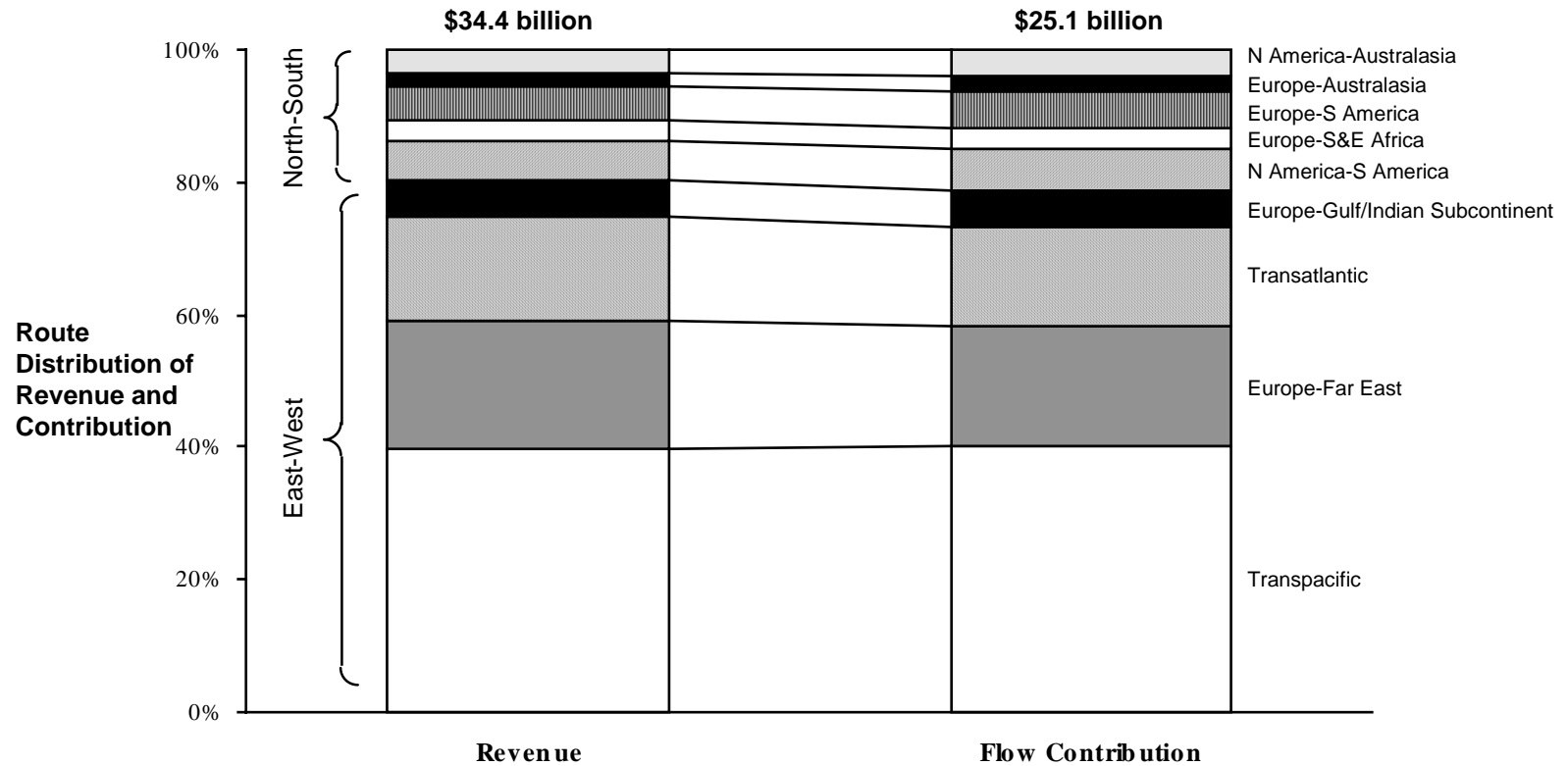


Source: WSTS, LMIS, Mercer Analysis

### **To gauge the impact of capacity utilisation and freight rate trends, we need to focus on the underlying port-to-port economics.**

- In the economics of port-to-port activities, costs divide into two main areas: flow costs associated with the movement and handling of containers to service trade demand; and vessel supply costs associated with running the vessel network on which the containers are carried
- At the aggregate level, each of these cost areas represents about 27% of port-to-port revenues on the nine trade routes leaving an operating margin of 46% which must pay for additional costs associated with overheads, transshipment, etc. net of any additional contribution or loss from other business activities, e.g. inland, interport cargos, etc.

## Total Revenues and Contributions for the Nine Routes



Source: WSTS, Mercer Analysis

**The East-West routes are volume markets accounting for 80% of revenue and flow contribution. The smaller North-South trades have, traditionally, been more niche markets.**

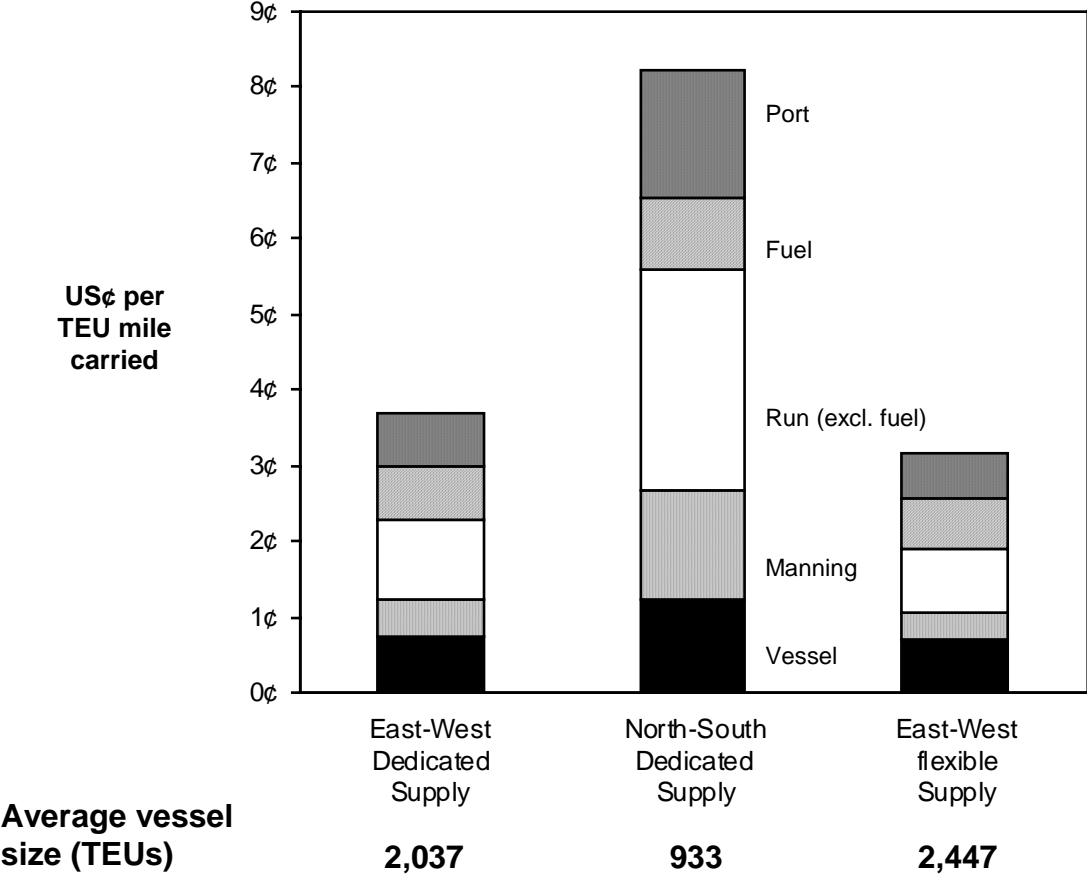
- The East-West trades are dominated by the three high volume axial routes, accounting for around 80% of revenue on the nine routes studied.
- The smaller volume North-South trades have, traditionally, been more niche markets often operated by smaller specialist North-South carriers
- Flour contributions of the North-South trades are proportionately somewhat higher



## **North-South trades continue to generate a higher unit flow contribution than East-West trades...**

- Revenues per TEU mile are almost 50% higher on North-South trades, while flow costs are only 15% higher
- This leaves a contribution per TEU mile of 24¢ for North-South trades versus only 16¢ for East-West trades

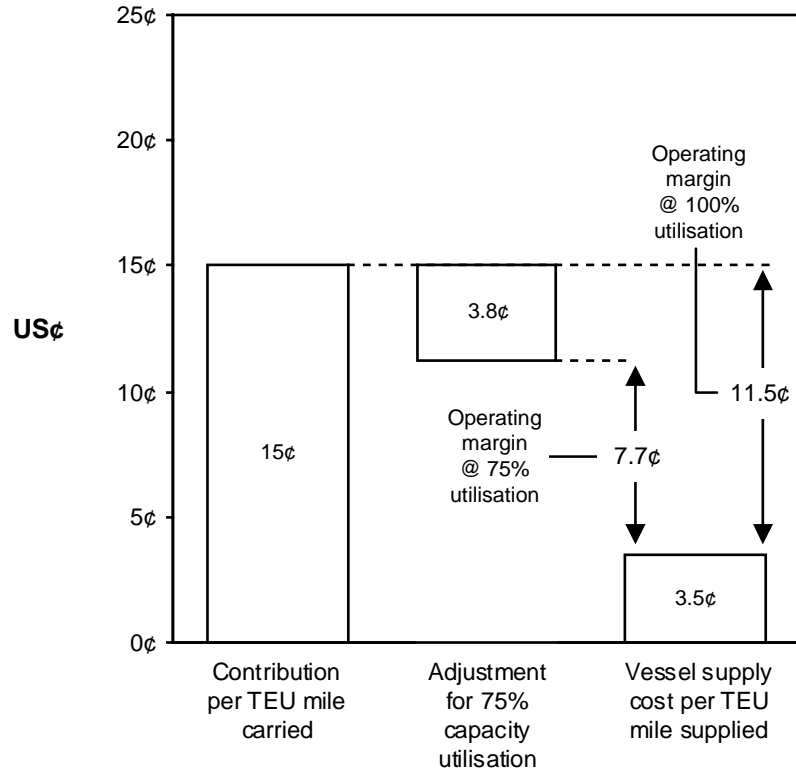
### Vessel Supply Costs per TEU Mile Supplied (1995)



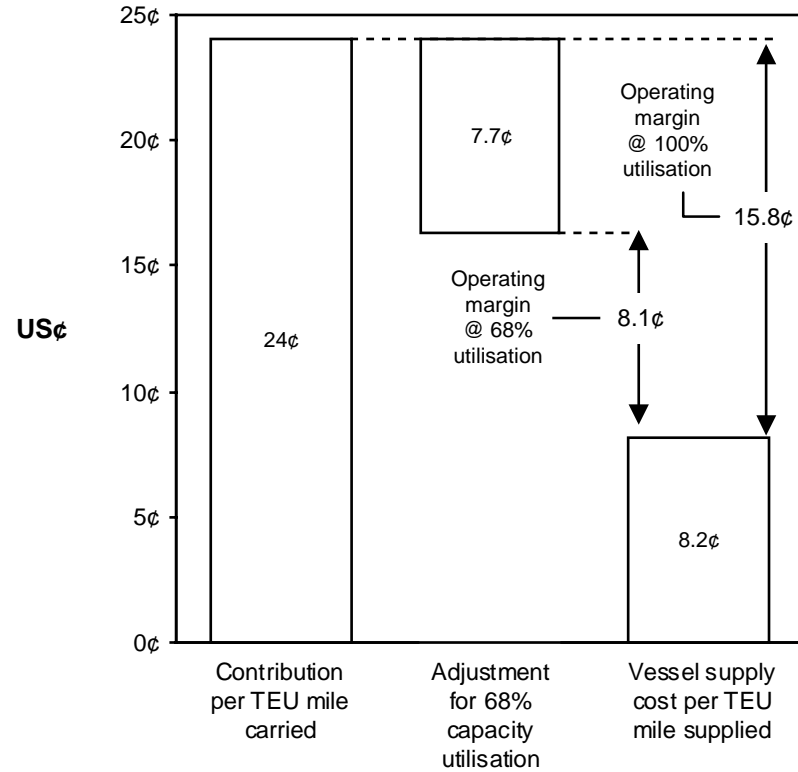
**... but North-South services have a higher unit vessel supply cost than East-West services largely due to differences in the size of vessels operated.**

- The average vessel size on North-South trades is under 1000 TEU, versus well over 2000 TEU for East-West trades. This is the major driver of the differential in vessel costs (8¢ per TEU mile carried N/S versus 3-4¢ East-West)
- In addition, vessel port fees are relatively higher on North-South trades

**East-West Operating Margin  
per TEU Mile Supplied – 1995**

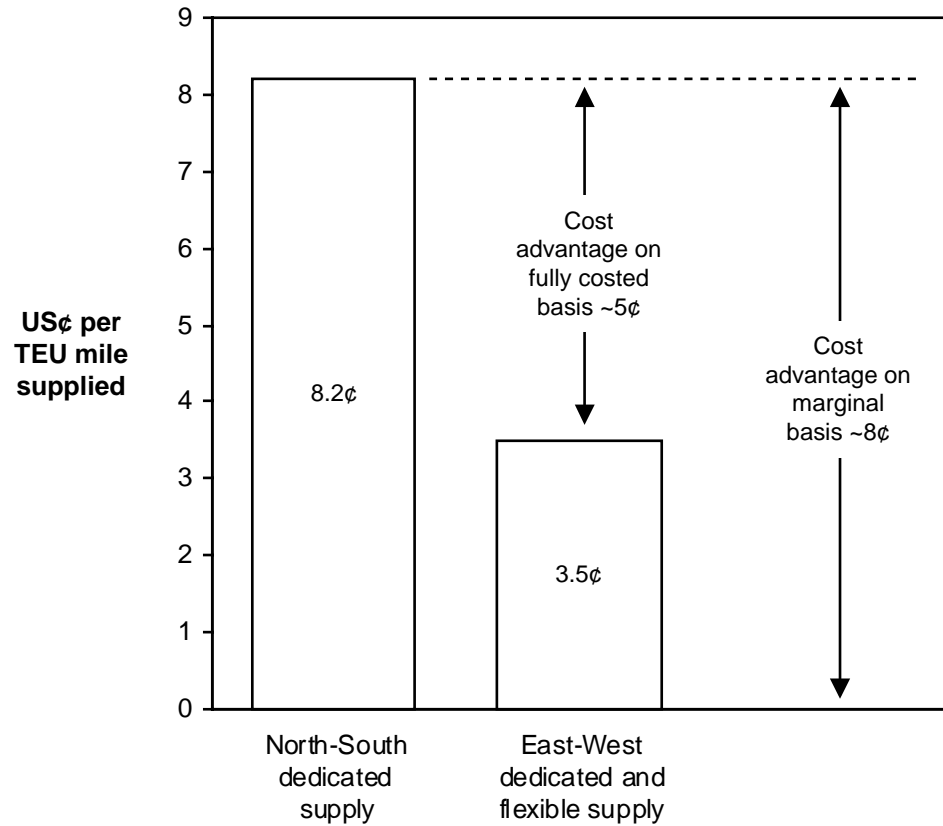


**North-South Operating Margin  
per TEU Mile Supplied – 1995**



**Per TEU mile operating margins on North-South and East-West services are comparable.**

- The combined effect of differences in flow contribution, vessel supply cost and capacity utilisation results in roughly comparable unit margins (per TEU mile):
  - Flow contributions on N/S trades are much higher...
  - ...but vessel supply cost differentials offset that...
  - ...and lower utilisation levels on N/S trades “close the gap”.
- But this does not imply a stable competitive situation between traditional North-South incumbents and new East-West entrants on the North-South trades

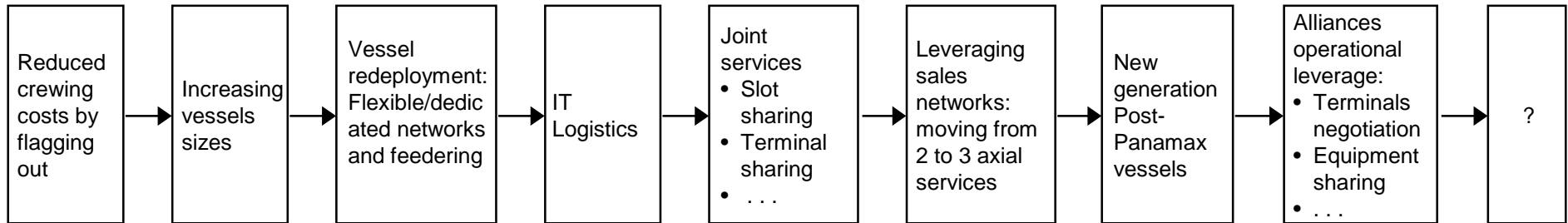


**Cost advantage pays for additional handling and feeding costs to convert East-West service into competitors for North-South trade flows**

### **North-South trades are still vulnerable to further cost competition from East-West players which will inevitably lead to further rate erosion rather than improved profitability.**

- The large cost differential between North-South and East-West supply means that North-South trades will continue to be vulnerable to further competition from East-West carriers
- Competition may come from feeder networks linking to East-West services being priced on a fully costed or, possibly, marginal basis
- Alternatively, the deployment of even larger vessels on East-West routes may result in the knock-on redeployment of relatively larger vessels on North-South trades by East-West carriers
- Although East-West carriers will certainly be tempted to attack the relatively richer pickings on North-South trades with lower costs, the highly fragmented competition will in all likelihood result in lower freight rates
- A 20% erosion in rates would imply carriers surrender well in excess of \$1 billion of value to their customers

## Past, present and future cost initiatives

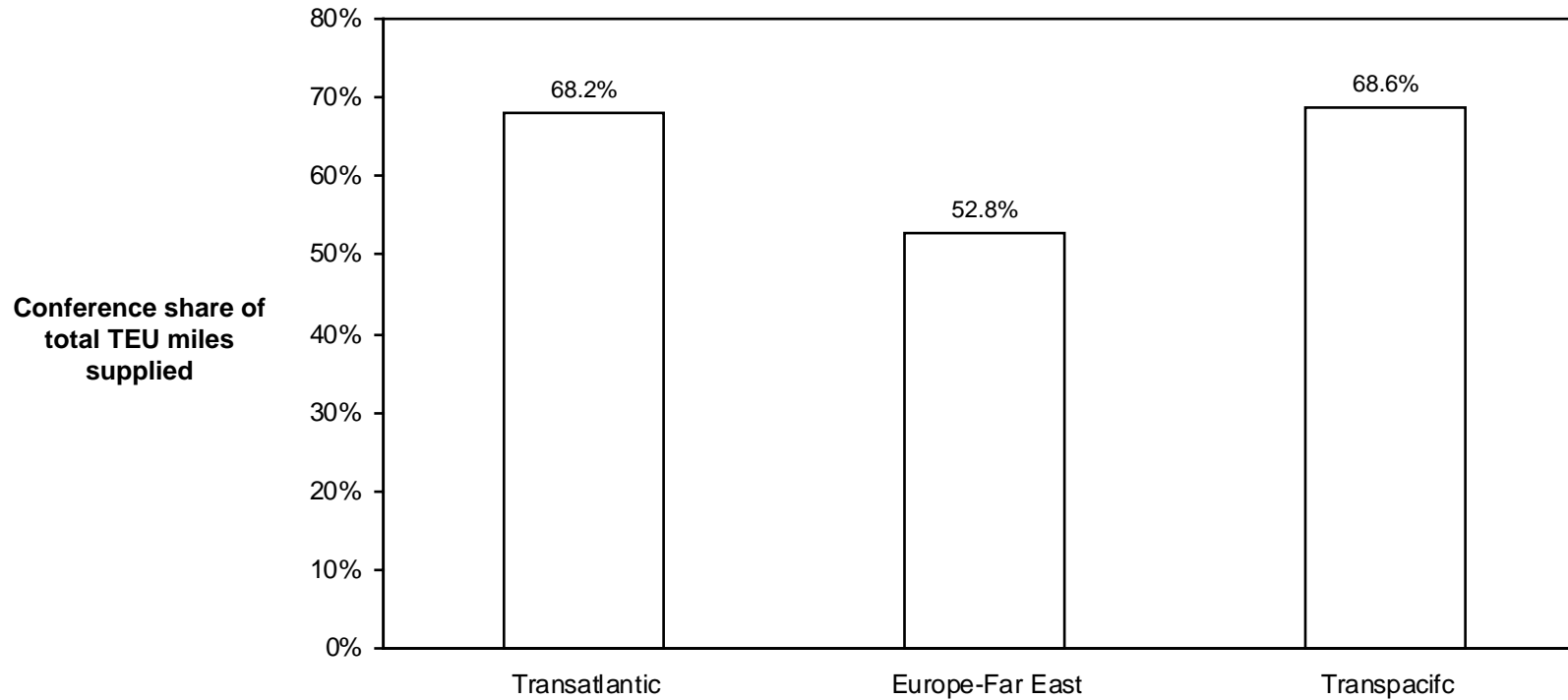


- **Despite a history of continued cost improvements industry returns have remained poor**
- **Although cost gains may be necessary for survival, continued focus on cost alone will not result in a return to higher profitability**

**Cost initiatives do not solve the industry's problems. The nature of competition results in the gains being quickly surrendered through freight rate concessions – often in anticipation of their realisation.**

- The history of competition and rate declines on North-South trades highlights the industry's fundamental economic problem. Easily copied cost reduction initiatives combined with intense competition amongst many players results in cost gains quickly transforming into freight rate declines
- The industry today continues its cost focus - but to date all these initiatives have not translated into higher levels of profitability

### 1995 Conference share of supply on the three axial trades



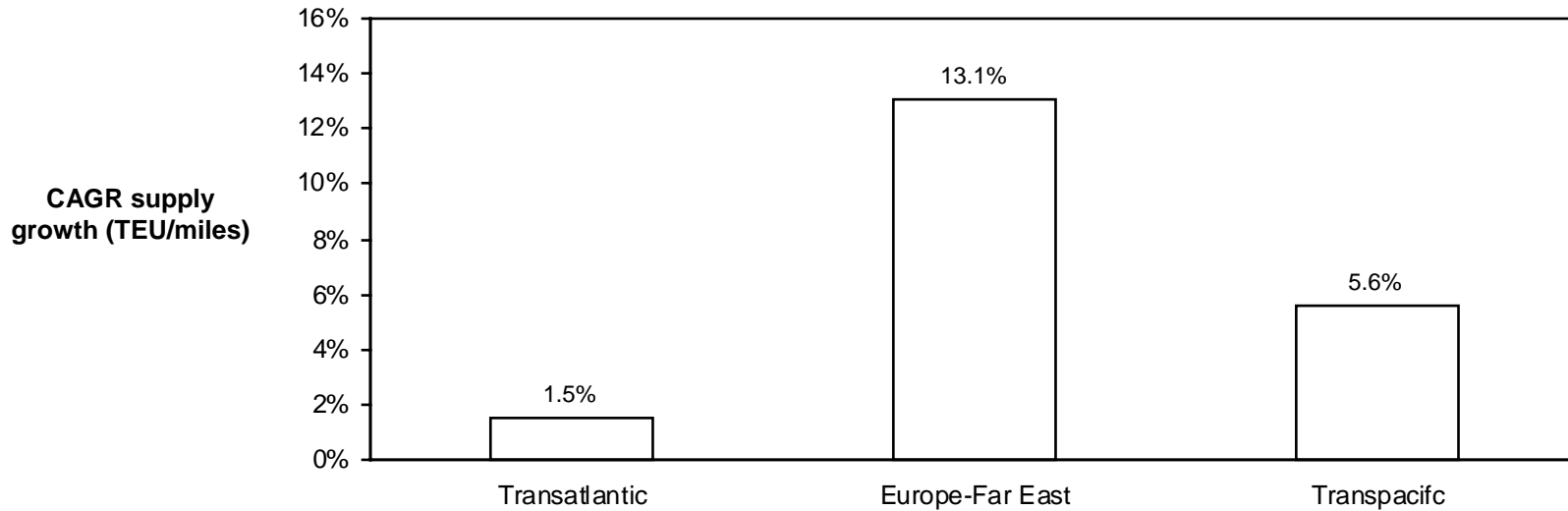
**The recent greater stability of Transatlantic rates versus those on the other two axials is not obviously explained by the relative share of the conference on each route**

Source: LMIS, Mercer Analysis

**Conferences were the industry's traditional approach to controlling rate erosion, but despite retaining a significant share of supply on each East-West axial trade, they appear to have had little impact in arresting recent rate declines.**

- The relative stability of the Transatlantic's rates versus the other two axial routes is not clearly explained by the conferences' relative share of capacity
- Even though the TACA arrangements between carriers on the Transatlantic may have gone further than other conference agreements, we believe the true source of rate stability probably lies as much in the "psychology" of the trades (i.e., the extent to which carriers anticipate in their rate actions on (perceived) competitor initiatives)

### 1990-95 growth in supply on the three axial trades<sup>(1)</sup>



**Avg vessel size (TEU)**

	Transatlantic	Europe-Far East	Transpacific
1990	1,415	1,539	2,032
1991	2,038	2,574	2,695

**Post 95**

- |  |  |   |
|--|--|---|
| <ul style="list-style-type: none"> <li>• New entrants focus more on slot sharing than new vessels</li> <li>• Smaller higher cost vessels</li> <li>• Market stability, price stability</li> </ul> | <ul style="list-style-type: none"> <li>• High capacity growth and continual drive to lower cost, larger vessels... currently moving to Post Panamax</li> <li>• Anticipatory rate cutting spiral</li> </ul> | <ul style="list-style-type: none"> <li>• High capacity growth and continual drive to lower cost larger vessels – either new or redeployed from Europe-Far East</li> <li>• Anticipatory rate cutting spiral</li> </ul> |
|--|--|---|

Notes: (1) Estimate based on allocation of flexible and dedicated supply to individual trades provides estimate of relative rather than absolute level  
 Source: LMIS, Mercer analysis

**The more stable rates on the Transatlantic are explained by greater market instability on the other two axials caused by the uncertainty of higher capacity growth combined with a drive to lower cost tonnage.**

- A comparison of the Europe-Far East and Transpacific axials with the Transatlantic shows the former continue to see much higher rates of increase in capacity combined with a drive to invest in tonnage with lower per TEU operating costs. These trends have increased in the last two years with the emergence of Post-Panamax vessels
- Uncertainty associated with the potential introduction of new lower cost supply appears to cause market instability, leading to anticipatory rate cutting in advance of actual deployment
- Operators claim these cuts are made to “maintain utilisation targets”. However, in practice operators agree utilisation has remained high on all East-West trades
- The rate cutting spiral appears to be simply the consequence of instability caused by highly fragmented, cost-based competition in a commoditised market
- The lack of rate declines on the Transatlantic route probably reflects the current greater stability of supply on that route, rather than the relative strength of the conference

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- Against a background of continued poor profitability, operators have tried many things to improve their business economics. But these have focused mostly on cost reduction
- We have reviewed our findings with a cross-section of carriers covering both Sector 1 and Sector 2 players and discussed their current responses to the industry's position
- A key question we attempted to answer is: "Are they doing anything different today?"

## Individual Carrier level

## Industry level

### Cost/Operational

- Vessel supply
- Overhead
- Flow costs
- Inland



**Still primary focus of operators' response. Now moving to address some other parts of the value chain ... but is focus sufficient?**

### Revenue/Customer

- Logistical marketing
- Customer segmentation/tailored services
- Sales channels



**Limited progress. Initiatives have suffered versus industry's main cost focus**

### Collective action

- Traditional approaches
  - Conferences
  - Shipowner lobbying efforts
- Uncertainty around future regulatory framework
- New approaches via
  - Joint services?
  - Alliances?

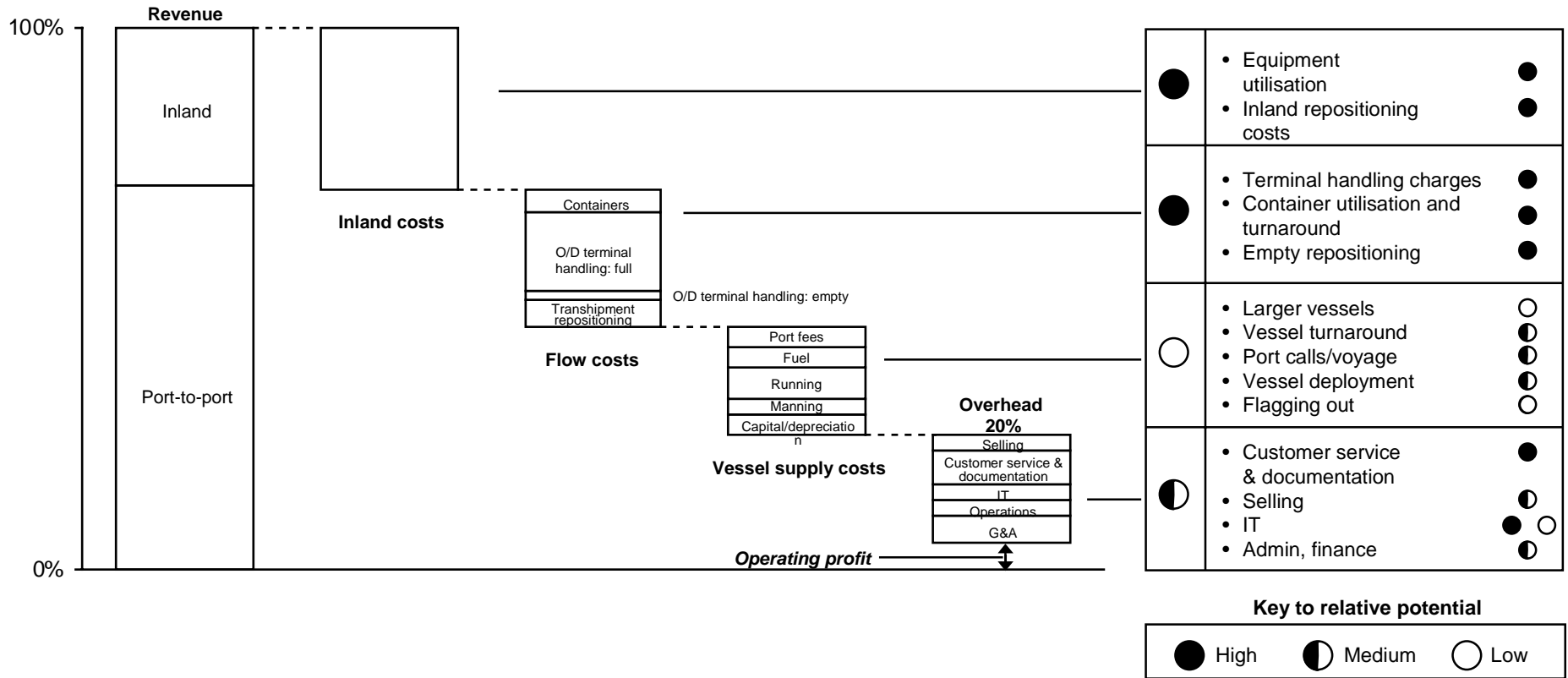


**Industry remains pessimistic about potential success**

### **Operators remain primarily focused on cost reduction.**

- Operators' responses divide into individual actions at the carrier level and collective actions at the industry level
- Our findings show that carriers today still remain primarily focused on individual cost-driven operational initiatives. Other areas of the value chain are now being addressed but the central cost reduction objective is paramount
- Limited progress has been made in the area of revenue or customer-focused actions which appear to have suffered in comparison to cost initiatives
- Carriers remain pessimistic about the prospect of industry level actions: little is expected from traditional approaches and nothing new has yet emerged to supersede them. There are also some concerns about the impact of future regulatory changes

## Guide to Current Industry Cost Structure<sup>(1)</sup>



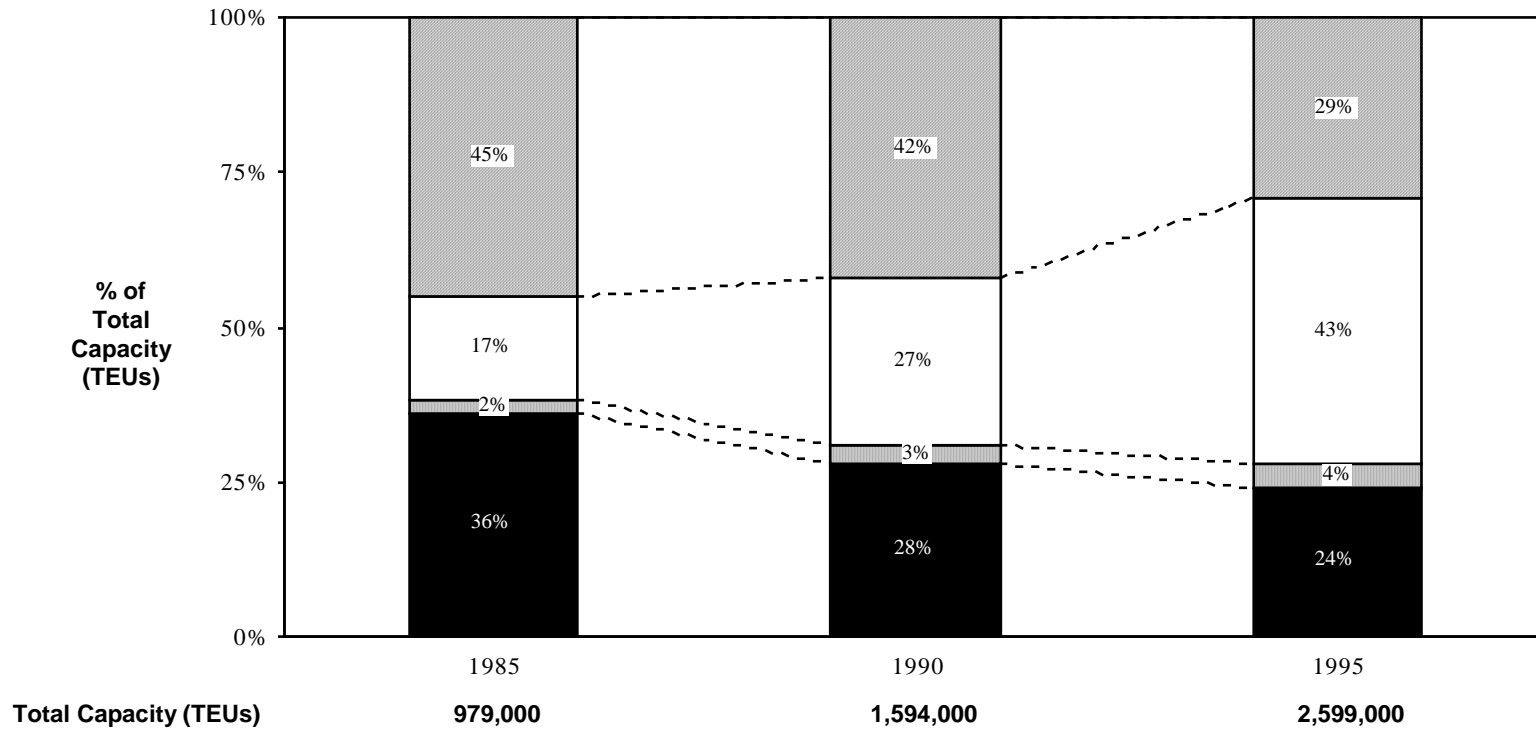
**To date significant gains have been made in vessel supply costs, but the potential for future progress in this area appears more limited**

Note: (1) Illustrative cost structure, representative for a Top-20 container line with significant intermodal activity  
 Source: LMIS, WSTS, Industry Sources, Mercer Analysis

### **Cost reduction initiatives are now moving on to address new areas of the value chain.**

- To date significant gains have been made in the area of vessel supply, but future potential in this area appears more limited
- The areas most strongly in focus are flow costs and inland costs (where door-to-door services are provided)
- 'Overhead' activities which include all staff functions supporting and feeding the system – Sales and service, IT, Operations and Administration – are also receiving closer attention

### Flagging Development for All Container Vessels 1985-1995

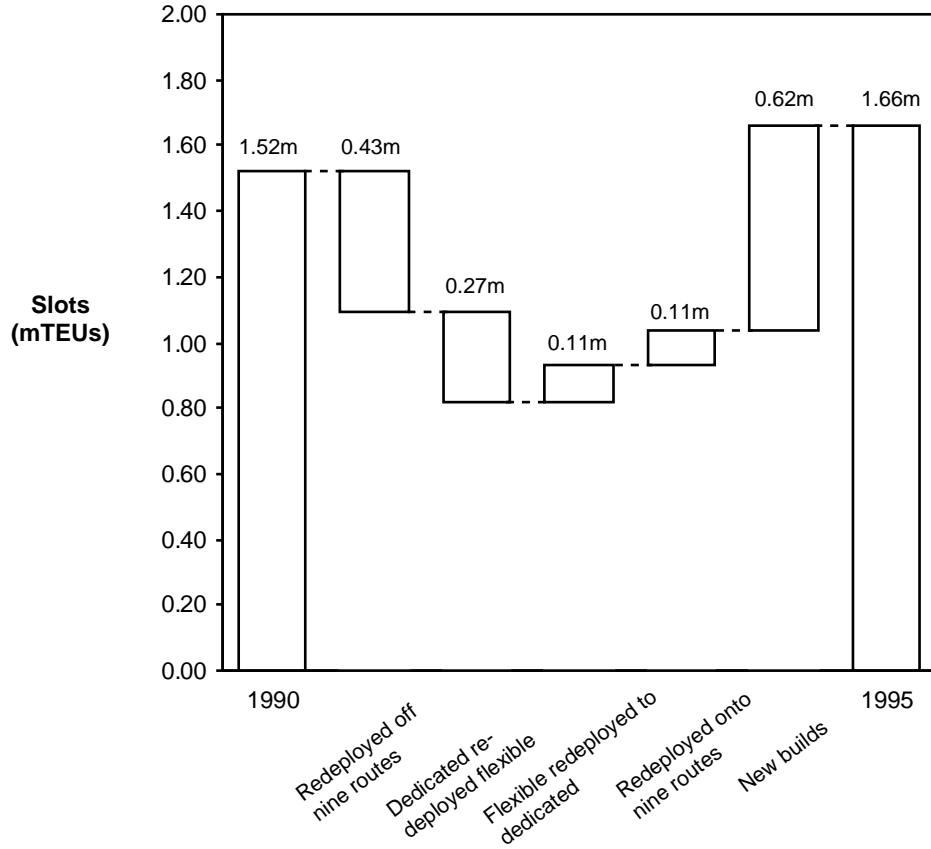


Source: LMIS, Mercer Analysis

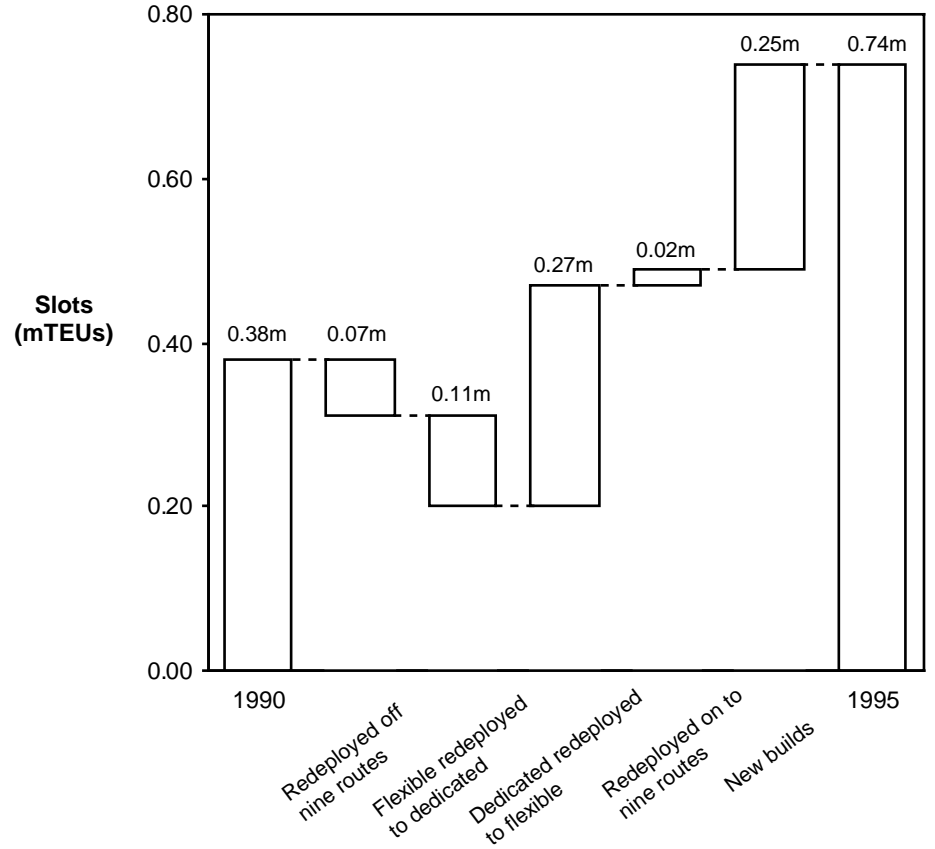
**Over the last ten years significant crewing cost savings have been made through flagging to open (and secondary) registers.**

- Over 40% of the world container fleet operates under Open Registry today
- Given the extent to which world container fleets are flagged out already, the potential for further cost gains is limited

**Changes in Dedicated Vessel Deployment  
1990-1995 on the Nine Routes**



**Changes in Flexible Vessel Deployment  
1990-1995 on the Nine Routes**



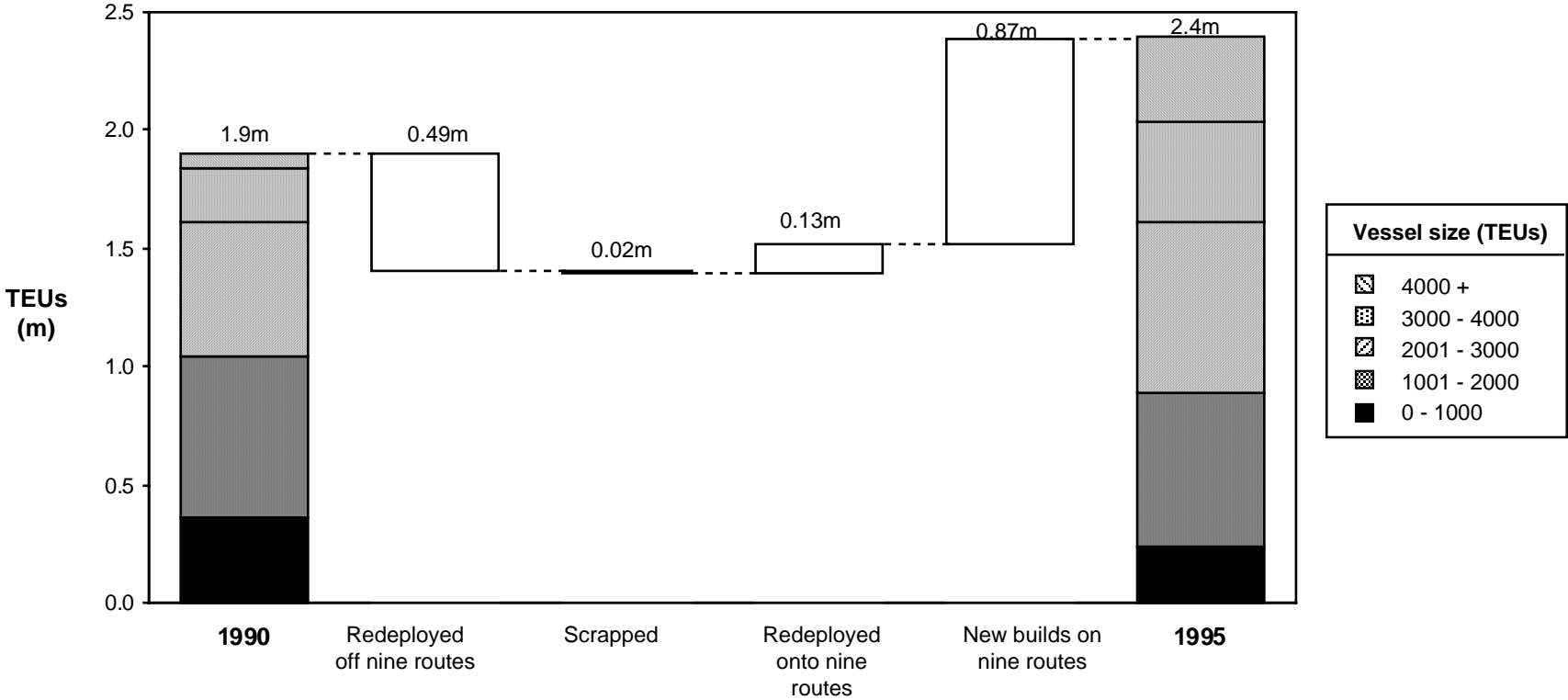
Source: LMIS, Mercer Analysis

### **The vessel supply network has already undergone significant redeployment in its pattern of operation...**

- Between 1990 and 1995 at least half of the fleet in operation at the start of the period<sup>(1)</sup> was significantly redeployed, by a switch between trading areas or by moving from dedicated to flexible deployment or vice versa
- While dollar impact of these redeployments is hard to quantify, it is clear operators have paid particular attention to asset optimisation

Note: (1) At least, since we did not include switches between the nine routes, only away or to the nine routes as a whole.

### Redeployment of Slots and Impact of Vessel Sizes on the Nine Trade Routes.



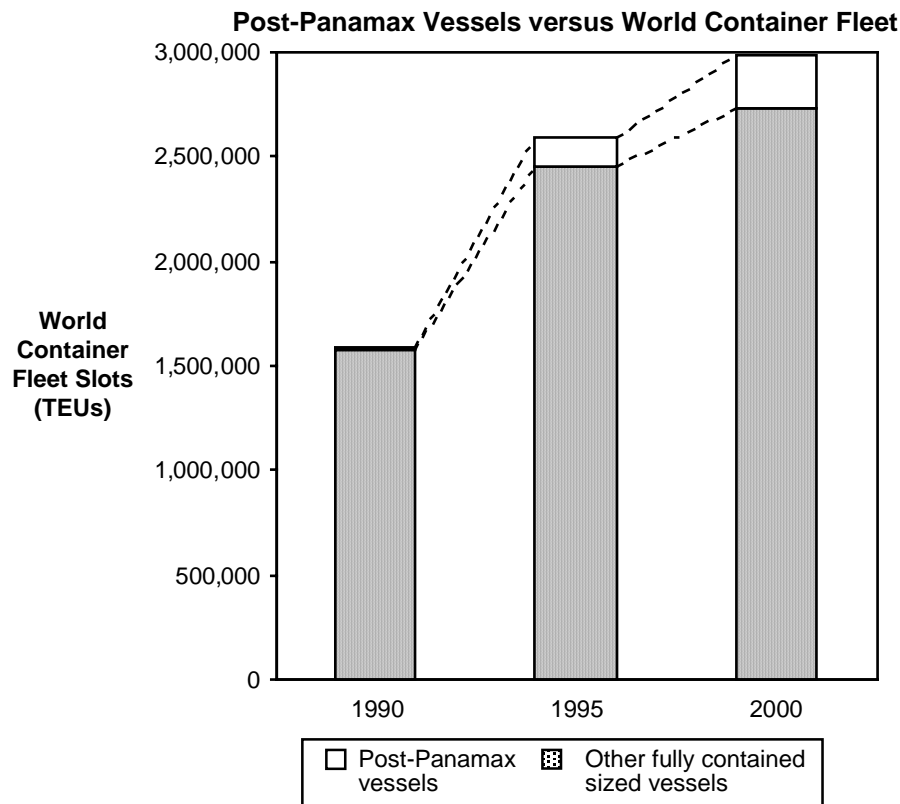
<b>Number of vessels</b>	<b>1,609</b>	<b>1,413</b>
<b>Average vessel size</b>	<b>1,205</b>	<b>1,739</b>

Source: LMIS, Mercer Analysis

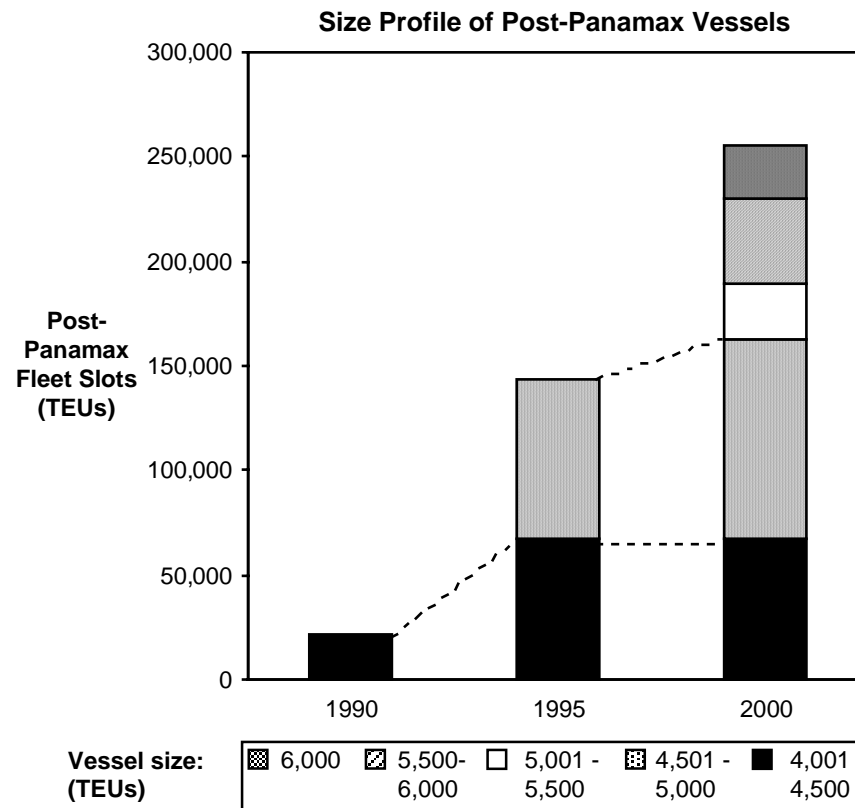
**... and seen significant redeployment of slots resulting from the trend to lower-cost larger vessels.**

- Operators have made significant changes to the size portfolio of vessels on the nine routes: the proportion of 3000+ TEU vessels has increased to one third in 1995, up from less than one fifth in 1990
- Consequently many costs have already been squeezed out of the vessel supply network

**Post-Panamax vessels are now rapidly increasing their share of slots in the world container fleet ...**



**.. following a breakout in vessel sizes**



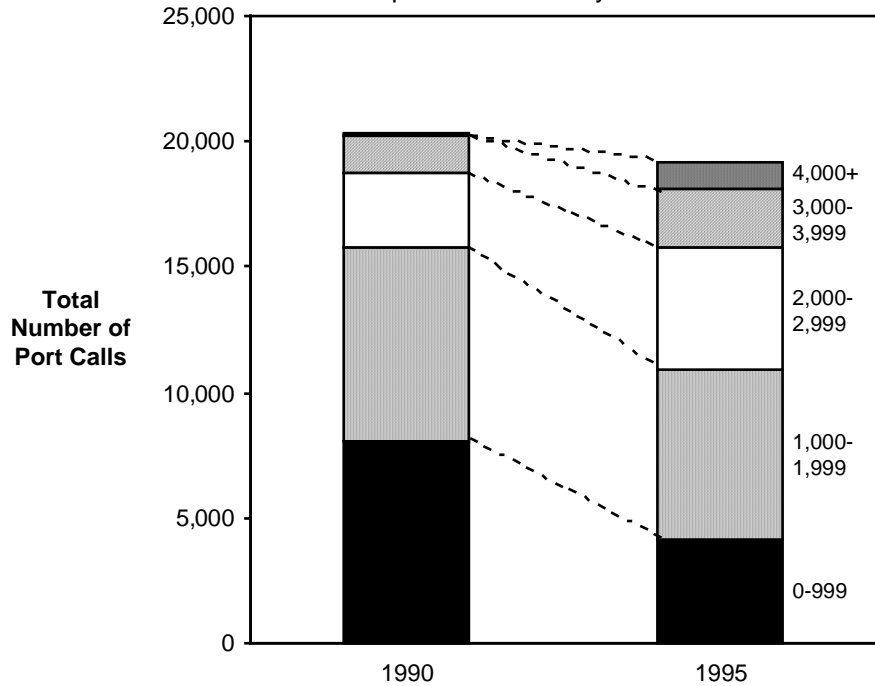
Source: LMIS, Mercer Analysis

### **The cost advantages of Post-Panamax vessels have led to the current sharp increase in the size of vessels.**

- Post-Panamax vessels are currently deployed on the Europe-Far East and Transpacific dedicated services
- A 4,500 TEU vessel has a ~25% vessel supply cost advantage, vs the 1995 fleet averages on these services
- Larger vessels may achieve as much again
- More cost savings might be achieved through the introduction of more and ever larger vessels, although the effect on capacity utilisation (and the psychology of rate making!) might be even more dramatic

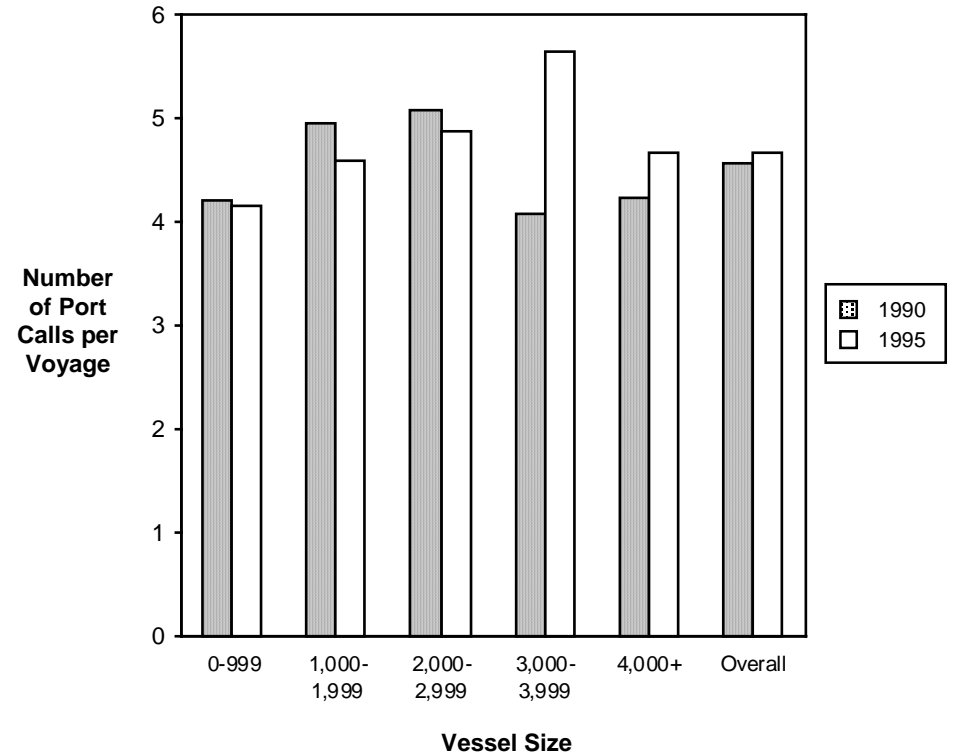
**Larger vessels are increasing their share of port calls...**

Total European Port Calls by Vessel Size 1990-1995



**... and increasing rather than reducing their number of calls per voyage**

European Port Calls/Voyage by Vessel Size 1990-95

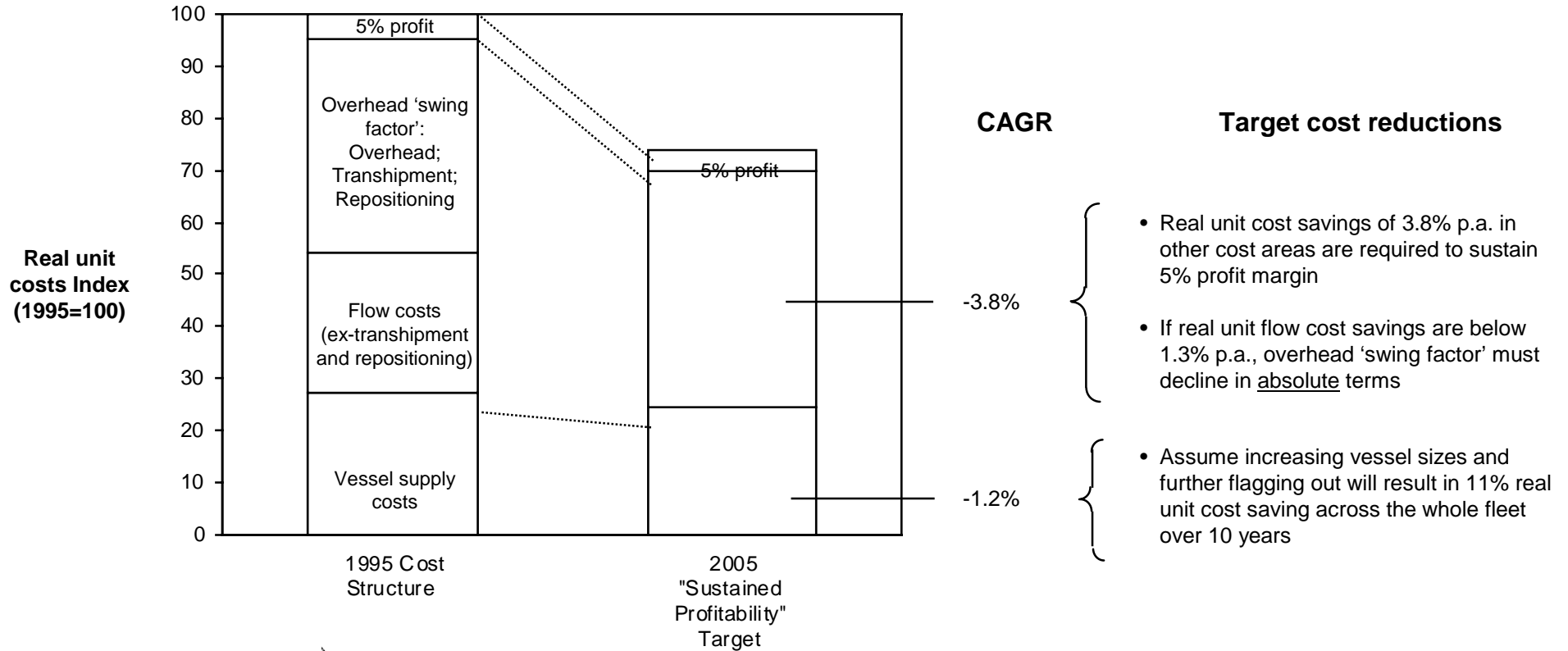


Source: LMIS, Mercer Analysis

**New limits to the future size and population of larger vessels are being imposed by the constraints of needing to fill them. Opportunities for other cost savings – decreasing the number of port calls per voyage and improving vessel turnaround – are reduced.**

- The constraints of needing to fill larger vessels inevitably restrict them to certain markets and reduce the opportunity for other vessel supply cost initiatives. In Europe, larger vessels are actually increasing calls per voyage
- The practical vessel supply cost reductions achievable across the whole industry will be significantly less than suggested by simple direct Panamax versus Post-Panamax vessel comparisons

## 10 year unit cost reduction targets



### 10 year industry development scenario 1995-2005 assumptions:





- Demand volume growth = 6.4% p.a.
- Capacity utilisation maintained at 1995 levels
- Real freight rate erosion = -3% p.a.
- Fleet deployment mix E/W versus N/S as per 1995

Source: LMIS, WSTS, Mercer Analysis

**Under the assumption of continued real port-to-port freight rate declines of 3% p.a. and vessel supply now accounting for only 27% of total port-to-port revenue, operators need to achieve major cost reductions outside the area of vessel supply just to maintain current profitability.**

- Practical cost reduction in the area of vessel supply alone cannot even sustain the present day low levels of profitability
- Cost reduction in other areas is therefore essential
- The overhead “swing factor” will have to account for the bulk of future savings, particularly if flow cost savings (terminal handling and box equipment) are low

## Carrier feedback: Overhead cost areas

Selling	Customer service and documentation	IT	Administration and finance
<ul style="list-style-type: none"> <li>• Some carriers are pursuing policies to bring third party agents in-house to have “better control over costs”</li> <li>• ...but others are sceptical of likely cost savings</li> <li>• Further automation may reduce need for direct selling calls and support through better pricing and logistics information</li> <li>• ...but others believe it difficult to rationalise front line sales</li> </ul>	<ul style="list-style-type: none"> <li>• Service and documentation is a heavy cost burden</li> <li>• IT solutions have not resolved situation</li> <li>• Some limited attempts to outsource documentation by passing greater burden onto third party agents</li> <li>• ...or divert some business through other channels, e.g. freight forwarder to pick up documentation</li> </ul>	<ul style="list-style-type: none"> <li>• IT development remains a very high ongoing expense</li> <li>• True cost is often hidden as significant costs are capitalised</li> <li>• Some see major further IT expense as inevitable in order to rationalise staff numbers and costs in other areas</li> <li>• Others see uncertain benefits from IT to date and question wisdom of much future spending</li> </ul>	<ul style="list-style-type: none"> <li>• General reduction likely particularly in administrative non-business functions</li> <li>• Some firms are relocating head office functions to cheaper, regional locations</li> </ul>
			
<p><b>Some savings possible but concern over impact on ‘shop window’. Carriers highly reluctant to share function with others</b></p>	<p><b>Large cost area with unresolved cost reduction problems</b></p>	<p><b>Opinions sharply divided but potentially a ‘black hole’</b></p>	<p><b>Some savings dependent on operators’ specific situation</b></p>

Source: Industry Sources, Mercer Analysis

### **Some operators have started to tackle overhead costs but potential remains for significant further savings. The outcome of the P&O-Nedlloyd merger is being closely watched.**

- Some initiatives to reduce front line selling costs are being pursued but carriers remain reluctant to change the shop window lest it impacts their market presence. The idea of combining sales operations with other partners in any way is not seen as a way forward
- All carriers recognise that customer service and documentation remains a major cost burden despite large investments in IT. Most carriers continue to struggle in this area
- IT remains a very high ongoing expense, especially when capitalised costs are included. Some carriers see no alternative to continued high levels of spending in order to reduce costs elsewhere in the business, but others question the continued wisdom of this approach in the light of the uncertain benefits achieved by IT spending to date. IT is a potential 'black hole.'
- Administrative functions are another area for future cost reductions. Carriers with head offices located in expensive parts of the world are looking to relocate some activities to less expensive locations
- The true potential in the area of overheads is unclear to many firms. The outcome of the P&O-Nedlloyd merger is being closely watched

## Carrier Feedback: Flow Cost Initiatives

### Terminal handling

- While the sea portion of port-to-port rates has fallen, Terminal Handling Charges have seen little change despite large increases in volumes
- Carriers' negotiating position with ports may be improved by collective partnership actions
- ...but trend to larger vessels may reduce port options



**Potentially large savings will encourage carrier pressure on ports**

### Empty repositioning

- Flow imbalances requiring empty container movement across ocean or within continental regions remains major cost issue for operators
- Flow management is key area of action:
  - Point-to-point cost systems which take account of return flow
  - Logistical marketing which sets prices and targets customer/geographies to improve imbalance



**Recognised as important but individual operator imbalances remain sizeable versus aggregate optimum**

### Container utilisation

- Box management and turnaround being addressed through tracking systems
- Real gains can only be made if controlling door-to-door movements
- Reduce empty repositioning problem through equipment sharing with partner carriers



**Equipment sharing largely remains idea rather than reality. Contention between separate marketing arms may hinder realisation**

### **Flow cost reduction is a key focus for all operators. Much remains to be done.**

- Initiatives are being pursued in three main areas
- Ports' terminal unit handling charges have remained steady while sea rates have fallen and volumes have risen. Carriers see significant potential in forming larger, more powerful buying groups to negotiate with ports for lower rates
- The repositioning of empty containers across ocean or within continental regions remains a major cost. Combined IT and marketing actions are being attempted to reduce flow imbalances. Nevertheless, individual operators still have sizeable imbalances versus the aggregate optimum
- Container utilisation is being tackled. But major improvements require not only better box tracking systems but also control over inland movements, which non-door-to-door operations are unable to deliver. Carriers hope that equipment sharing with partners will produce major gains, but this approach is largely unproved and may be hindered by contention between the demands of partners' separate sales and marketing arms

**The role of door-to-door services in operators' business strategies impacts their attitude to inland activities**



**But they share many common operational issues and are focusing on similar cost initiatives**

Few operators claim to currently make money from inland transportation. But their attitudes to inland divide into two clear camps

Inland transportation is an integral part of operator's fully integrated transportation logistics strategy. More investment in inland services will be made

Need to offer inland services to win customers for core sea transportation business. Invest to manage inland costs

- Need to reduce number of vehicle movements
  - Improved box tracking
  - Box sharing with partners
- Make greater use of lower cost and/or lower congestion modes with improved transit times or reliability, i.e., rail or barge services. Improved inland communications may allow further cost reduction through rationalisation of port calls
- Reduce costs through group buying of land services with other partners

### **Operators are still wrestling with how to reduce costs in their inland operations.**

- Few operators claim to make any money out of inland operations but they divide into two groups as to their views on the future role that inland will play in part of their business
- Some among the larger lines see inland as an integral part of their full transportation service strategy, whereas others see inland as a necessary add-on service to win volume for their primary business of sea transport
- Nonetheless, both groups appear to share many common operational issues and are focusing on similar cost initiatives: reducing vehicle movements; making greater use of lower cost/congestion modes (links to port call rationalisation); group buying of services



- Slot sharing reduces vessel supply cost associated with more frequent service
- Terminal sharing...
- ...but limited other equipment sharing

- Attempt to form large, powerful buying groups versus:
  - Ports
  - Inland services
- Initiatives to realise potential of equipment sharing
- ...but separate sales and marketing will cause contention

- Will allow significant further attack on overheads, especially in sales and customer service/documentation
- Full financial pooling will eliminate P&L contentions and free up obstacles to other cost savings

Source: Industry Sources, Mercer Analysis

### **Operators' partnering developments are successively attempting to tackle more cost areas.**

- Partnering between operators is moving from joint services through alliances to full mergers with ever widening ambitions of cost areas to tackle – although with mixed results
- But the overall sufficiency of cost focus as a solution to the industry's profitability problems must remain in doubt
- Significant savings need to be realised just to stand still and history continues to show that the industry's cost gains are quickly surrendered to its customers

## Carrier Feedback: Customer / revenue initiatives

### Logistical marketing

- Cost reduction driven approach; targeting markets to offset flow imbalances where marginal cost to serve is low
- Long term strategy to:
  - Focus on specific geographies and/or industries
  - Sign two-way agreements with customers
- Shorter term tactical pricing supported by equipment flow status IT: 'point-to-point' systems



**Some success but getting organisations to respond is often difficult**

### Customer segmentation and tailored services

- Some attempt to focus on higher conference tariff commodities but often resulting in everyone chasing same customer
- Many carriers pursuing similar 'value added' propositions which customers are unwilling to pay for
- Divided views on importance of global accounts
- Smaller carriers have clearer focus on customer needs, some larger players emphasising JIT links in supply chain



**Limited success: price competitiveness still dominates with little differentiation perceived by customers**

### Sales channels

- Universal preference for direct relationship with shippers rather than through intermediaries
- But non-direct channels are a volume necessity, especially for larger carriers
- Although some recognition that forwarders and NVOCCs take on services carriers do not want to provide, carriers generally have no policy as to their use



**Little active management of channel mix with carrier usually reacting to market situation**

### **Operators agree that customer/revenue initiatives have tended to suffer in comparison to their strong cost focus. Progress in this area has been limited.**

- The main area of attention has been logistical marketing. Essentially driven by cost considerations, this has focused on targeting marketing activities where flow imbalances exist and the marginal cost to serve is consequently low. Some success has been achieved, but operators admit that getting their organisations to respond is often difficult
- Efforts to segment the customer base and develop tailored services have met with limited success. Many operators appear to be pursuing similar “value added” propositions which customers are unwilling to pay for. As a result price competition still dominates the market with little differentiation perceived by customers
- Sales channel management remains primarily reactive to market situations. Beyond “direct is best”, operators’ policy toward channel appears relatively unarticulated

## Carrier Feedback: Industry level initiatives

### Traditional approaches

- Conferences may have short term success in raising rates but little confidence in their long term impact
- Effectiveness of TACA on Transatlantic doubted versus other causes of rate stability
- Concern that industry has not lobbied effectively against confidential contracts in proposed new US Shipping Act
- Shippers' councils cannot deliver the agreement of shippers

### New ideas

- Joint service arrangements are seen as primarily tactical and not a mechanism for coordinating long term industry solutions
- Suggestion that Alliances might seek legal permission and attempt to set rates in some trades but no developments as yet
- Expectation that more major mergers, although initially driven by cost, may eventually attempt to establish greater market power (and change industry structure)

### **The industry remains pessimistic that industry groupings can achieve success in collectively improving the industry's situation.**

- Little confidence exists in the influence of traditional groups: conferences, shipowner lobbying groups, shippers councils, etc.
- There is further concern that the proposed new US Shipping Act will further harm the industry's ability to police cooperative behaviour on US trades
- As yet, new industry groupings based on partnering activities have made no impact on the industry as a whole

## Present Outlook

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The industry's overall capacity utilisation is good. Practically it seems unlikely that current levels could be significantly bettered

The industry's commercial structure is highly fragmented resulting in easily copied cost gains getting quickly competed away

**Continued  
poor  
profitability**

Operators have no answers to address these problems:

- Carrier level remains focused on cost reduction initiatives
- Industry level has no effective mechanisms

## Way Forward?

---

### 1. Industry as a whole

- Create fundamental change in regulatory environment to help industry
  - Pricing controls
  - Super mergers
  - ... etc.


### 2. Individual carriers

- Options to buck overall industry trends
  - Keep ahead of the pack, be more nimble
  - Industry cost leader through superior execution and scale
  - Protect revenue base through superior marketing
- Would seem to imply successful players will be either the very large or niche – medium sized operators under threat?

**The industry's current situation and direction implies a continued outlook for poor profitability. Options for improving the industry as a whole are limited and likely to be controversial against this background. Only a few individual carriers will be able to buck the trend.**

- The industry's overall capacity utilisation is good and, practically, it seems unlikely that current levels could be significantly bettered
- The industry's commercial structure is highly fragmented resulting in easily copied cost gains getting quickly competed away through lower freight rates
- Against this background, operators appear to have no solutions. Individually, they continue to focus on cost reduction initiatives, which will eventually only drive freight rates even lower. Collectively they have been unable to develop effective coordinating mechanisms to reduce the intense competitive rivalry in the industry
- There are no easy solutions to this situation. For the industry as a whole only fundamental change in the regulatory environment or radical industry restructuring would be likely to raise profitability and such moves are likely to be controversial
- For individual carriers there may be strategies to buck the industry trends. By definition, only a few can be successful. Becoming either a very large or a niche player would seem necessary (but not sufficient) routes to individual success. Consequently medium-sized operators are likely to be vulnerable in the future competitive environment

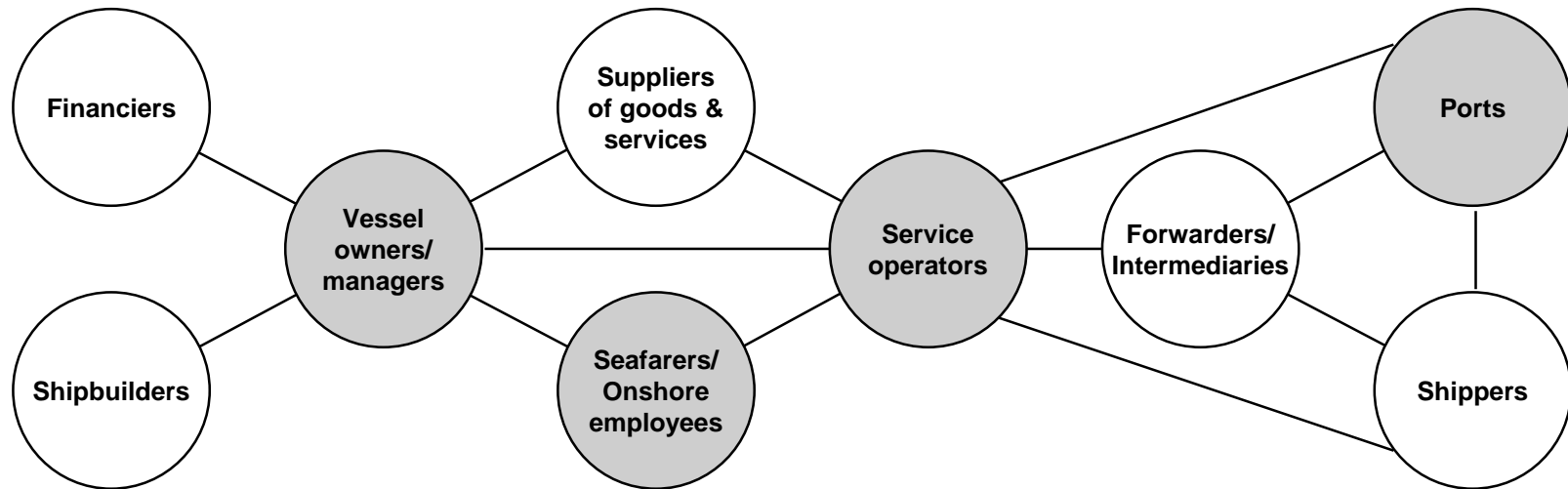
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- What is the position for participants in the EU's liner industry in the light of the issues raised by this study?
  - Vessel owners
  - EU liner operators
  - Seafarers/on-shore labour
  - Ports

## Participants in the EU Liner Industry



**Our research has focused primarily around vessels and their impact on various parties:**

- Who owns them?
- Who is employed on them?
- Who operates them?
- Where are they calling?

**The EU liner industry consists of a variety of players and interests. Low freight rates means the end users, shippers, are clearly beneficiaries but how are the other players doing?**

- Our research has primarily focused around vessels and their impact on various parties i.e:
  - Who owns them?
  - Who operates them?
  - Where do they call in Europe?

## Operators

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- Current financial performance similar to rest of world industry
- Although major Asian operators have grown faster, EU carriers have developed their business to remain major players in the industry



**No clear strengths or weaknesses as a group but some EU operators may eventually emerge as leading global players**

## Ports

---

- Number of calls in Europe falling as vessel sizes grow faster than trade
- Consortia involving Sector 1 carriers growing in importance
- Top ports holding or increasing call share
- Large vessels focused on a small number of ports



**Ports need clear strategy versus Sector 1 or Sector 2 positioning**

- Vessel sizes
- Volume capacity
- Inland links

## Fleet Owners and EU Employment

---

- EU owned fleet continues to grow
- Some EU countries have emerged as key centres for the ownership of container vessel tonnage independent of operator nationality
- Trend to flag out EU owned vessels but somewhat less flagging out than in the rest of the world
- Impact on employment partially hidden by growth of fleet. Crew have been affected more than officers

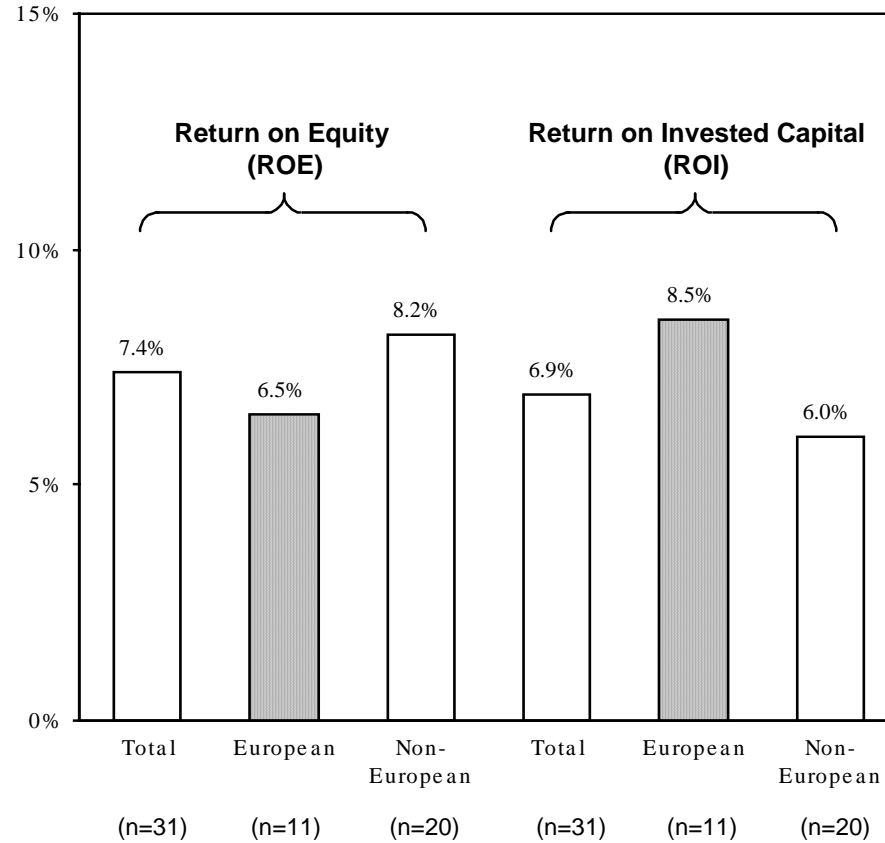


**Further flagging out may impact seafarer employment but main future impact will be on-shore losses from rationalisation or merger of operators**

### **We have looked at three groups involved in the EU liner industry: liner operators, ports and vessel owners.**

- EU operators remain major players in the industry. They have tended to partner more than major operators in the rest of the world, but as a group show no clear strengths or weaknesses versus other major players. As the industry attempts to become global, some EU operators have the chance to emerge as leading players
- As consortia involving Sector 1 carriers are taking an increasing share of the market, European ports need to adopt clear strategies regarding their positioning versus Sector 1 and Sector 2 consortia and ensure appropriate investment to meet their needs
- The EU owned fleet has grown and a number of EU countries have emerged as key centres for the ownership of container vessel tonnage independent of operator nationality. EU owners' flagging out has tended to be less pronounced than in other parts of the world. Thus further EU seafarer losses on EU owned container vessels may occur. However, the major future employment losses in the industry may be on-shore rationalisation prompted by operator mergers

### Average Return of Shipping Companies involved in Liner Shipping (1990-1995)

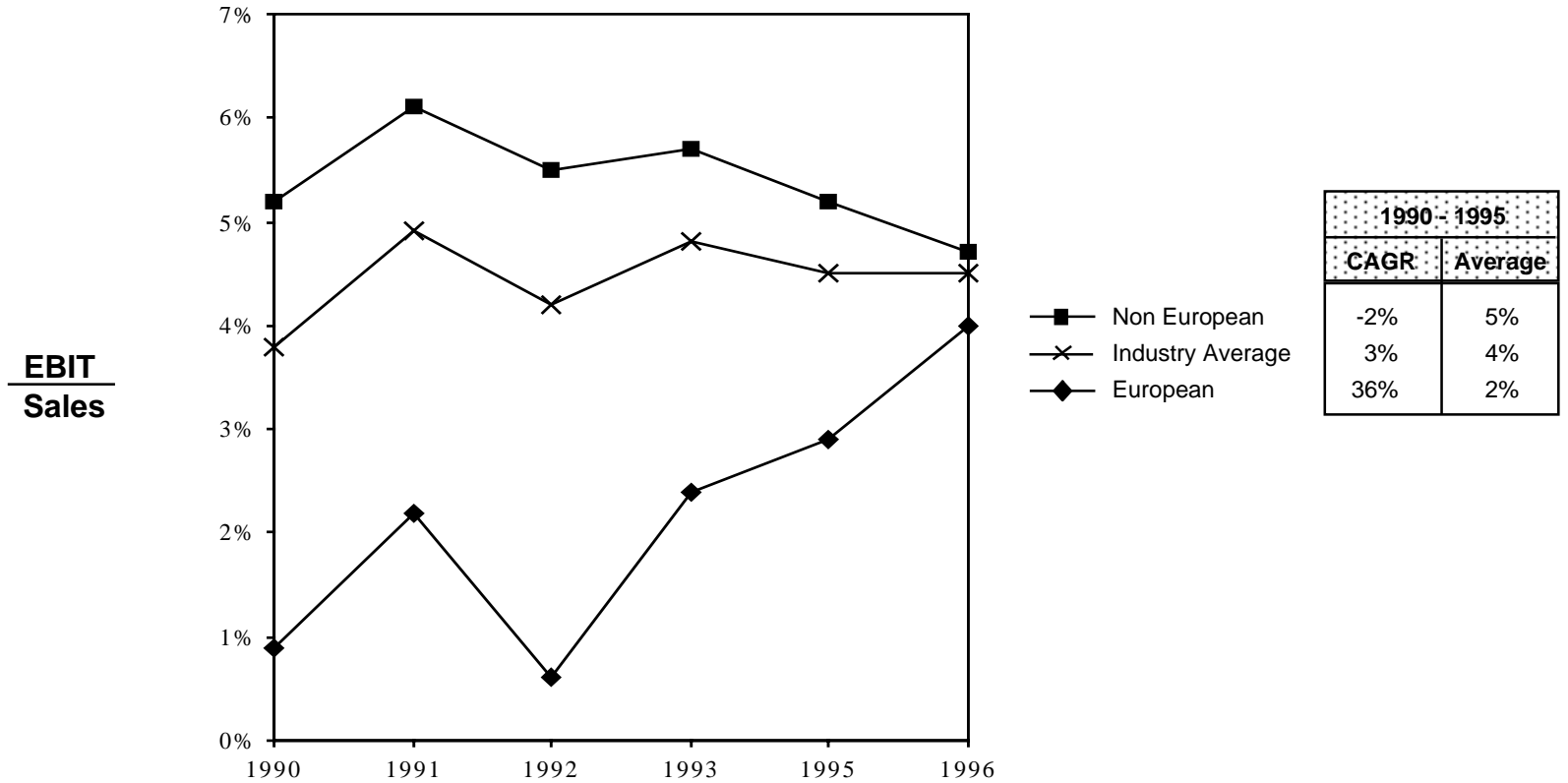


Note: Consolidated data for each of the companies has been used, nominal \$  
 Source: Worldscope, Annual Reports, CI

**EU shipping companies involved in liner shipping have shown poor rates of return, similar to those of shipping companies in the rest of the world.**

- The returns achieved by EU shipping companies on either equity or invested capital are a third to a half of required levels

### Liner Operators' Operating Margins: European versus Non-European



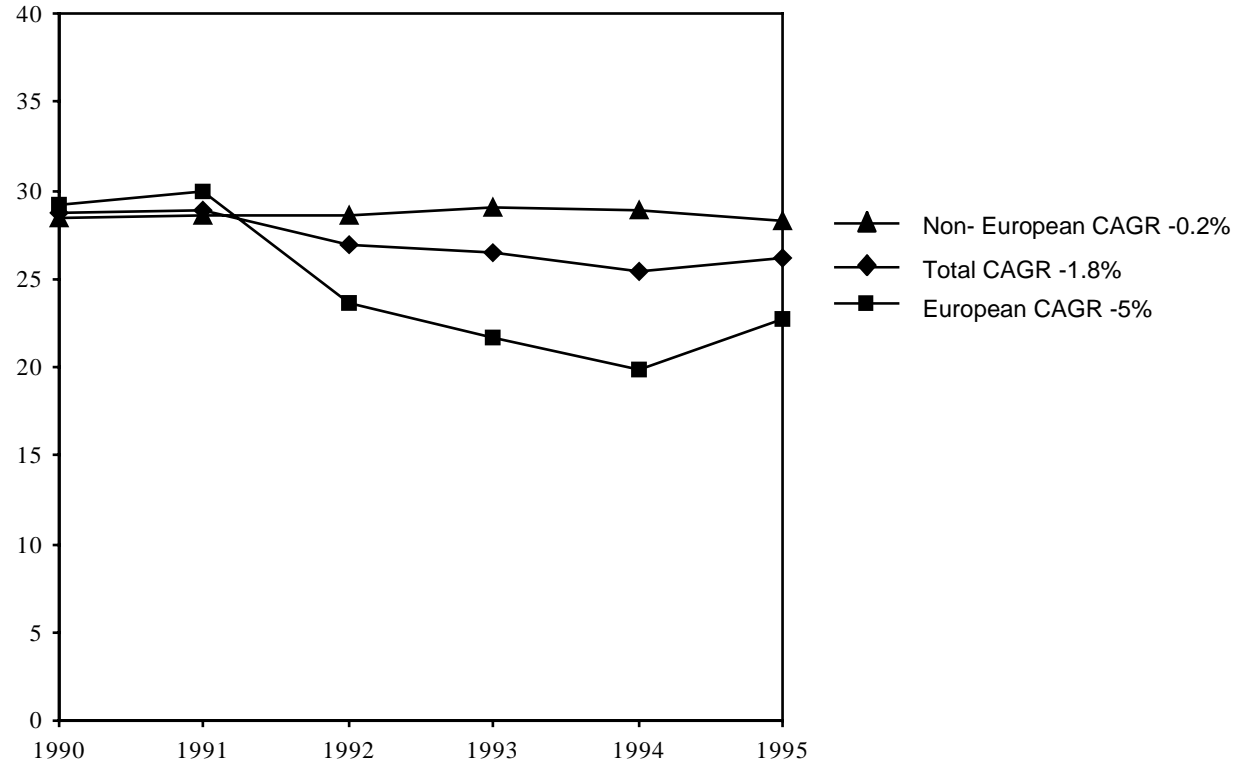
Note: Sample size: 24 companies, nominal \$  
Source: Annual Reports, Worldscope

**Having lagged in the early 1990s, European liner operators' margins have increased toward the liner industry average...**

- ... but these clearly are still inadequate financial returns

### Annual Revenue / Slot Capacity

Nominal \$000 per TEU Slot  
(Average \$ inflation rate  
1990-95: 4.3%)



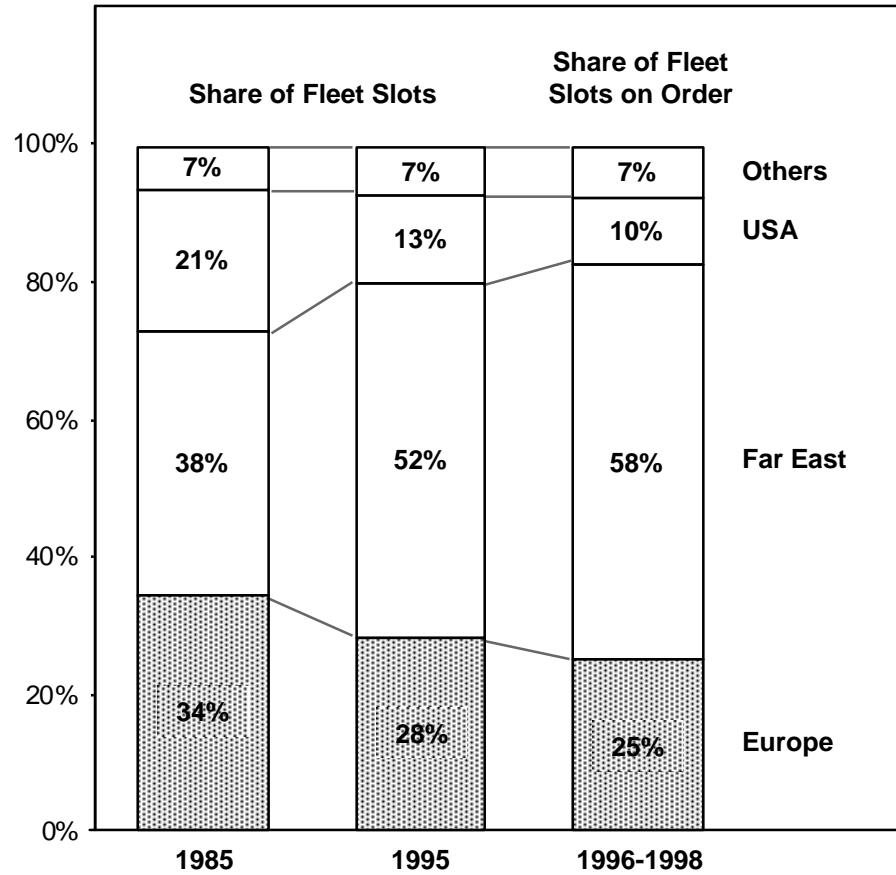
Note: n = 32

Source: CI, Worldscope, Annual Reports

**... but European operators' revenue per slot of capacity has fallen further.**

- This is partly the result of European operators' somewhat greater focus on North-South trades
- It is also interesting to note that the combined impact of rising operating margins (as shown before) and falling revenue/slot of capacity suggests that European operators have been able to cut costs faster than those in the rest of the world

### Sector 1 Carrier Shares

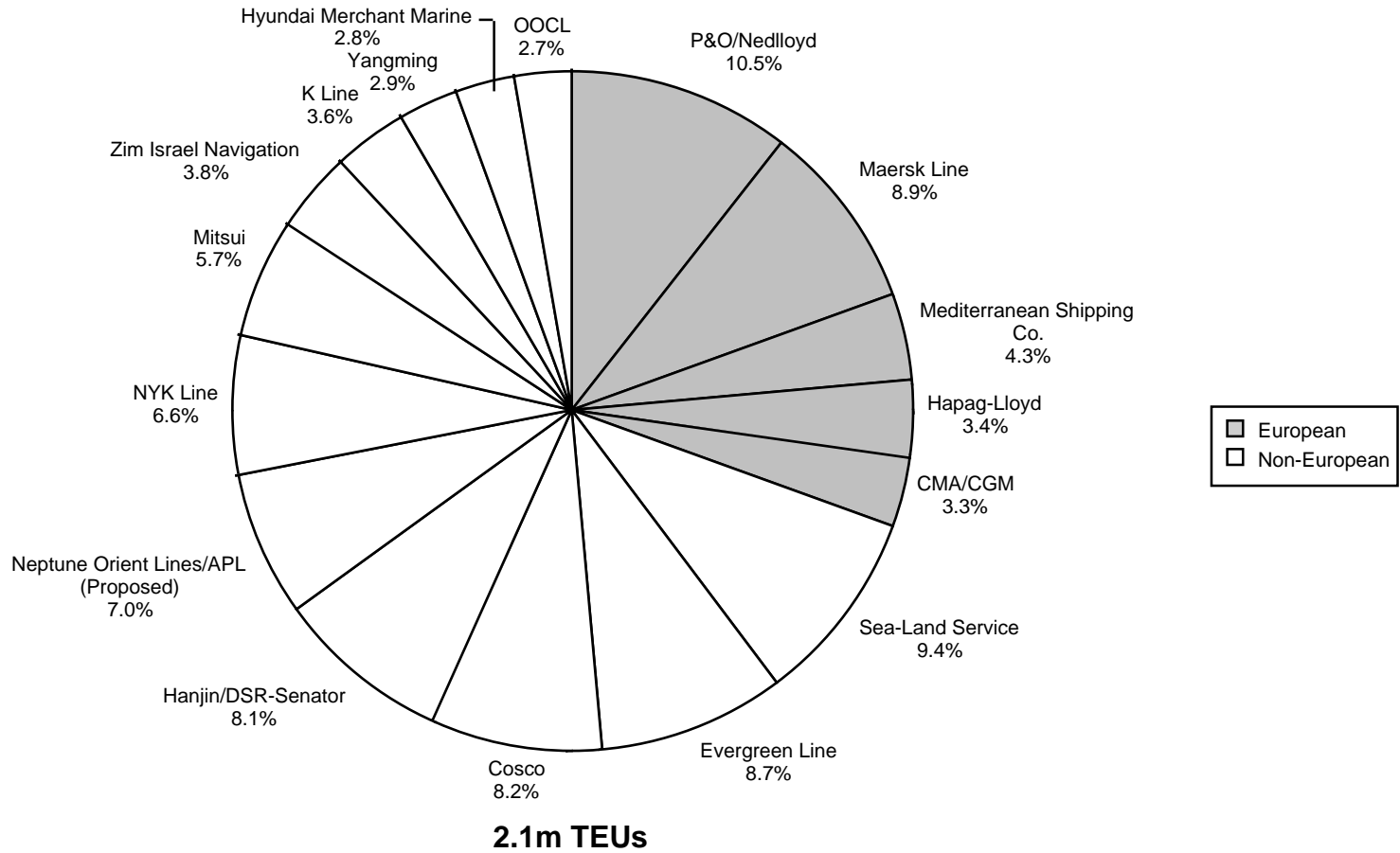


Source: Containerisation International, Mercer Analysis

**Among the Sector 1 top twenty carrier group Far Eastern companies have increased their share of fleet slots at the expense of the European and US companies and have an even greater share of capacity on order.**

- The faster growth of Asian carriers is partly explained by the greater growth in trade based on their home markets
- Nevertheless, they have also gained share considerably

### Split of Own Fleet Slots Among Sector 1 Carriers (adjusted for recent mergers)

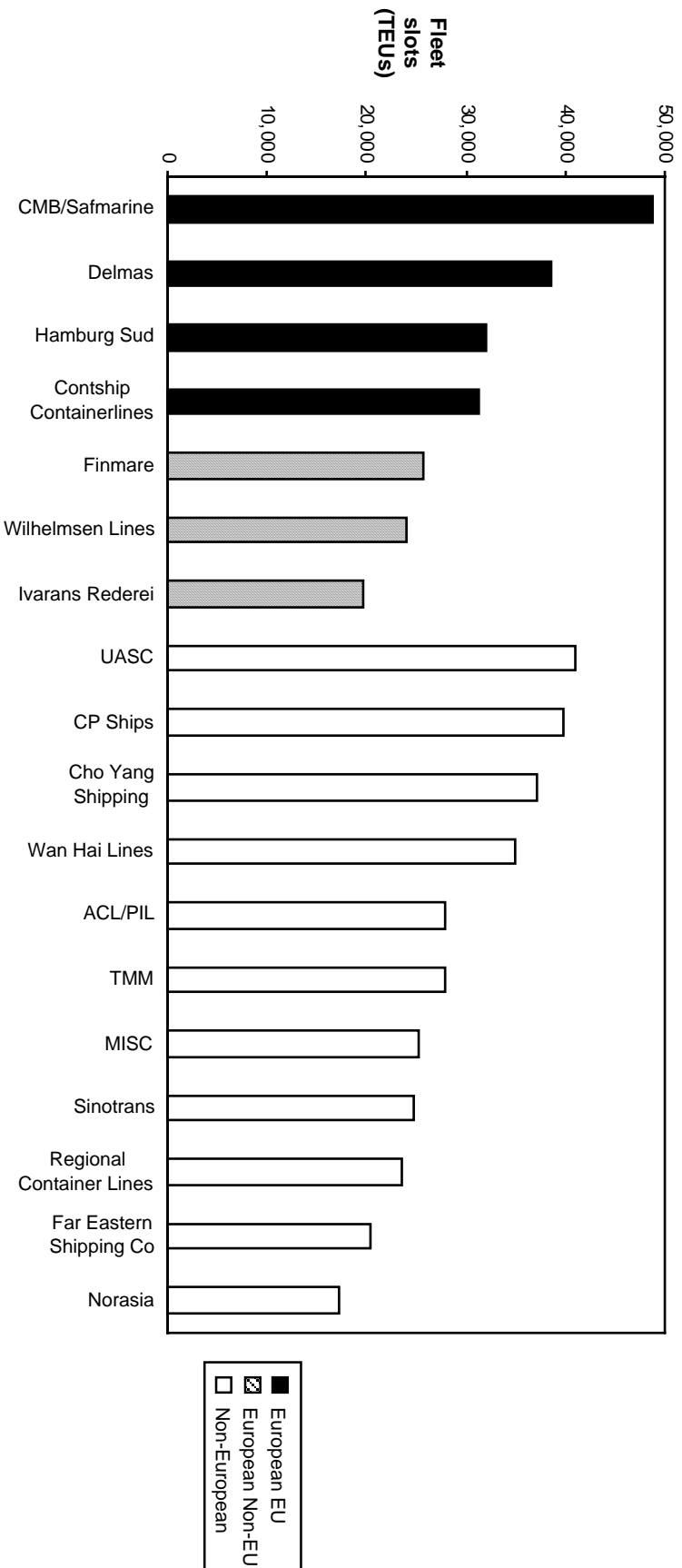


Source: Containerisation International

**There are still two European players of major size in the Sector 1 group.**

- Maersk and the recently merged P&O/Nedlloyd remain major industry players in terms of their size
- The other European Sector 1 players are significantly smaller mid-size carriers who fall at the smaller end of the Sector 1 group

## Major Sector 2 Carrier Fleet Slots

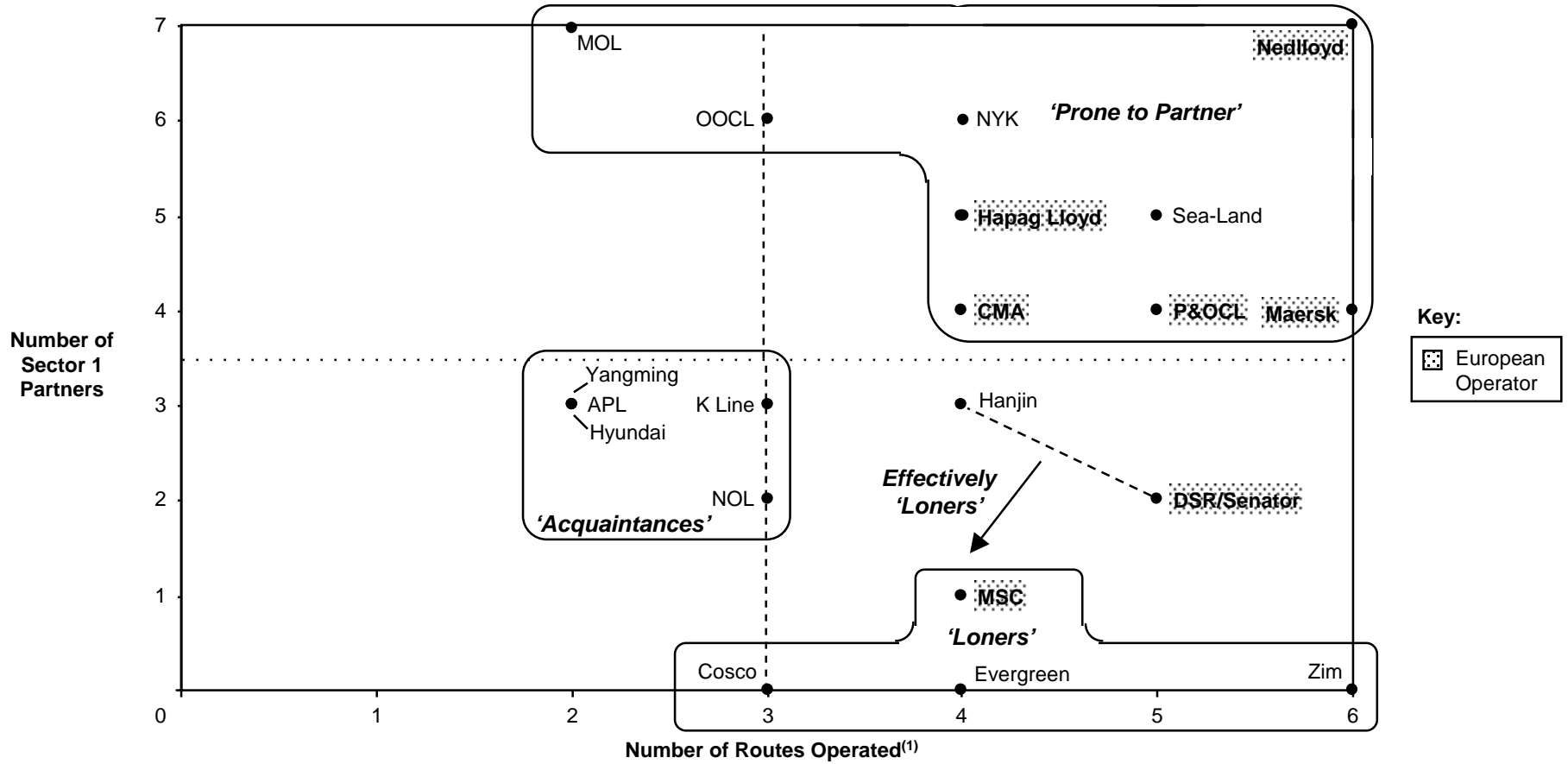


Source: Containerisation International

**There are another seven European small/mid-size players in the group of Top 21-40 carriers.**

- Aside from possibly CMB / Safmarine there are no clear leaders among Sector 2 carriers
- The other European Sector 2 players are of roughly comparable size to the other carriers in the Top 21-40

### Sector 1 Presence and Partnerships on the Nine Trade Routes – 1995

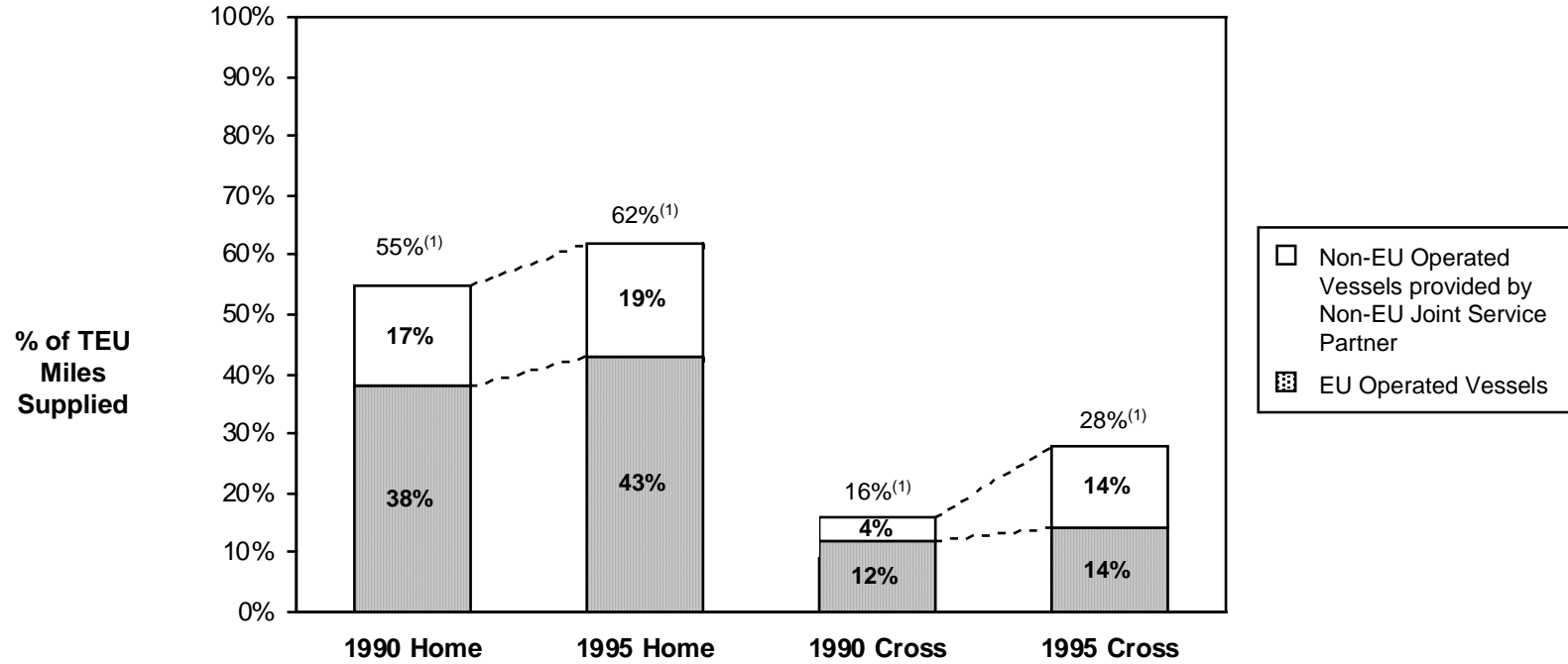


Note: (1) Route dimension biased slightly towards European operators due to European focus of routes analysed  
 Source: LMIS, Mercer Analysis

**European Sector 1 carriers show a higher tendency to partner with other Sector 1 players.**

- Partnership has allowed EU operators in general to extend their global influence
- On the nine routes studied, European operators in 1995 were involved in services comprising 49% of total TEU miles supplied versus just 39% in 1990
- 38% out of the 49% supplied in 1995 consisted of supply from mixed EU/non-EU operator consortia

### EU Participation in Home and Cross Trades 1990-95



	<u>Home Trades CAGR<sup>(2)</sup></u>	<u>Cross Trades CAGR</u>
<b>Any EU Participation</b>	10.8%	19.1%
<b>EU Operated Vessels</b>	10.8%	9.5%
<b>Non EU Operated Vessels</b>	10.8%	36.4%

Note: (1) The remainder of the TEU miles are supplied by operators/consortia that involve no EU vessels  
 (2) Due to rounding all three growth rates are shown as 10.8%, although they are not exactly identical

Source: LMIS, Mercer Analysis

**Partnership with non-EU players has been critical to developing EU operators' presence in the cross trades.**

- In cross-trades, the share of TEU miles supplied by EU vessels or vessels of associated partners have gone up from 16% in 1990 to 28% in 1995; most of the increase came from non-EU operated vessels provided by non-EU joint service partners
- In EU Home trades, EU operators and their partners have also gained share, but the mix of EU and non-EU tonnage is skewed towards EU tonnage, and relative developments between 1990 and 1995 have been even

### EU Operator Profile: Summary

- EU operators' current financial performance is similar to the rest of world industry
- EU operators have seen their relative share of the world industry decline with the emergence of faster-growing Asian players ...
- ... but the EU's industry includes two major world players in size terms, Maersk and P&O/Nedlloyd, and has a collection of further smaller Sector 1 players plus a number of major Sector 2 carriers
- The European Sector 1 players are partnering to build their global presence, which can be seen as a first stage in developing into truly global players

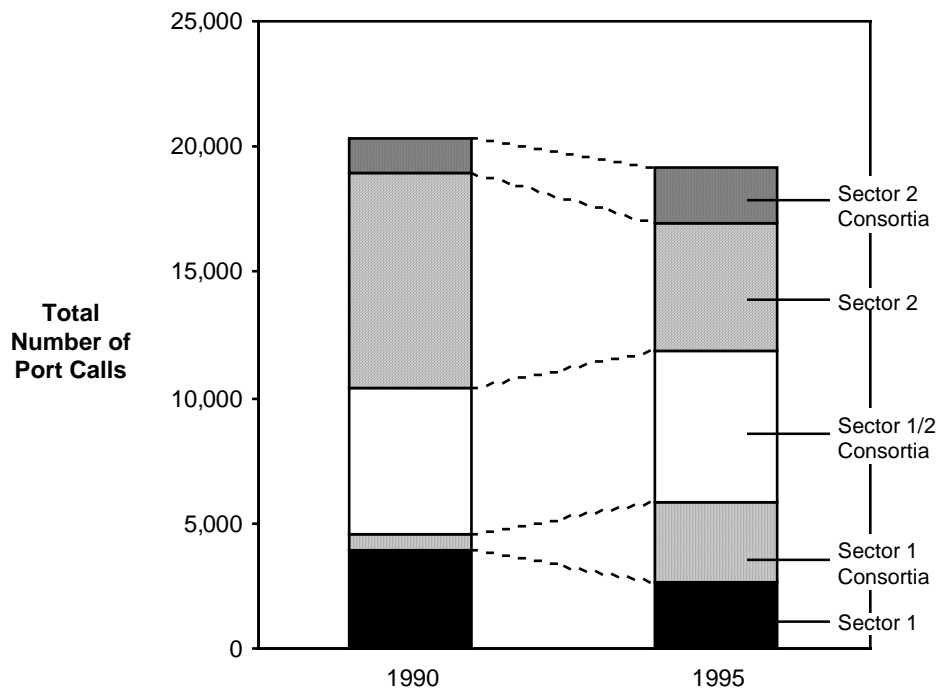


**As the industry continues to restructure some EU operators may eventually emerge as leading global players**

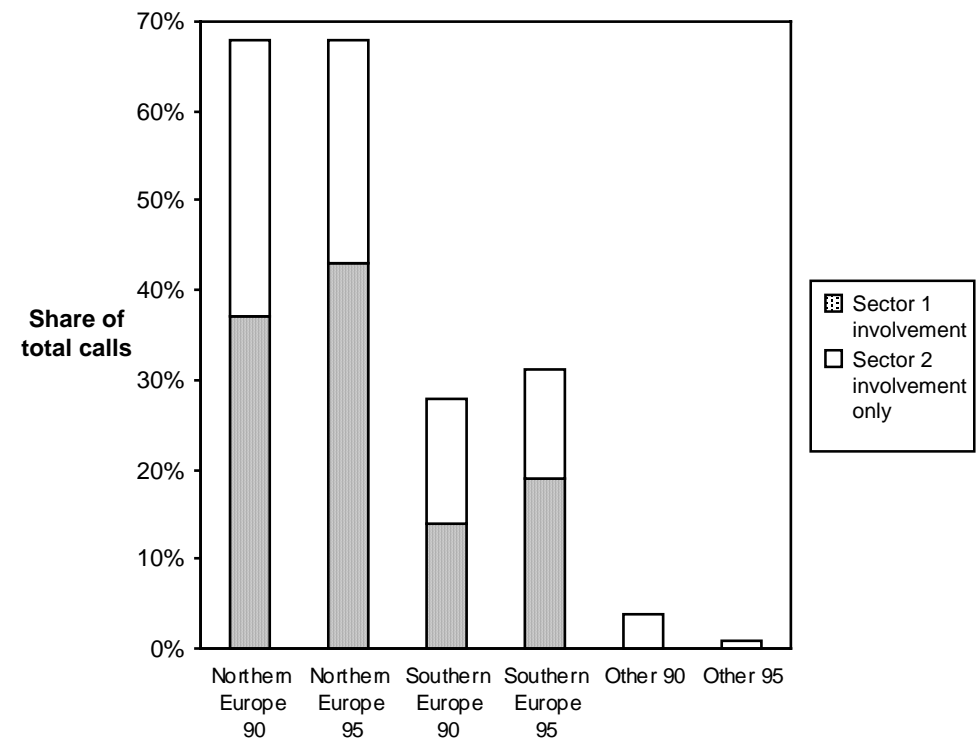
**Several EU liner operators are still well positioned to play a leading role in the industry.**

- As the industry continues to restructure some EU operators may eventually emerge as leading global players

**Total European Port Calls on the Nine Trade Routes by Commercial Entity 1990-95**



**European Port Calls by Region and Commercial Entities**

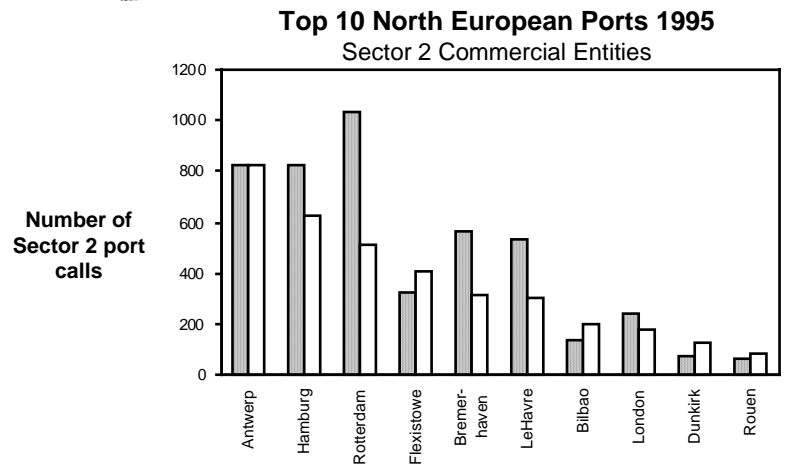
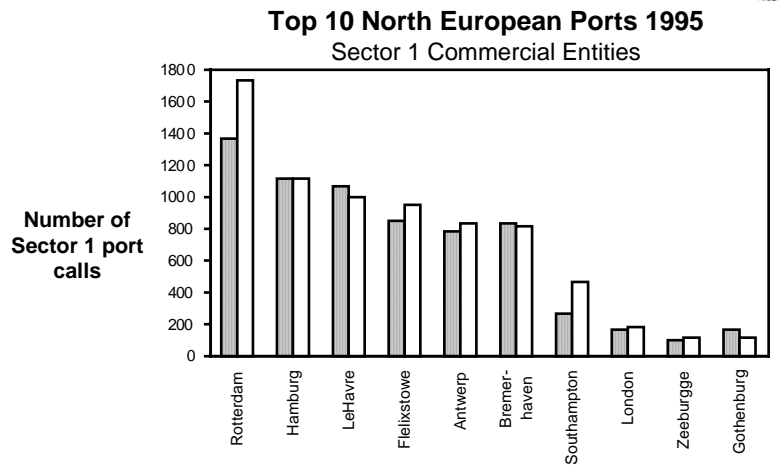
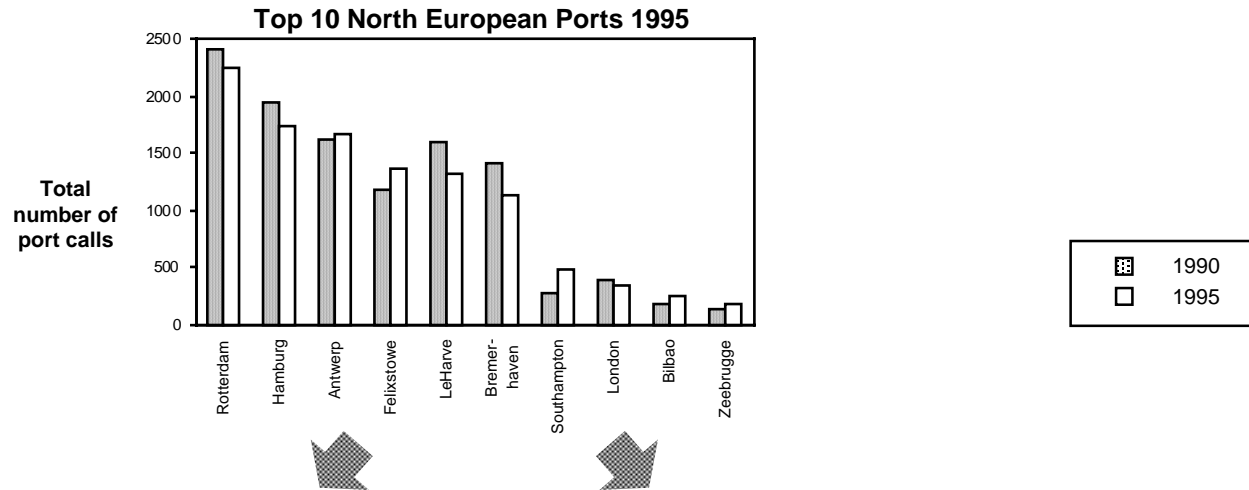


**The number of European calls per voyage remains unchanged at 4.6**

Source: LMIS, Mercer Analysis

**Total port calls are declining. Sector 1 players account for an increased proportion of the total.**

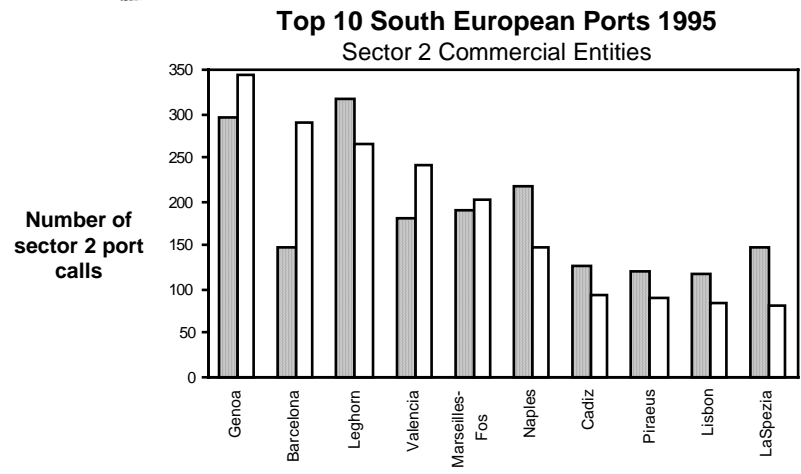
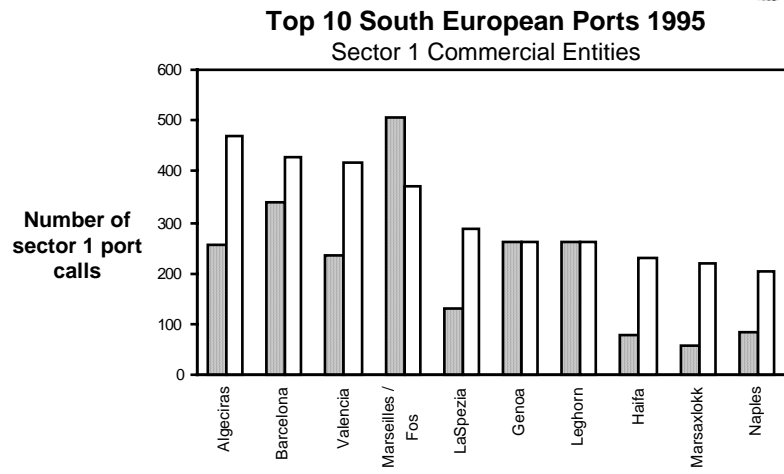
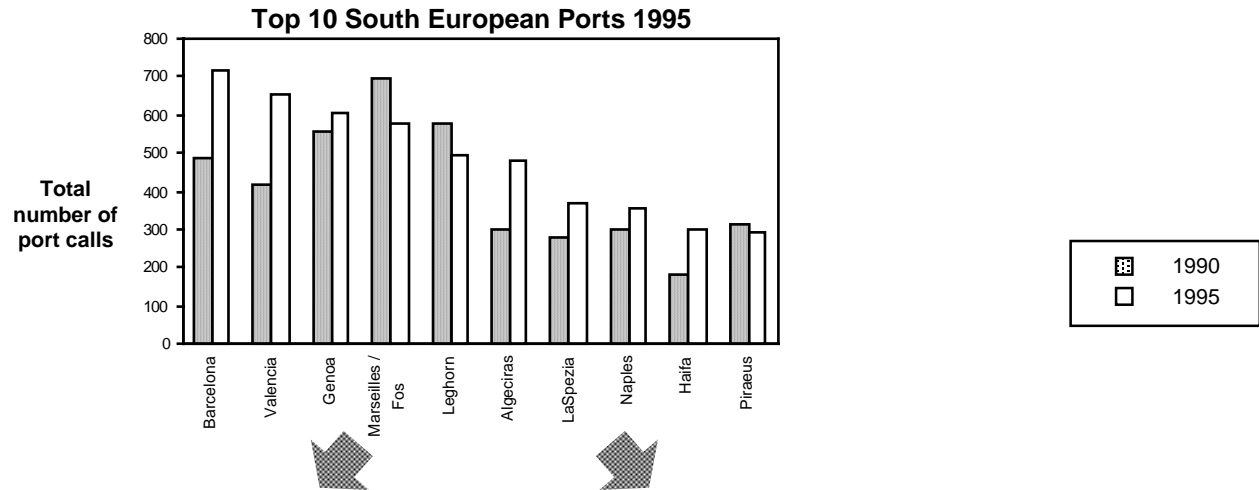
- European ports are witnessing a decline in the total number of annual calls as trade growth is being met by the operation of fewer but larger vessels
  - In particular, the number of calls by independent Sector 2 players has nearly halved (as several players have been acquired or gone bankrupt)
  - The decrease in calls is largely due to fewer calls in the ‘other’ port region (Scandinavia mostly); Southern Europe has gained port calls, while the number of calls in Northern Europe is stable
- Consortia involving Sector 1 players, however, are increasing their number of calls and consequently control a larger share of the market
- All of these changes have left the average number of European calls per voyage unchanged at 4.6 calls/voyage



Source: LMIS, Mercer Analysis

**As a group and individually, the top ten North European ports have seen relatively small changes in overall market shares. At the Sector 1 and Sector 2 segment level, though, several ports have witnessed significant positioning shifts between 1990 and 1995.**

- The market share of all calls among the top ten North European calls has been relatively static, moving up from 80% to 82% between 1990 and 1995
- Combining Sector 1 and Sector 2 calls, Antwerp, Felixstowe and Southampton have gained some share from Rotterdam and Hamburg
- For Sector 1 calls, though, Rotterdam and, to a lesser extent, Southampton have clearly gained share
- At the Sector 2 level, Rotterdam, Hamburg, Bremerhaven and Le Havre have borne the brunt of the decline in total number of Sector 2 calls



Note: Figures are prior to opening of Giao Tauro  
 Source: LMIS, Mercer Analysis

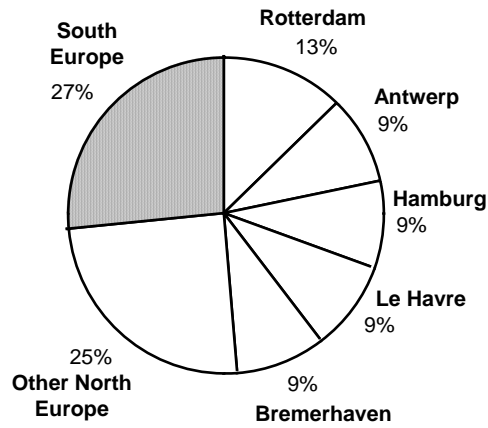
**South European ports have witnessed significant consolidation toward the top ten ports as well as large positioning shifts.**

- The top ten ports' share of all South European calls has consolidated from 72% to 81% between 1990 and 1995
- The Spanish ports (Algeciras, Barcelona, Valencia) have seen very large increases in Sector 1 calls; the latter two (and in particular Barcelona) have also received far more Sector 2 calls. Algeciras is not in the Top 10 for mainline Sector calls
- Marseilles/Fos position has eroded
- Development among Italian ports are uneven (note that these data precede the opening of the Gioia Tauro facility)

## Distribution of all European Port Calls by Largest Vessel Categories 1995

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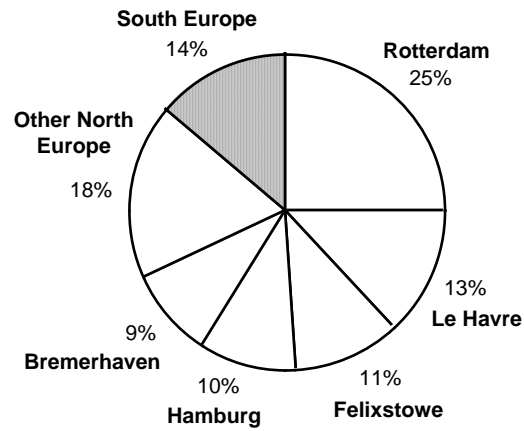
**2,000-3,000 TEUs**



Number of calls

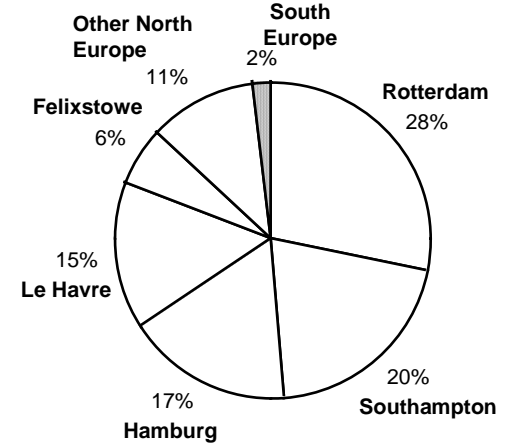
**3,483**

**3,000-4,000 TEUs**



**2,069**

**4,000+ TEUs**



**1,023**

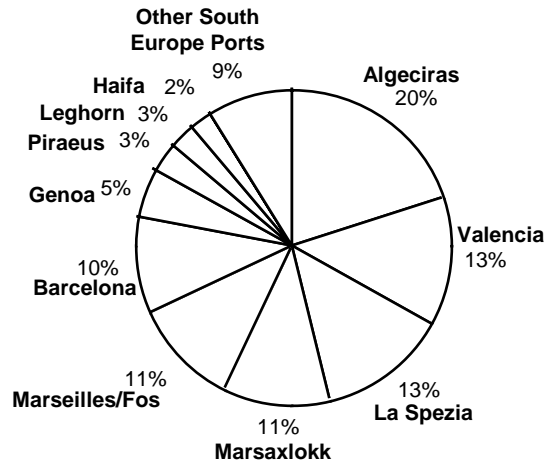
Source: LMIS, Mercer Analysis

**Larger vessels' calls are focused on a small number of top European ports.**

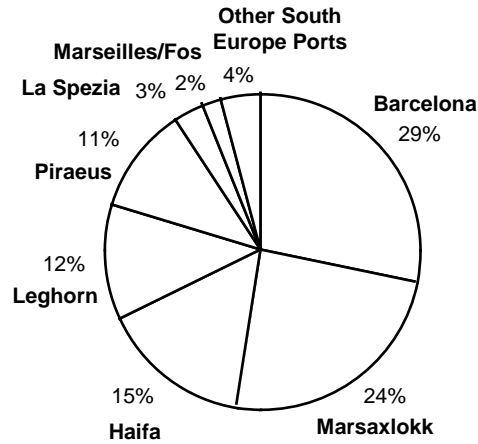
- South European ports have a significantly smaller share of larger vessel calls: 27% of calls by vessels between 2000-3000 TEU, only 14% of vessels between 300-4000 TEU, and barely 2% of vessels over 4000 TEU
- Among the Northern European ports Rotterdam and Southampton receive above half of the 4000+ TEU vessel calls

## Distribution of Port Calls in South Europe by Largest Vessel Categories 1995

**2,000-3,000 TEUs**



**3,000-4,000 TEUs**



**4,000+ TEUs**

**Algerias only**

**Number of calls**

**1,316**

**348**

**27**

Note: Figures are prior to opening of Giao Tauro  
 Source: LMIS, Mercer Analysis

**Similarly a small number of ports in South Europe handles the majority of large vessel calls in the region.**

- Algeciras handles all of the 4000+ TEU vessel calls in the Med (mostly Sea-land and Maersk)
- Barcelona, Marsaxlokk and Haifa handle two-thirds of the calls by 3000-4000 TEU vessels

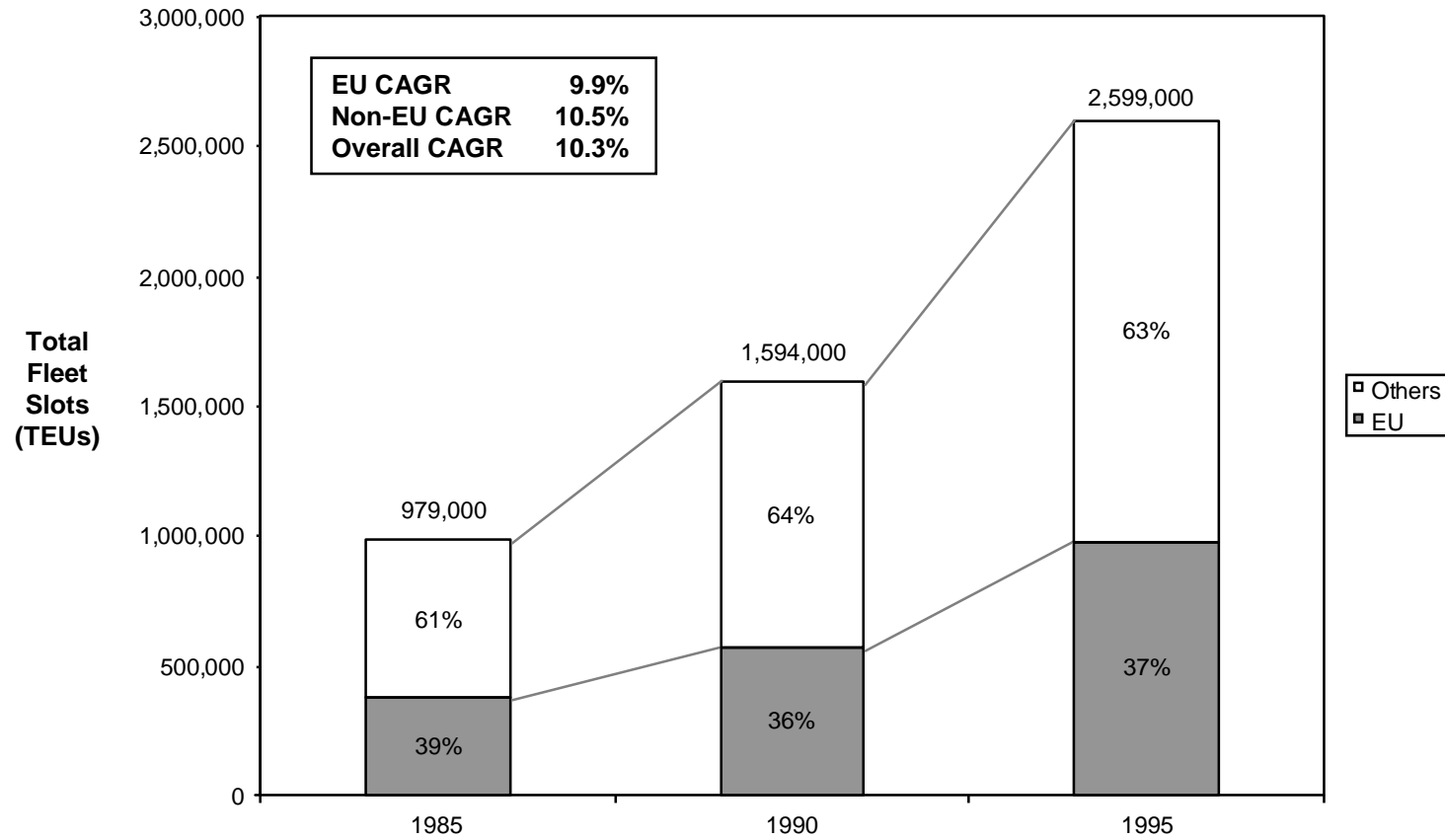
### **European Port Calling Patterns: Summary**

- The overall European port call market has declined between 1990 and 1995 ...
- ... but there have been no major shifts between North and South Europe or in European calls made per voyage
- Large vessel calls are focused on a small number of ports in each region
- The Sector 1 and Sector 2 customer bases are different and ports are positioning and evolving to meet them

**European ports' positioning will continue to evolve.**

- Given the intense cost focus of container carriers, ports and terminal operators will face an ever more demanding customer base
- Given continuing rounds of 'musical chairs' as partnerships are created and dissolved, there will also be impact on individual ports and terminal operators. The commercial risks increase as the average size of carriers/consortia/strategic alliances increases
- Some carriers will seek to expand 'hubbing' and expect dedicated facilities to that end

### EU Slot Capacity Share 1985-1995 (Container Vessels)

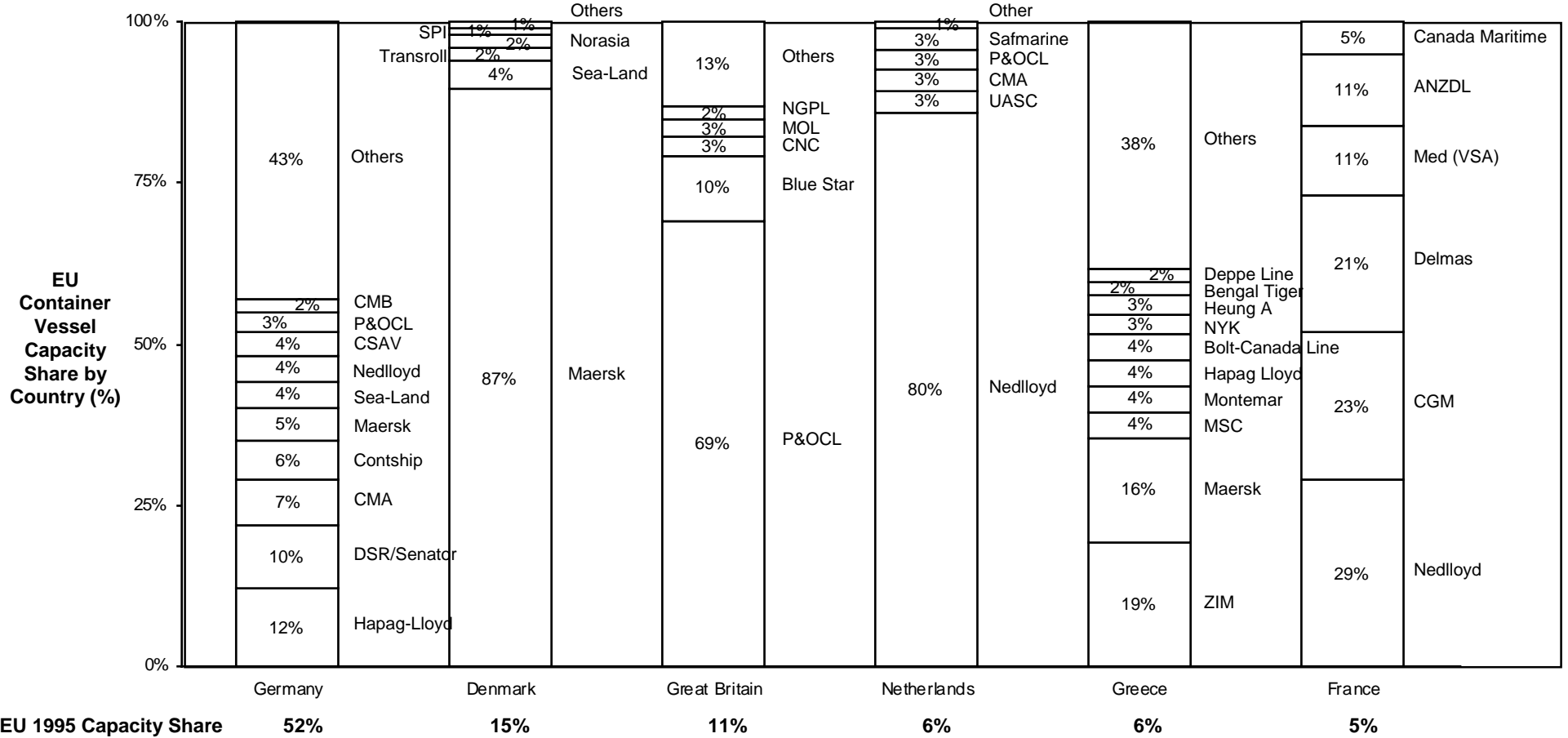


Source: LMIS, Mercer Analysis

**The fleet of EU-owned fully containerised vessels has grown, although at a slightly lower rate than the non-EU-owned fleet.**

- The EU owned fleet accounted for 37% of the world fleet in 1995, down from 39% in 1990
- The growth in the number of EU vessels has been slower than slots at 5% p.a. reflecting the general world trend to larger vessels

### Operator by EU Country of Ownership 1995 - Major Countries Only

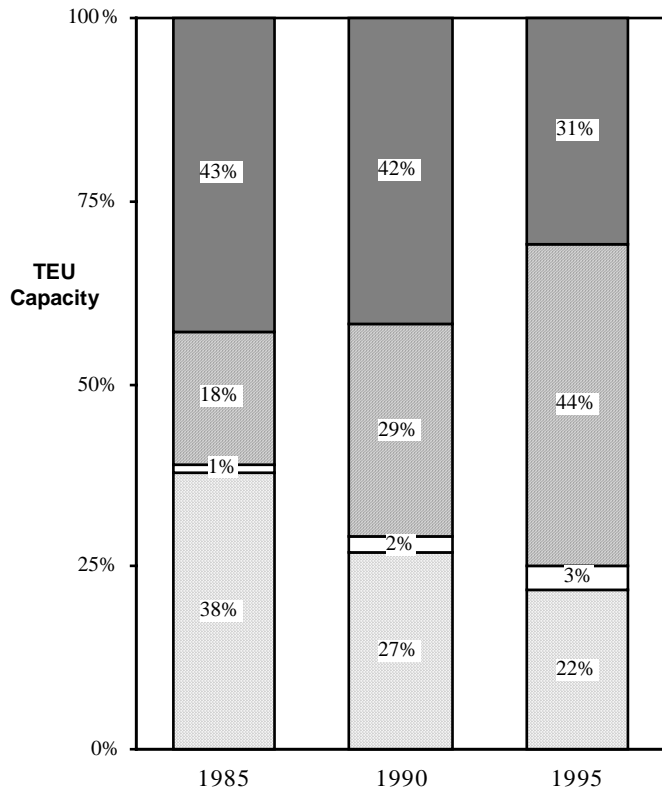


Source: LMIS, Mercer Analysis

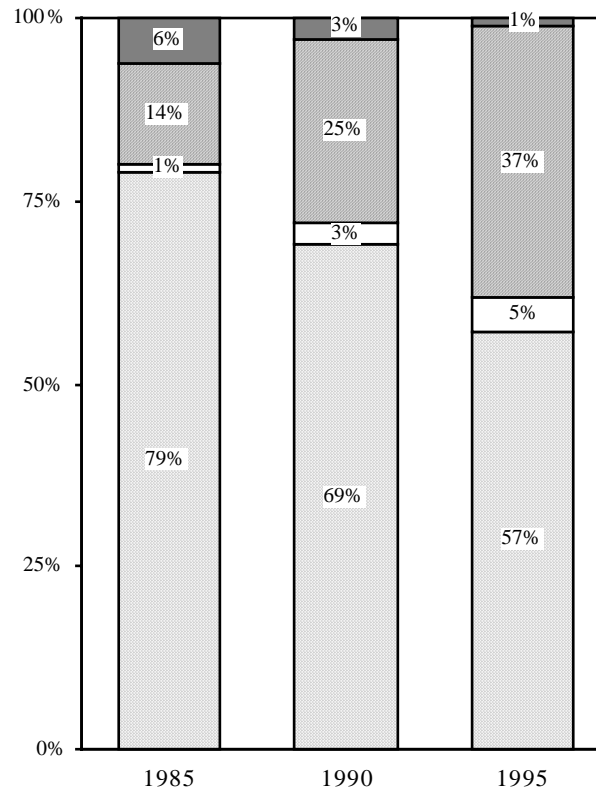
**Ownership patterns differ significantly by EU country.**

- Container vessel ownership in Denmark, the Netherlands and Britain is essentially in the hands of a strong local carrier (Maersk, Nedlloyd and P&O respectively)
- Germany and Greece have emerged as key centres for ownership of EU tonnage independent of operator nationality
- France occupies the middle ground: six carriers account for the owned fleet, three are French (CGM, Delmas and ANZDL - the latter being a subsidiary of Delmas) the other three are not

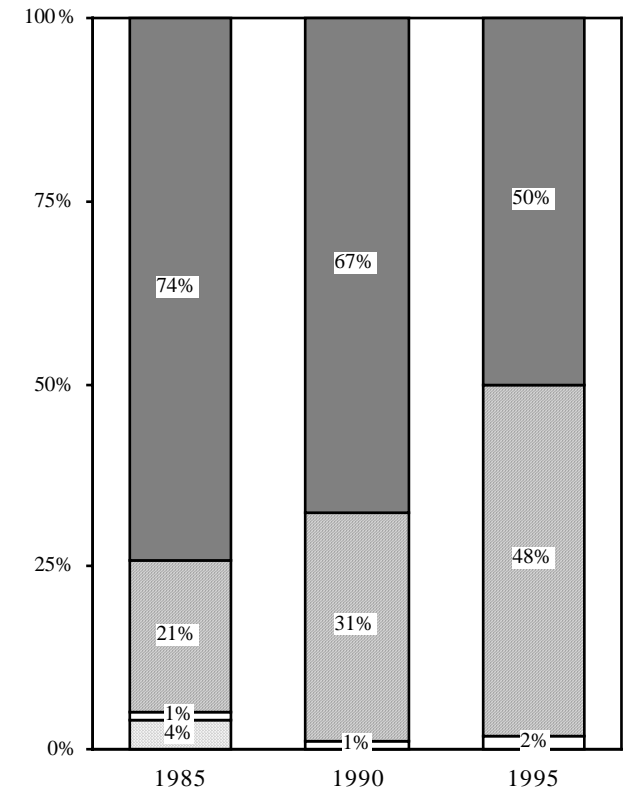
**All Vessels**



**EU Owned Vessels**



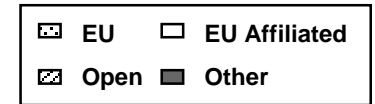
**Non-EU Owned Vessels**



<b>Total Capacity</b>	<b>1,943,000</b>	<b>2,669,000</b>	<b>4,115,000</b>
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<b>895,000</b>	<b>1,030,000</b>	<b>1,557,000</b>
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<b>1,048,000</b>	<b>1,639,000</b>	<b>2,558,000</b>
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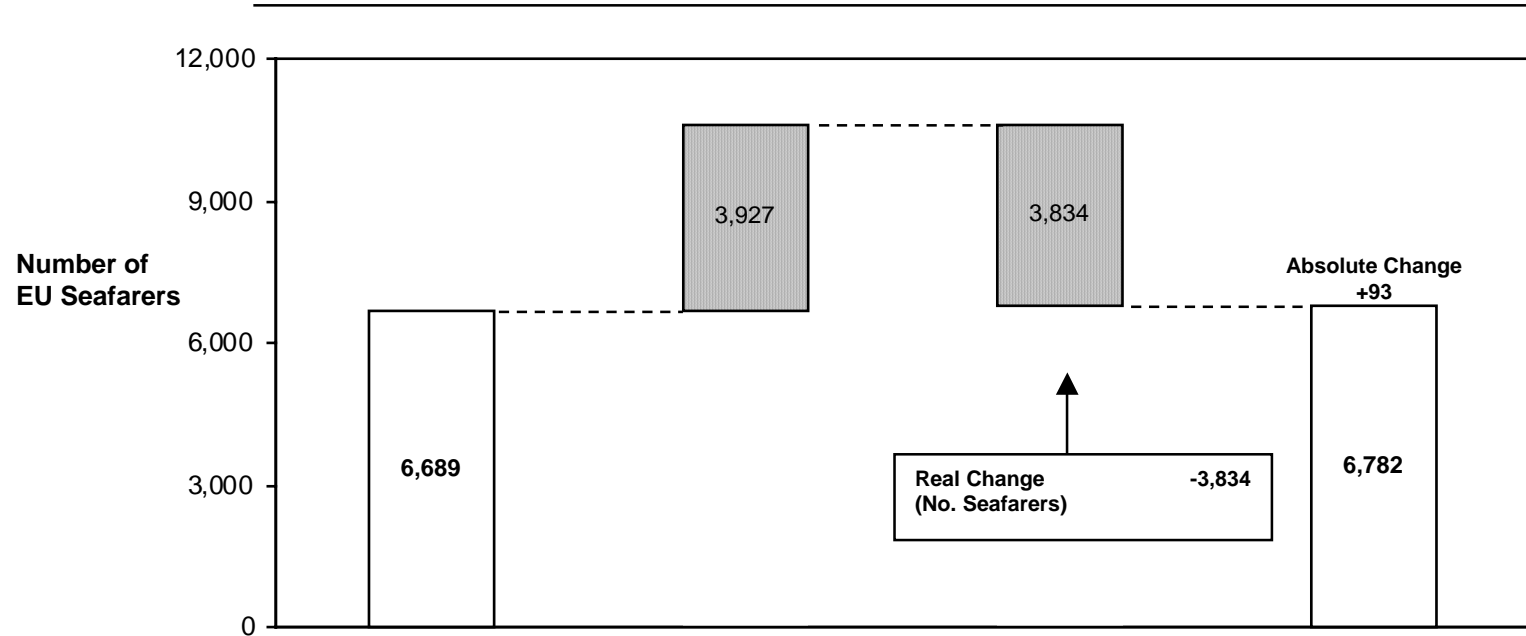


Source: LMIS, Mercer Analysis

**EU owners have followed the trend toward Open flagging, although EU owned capacity is less likely to be flagged out than in the rest of the world.**

- Only 37% of EU slots were flagged Open in 1995 versus 48% in the rest of the world
- A separate analysis of the impact of flagging on safety at sea has indicated no significant differences between vessel safety records under different flags (see Appendix)

### Change in Number of EU Seafarers 1985-1995



	1985	Increased Fleet	Flag Selection Changes	1995
<b>Split between:</b>				
Officers	3,217	+2,019	-881	4,356
Crew	3,471	+1,908	-2,953	2,426

Source: LMIS, IRC Seafarer Safety and Occupational Health, Mercer Analysis

### **Flagging out of container vessels has had a significant impact on EU seafarer employment although mostly in the form of ‘missed opportunities’.**

- While the absolute number of EU seafarers has remained static, in real terms 3,800 positions have been lost to alternative non-EU labour sources, or in other words, nearly all new jobs created by growth in the size of the EU-owned fleet have been effectively taken up by non-EU seafarers
- In absolute terms the number of employed EU officers has increased by one third but EU crew employment has declined by 30%
- Cost savings have provided a major incentive for these changes: these are estimated at \$100 million at 1995 manning levels, or equivalent to a ~0.6% improvement in margin for EU container operators
- Although the fact that EU owners have flagged out less than in the rest of the world suggests a risk for further job losses, the absolute changes in overall seafarer employment figures are relatively small in comparison to the potential for on-shore job losses:
  - The EU container fleet in total employs just 16,000 seafarers of which only 42% are EU citizens
  - In contrast, the P&O/Nedlloyd merger alone is projected to result in over 500 job losses in Europe (mostly on shore)

### EU Fleet Ownership and Employment: Summary

- The EU owned container fleet has grown at 10% p.a. between 1985 and 1995...
- ... but a country's position in vessel ownership does not necessarily entail a presence in liner operations
- EU owners have flagged out vessels between 1985 and 1995 resulting in EU seafarer job losses which have been partially hidden by the growth in the size of the EU fleet
- Flagging out by the EU owners still lags that in the rest of the world, therefore there is still a risk for further EU seafarer job losses...
- ... but the numbers involved are relatively small in comparison to the possibility of larger losses in onshore employment




**Continued restructuring in the world liner industry will potentially have the most significant impact on EU employment in the industry through onshore job losses**

**EU job losses on-shore will be more significant than those lost onboard the EU owned container fleet.**

- Continued restructuring in the world liner industry will potentially have the most significant impact on EU employment in the industry through onshore job losses

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- Based on the foregoing research, some implications can be drawn for policy-making
- It is appropriate to point out at this juncture the limits that the study scope imposes on conclusions for policy-making:
  - No user research was undertaken in this project:
    - While the continual declines in freight rates and service improvement (such as greater frequency and faster transit times) that have resulted from co-operation between vessel operators, are obvious benefits to shippers, it is unclear that users feel the equation of 'value for money' is overwhelmingly improving in their favour
    - Other research suggests that shipper-carrier relations continue to be cool and that innovation in such areas as service integration, door-to-door shipping, EDI, loss prevention, etc., could be improved
  - The economic analysis focused on port-to-port liner economics. Intermodal chain economics were not investigated
  - No economic impact module was included in the study (a separate project under the 4th Framework assesses the impact of shipping on the European economy)

- A set of European operators is well-positioned, either as (emerging) global players or niche operators. In most cases they cooperate actively with other European or non-European operators
- For most elements of the cost chain purchasing power is more relevant than nationality (port costs, fuel, container leasing, feeder costs, . . .); the major exceptions are crew cost and taxation, and on-shore personnel:
  - For crew costs, the operator may decide to flag out. To date, EU owners have flagged out proportionately less than their non-EU counterparts but given competitive pressures it is unlikely the 'clock will be turned back'. Also, this cost category accounts for less than 5% of a major container line's cost
  - On taxation, clearly much less flexibility exists
  - On-shore personnel (documentation, customer service, customs clearance, billing, equipment control, inland logistics, overhead) is a major cost category (at least 20% of total costs), and this is where the next cost rationalisations will come through integration (more scale), IT solutions, process redesign. The challenge for Europe is to retain as much of those activities in the region as possible, and to make it a 'given' for non-European lines to maintain/build a strong control centre in Europe (and not manage Europe's logistics from, say, Singapore)
- Policy should therefore encourage EU lines to retain as much on-shore activities in Europe as possible, while allowing them the flexibility to cooperate with partners, increase scale and otherwise pursue cost advantage

**Primary attention is probably best directed at improving intermodal linkages to major container terminals.**

- Coverage of maritime trade routes has actually improved: more frequency, and a similar range of ports called directly in Europe (and an expanded net of feeder services to cover all other ports)
- Many leading ports/terminal operators have introduced Post-Panamax cranes, and that would not appear to be a limiting factor in Europe today
- With ever larger vessels, and significant volumes of inbound and outbound boxes associated with each call, bottlenecks and inefficiencies would occur mostly around major container terminals
- While the modal mix for inland transport is still heavily road-oriented, intermodal solutions (rail and barge) could relieve road congestion (and provide environmental benefits)

**The overall policy being pursued on maritime safety would therefore seem to cover container shipping adequately.**

- There is no evidence that container operators in general, or EU operators in particular, are particularly high-risk in terms of shipping accidents
- In general, the accident profile of container shipping is better than that of bulk shipping
- The value of both vessel and cargo is such that no undue risks appears to be taken
- The accident profile of EU container operators is comparable to that of Non-EU operators

**Analysis of Supply and  
Demand of Liner Shipping  
Services**

Final Report

Prepared for:  
European Commission DGVII

1st September 1997