

Transport & Logistics

Global Trends in Shipping and Ports

October 2008

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PRICEWATERHOUSECOOPERS 

Agenda

- Trends in shipping
 - General trends
 - Tanker sector
 - Dry bulk sector
 - Container sector
 - LNG sector
- Expected impact of recent trends in shipping
- Trends in ports



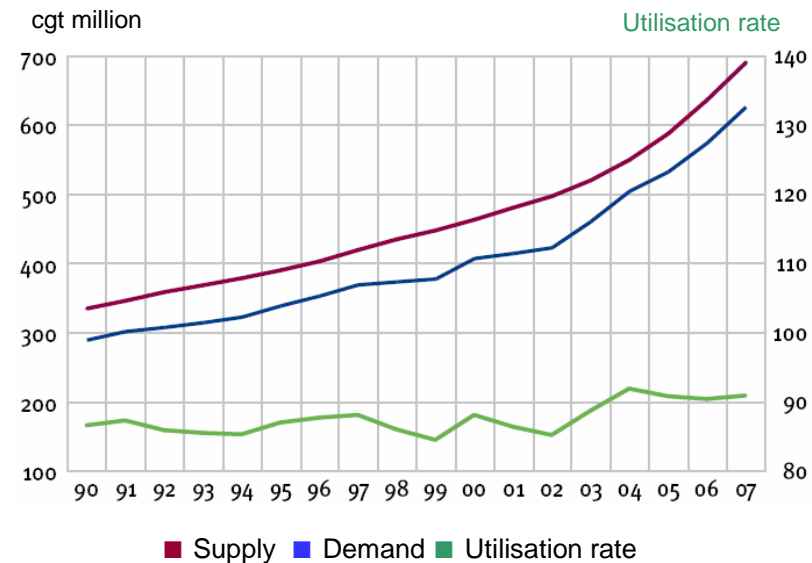
Trends in shipping

Trends in shipping – general trends

2007 – An exceptional year in shipping

- Long-term growth trend in tonnage demand has increased from 3 to 4% in the 1990s to 7 to 8% in the current decade.
- Worldwide tonnage demand for the world merchant fleet up 9% in 2007, compared to 7.6% in 2006, 5.6% in 2005 and 9–10% in 2003 and 2004.
- Slight improvement of utilisation rate in 2007.
- 2007 has been an extremely strong year for the dry bulk market, also other shipping market segments very probably gave owners a satisfactory profitability.
- In spite of a good start in the first half of 2008, the impact of the credit crunch has spilled over beyond financial markets into the real economy with direct impact on world trade. This has already caused freight rates to decline dramatically, particularly in the dry bulk and container sectors.

Supply, demand and utilisation rate – world merchant fleet (in cgt* million), 1990-2007



* cgt = compensated gross tonnes

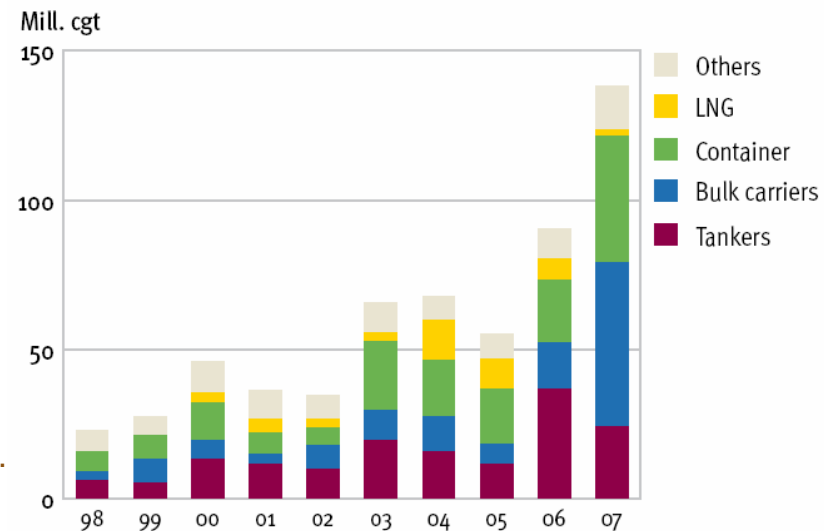
Source: R.S Platou Economic Research, 2008

Trends in shipping – general trends

Record high ordering activity of new vessels in 2007

- Healthy freight markets fuelled demand for tonnage in all newbuilding segments in 2007: the demand for new tonnage was 53% higher compared to 2006.
- New record high ordering of bulk carriers and container vessels in 2007.
- The demand for new ships by far exceeded the delivery capacity and the shipyards order backlog became even longer.
- High ordering activity led to an upward pressure on newbuilding prices.
- Abnormal variation in the price development between different types of tonnage:
 - Huge demand for bulk carriers pushed prices in this segment up by 30 to 40%.
 - Prices for tankers only increased by 6 to 16%.
- Building costs have risen because of increased wages, steel prices and equipment costs.
- Orders at the end of 2007 represented 41% of the existing fleet.
- Ordering activity has already started to decline in first half of 2008. A sharp decline is expected in the second half.

Worldwide new orders by vessel type in cgt* (30,000 dwt+), 1998-2007**



*cgt = compensated gross tonnes

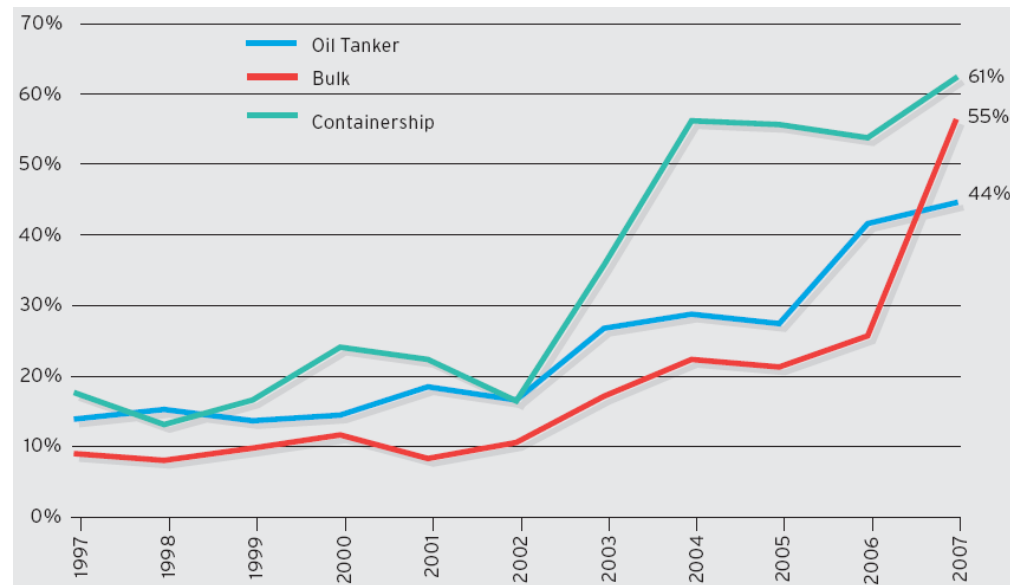
** dwt = deadweight tonnes

Source: R.S Platou Economic Research, 2008

Trends in shipping – general trends

Significant increase of fleet on order as a percentage of the worldwide active fleet

Percentage of the worldwide active fleet on order by type (% dwt* of fleet on order)



* dwt = deadweight tonnes
Source: BRS, 2008

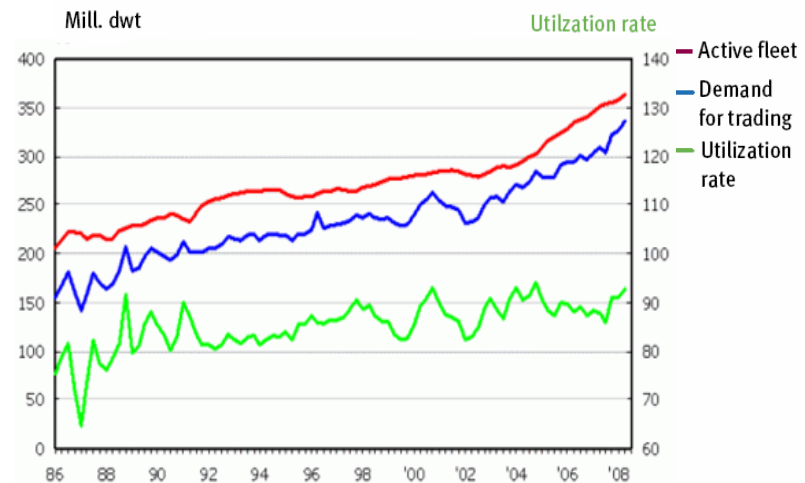
Trends in shipping – tanker sector

The tanker market in 2007 took another step on its declining trend since its peak in 2004

- World oil industry has been almost close to its full capacity since 2004, oil consumption increased by only 1.0% in 2007.
- The worldwide tanker fleet in 2007 increased by 5%, while tonnage demand grew by 3.5%.
- Worldwide transport distances increased by 2%, mainly driven by a rise in Chinese import distances.
- The utilisation rate for the total tanker fleet fell by 1.5 percentage point.
- Future tanker demand is likely to continue to increase impacted by:
 - More US reliance on Arabian Gulf and West African sources;
 - Angola – China relationship
 - Venezuela – China relationship

Nevertheless, the impact of the current economic climate will need to be considered.

Supply, demand and utilisation rate worldwide tanker fleet (10.000 dwt+*), 1986 - 2008



* dwt = deadweight tonnes

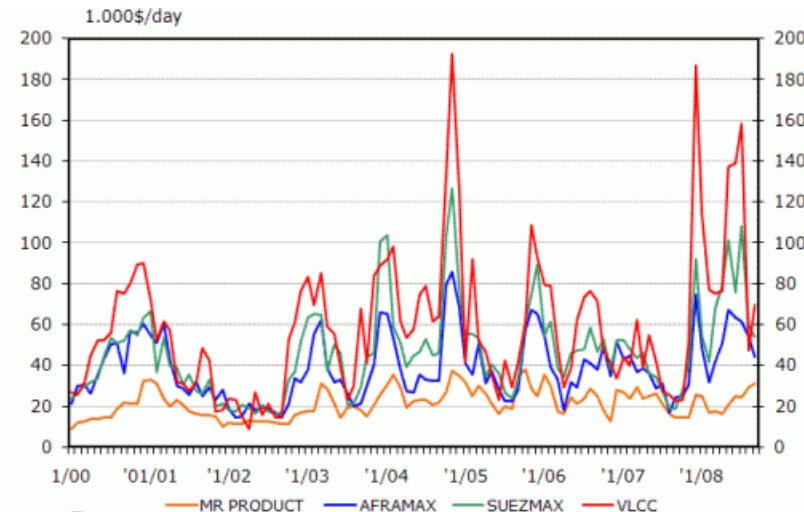
Source: R.S Platou Economic Research, 2008

Trends in shipping – tanker sector

With the current financial crisis reaching a crescendo, tanker markets begin to come under pressure

- The tanker freight rates fell to the lowest level in many years during the second half 2007. Only in the last two months 2007, rates improved strongly because of a sudden rise in oil production, longer transport distances and a lot of slowsteaming due to much higher bunker prices.
- Even though average freight rates for most of the tanker segments further improved during the first half in 2008, they suddenly tumbled in July 2008, as a result of falling demand which led owners to slow down the speed of their vessels and reduce fuel consumption.
- The impending economic slowdown and impediment to future growth is seen to be pressuring equity markets, crude prices and economic growth potential downwards. Combined with the impact of expected deliveries of new built vessels tanker markets could begin to come under significant pressure.

Monthly Spot Rates for Tankers



Source: R.S Platou Economic Research

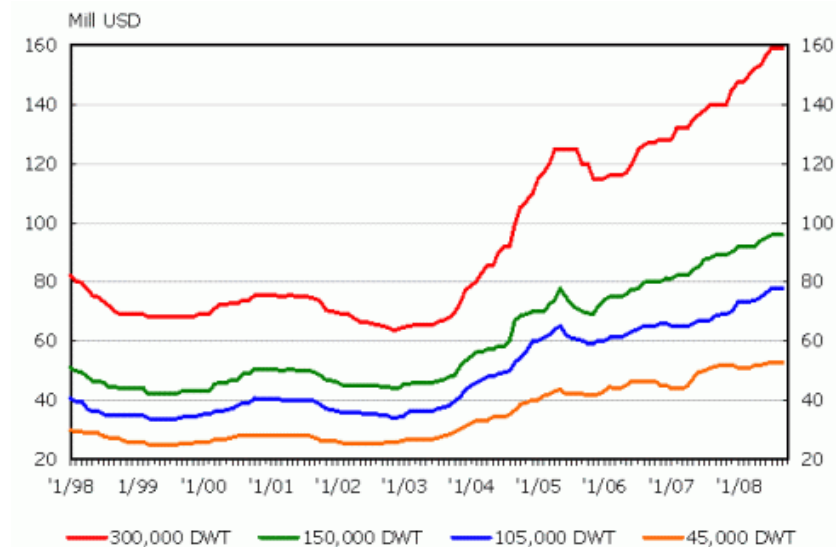
Trends in shipping – tanker sector

Tanker freight rates - out of line with owners' heavy investments

Characteristics in 2007:

- Growing number of conversions of single-hull tankers into bulk carriers;
- Offshore market continues to attract units for transformation into FPSOs and FSOs*.
- Tanker freight rates are out of line with owners' heavy investments.
- Scarcity of qualified officers and crew.
- Constant threat of geopolitical uncertainties, e.g. Middle East and Nigeria.
- Full implementation of the IMO rules have to eliminate single-hull ships by 2010.

Building Prices for Tankers



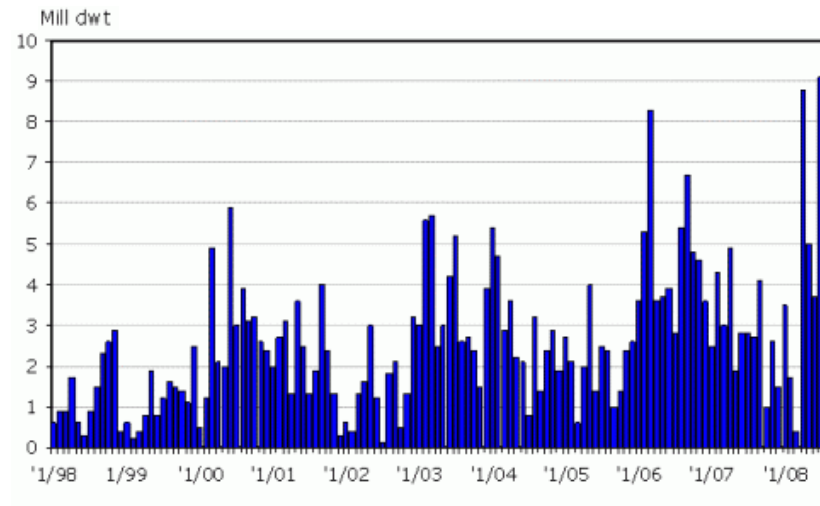
Source: R.S Platou Economic Research

* FPSO = Floating Production Storage and Offloading, FSO = Floating Storage and Offloading

Trends in shipping – tanker sector

New Orders of Tankers

**New Orders of Tankers
(Monthly 1998 – 2008)**



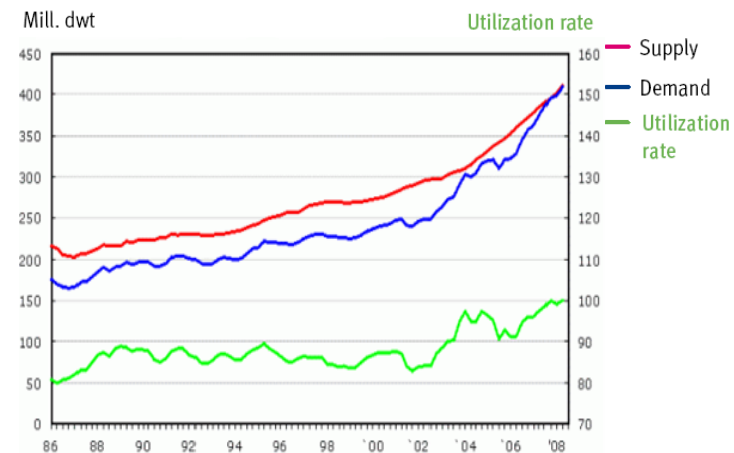
Source: R.S. Platou Economic Research, September Monthly Report

Trends in shipping – dry bulk sector

Year 2007 was the strongest ever for seaborne dry bulk transport but where do we go from here?

- Growth of seaborne transport of dry bulk commodities in 2007 estimated at around 7%.
- A significant increase was noticed in sailing distances in 2007: Asian sourcing in iron ore from Brazil and longer trades in steel and cement because of China's increase in exports to Europe and the Middle East.
- Iron ore transports increased by 10%, China accounted for 85% of the total increase.
- Seaborne coal transport in 2007 climbed 7%, strongest relative growth in coal imports came from China and India.
- As sourcing countries Brazil for iron ore and Indonesia for coal held the key to increases in 2006 and 2007. Australian ports were saturated, leading to record delays.
- The active dry bulk fleet increased by 6.6% from 2006 to 2007.
- Fleet utilisation rate in 2007 increased by 6 percentage points.

Supply, demand and utilisation rate worldwide bulk carrier fleet (10.000 dwt+*), 1986 - 2008



* dwt = deadweight tonnes

Source: R.S Platou Economic Research, September 2008

Trends in shipping – dry bulk sector

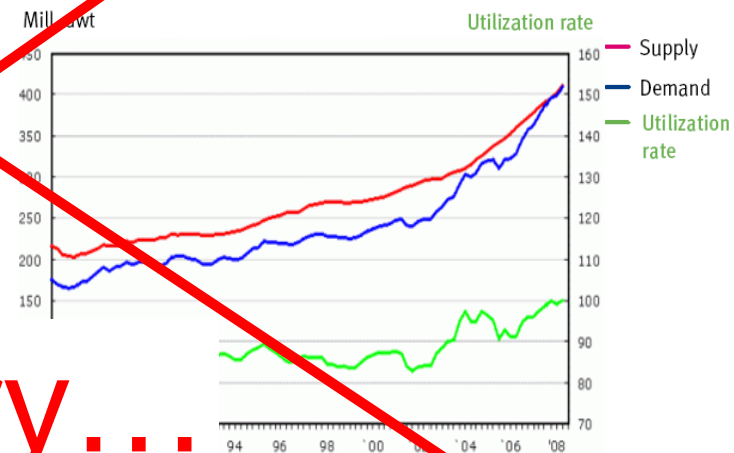
Year 2007 was the strongest ever for seaborne dry bulk transport but where do we

Seems like

- Growth of seaborne trade in 2007 estimated at around 10%
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history . . .

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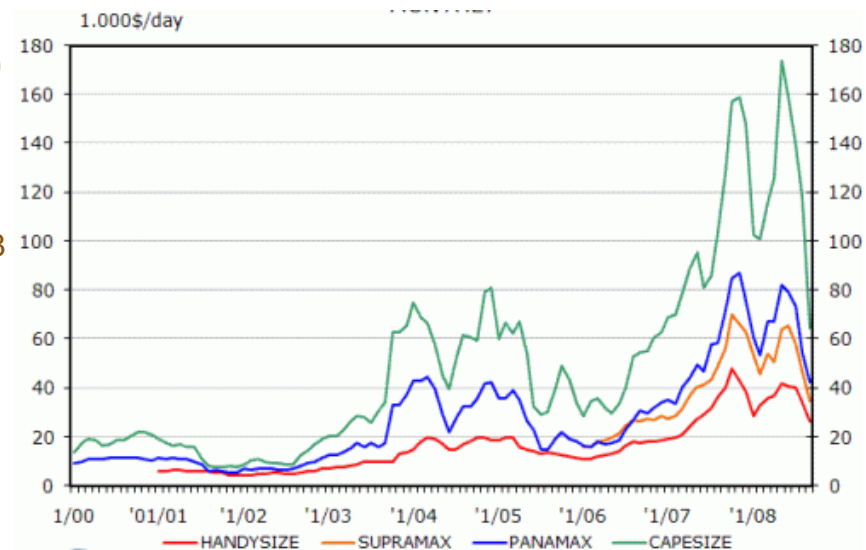
Source: R.S Platou Economic Research, September 2008

Trends in shipping – dry bulk sector

Yearly average bulk freight rates which more than doubled in 2007, dropped dramatically over the last few months.

- Yearly average bulk freight rates in 2007 more than doubled compared to the previous year; in some cases freight costs per tonne were higher than the price of the cargo.
- Record high ordering of bulk carriers in 2007 which pushed prices for new vessels up by 30 to 40%.
- Conversion of VLCCs – and subsequently Suezmax, Aframax and even Panamax tankers – into bulkers: 148 converted tankers set to enter the dry cargo markets during 2008 and 2009.
- With the subprime credit crisis that broke during the summer of 2007, will all the newbuilding projects secure financing?
- Over the last few months the rates have dropped dramatically. This is mainly explained by:
 - Slowdown in steel production;
 - No lines of credit are made available for world trade (90% of which is based on L/Cs)

**Monthly spot rates for bulk carriers
2000 - 2008**

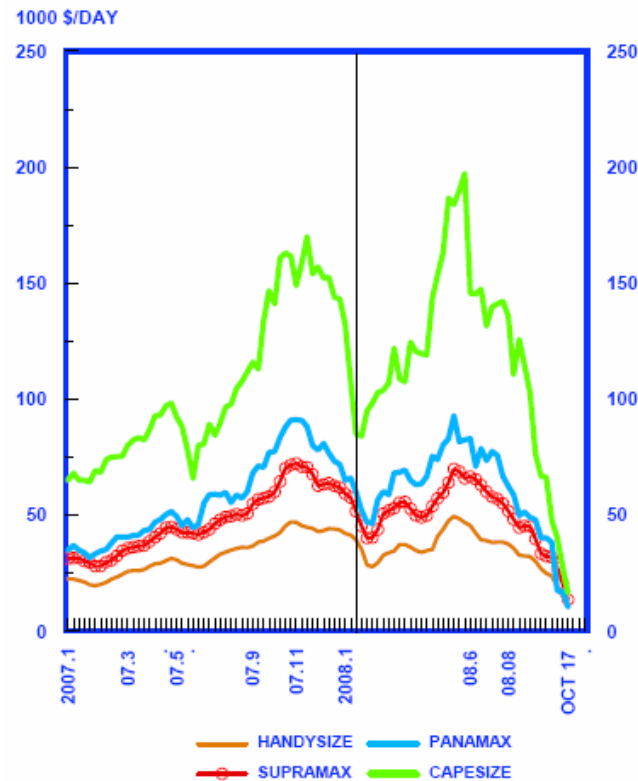


Source: R.S Platou Economic Research

Trends in shipping – dry bulk sector

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Weekly tirpcharter rates for bulk carriers
2007 - 2008



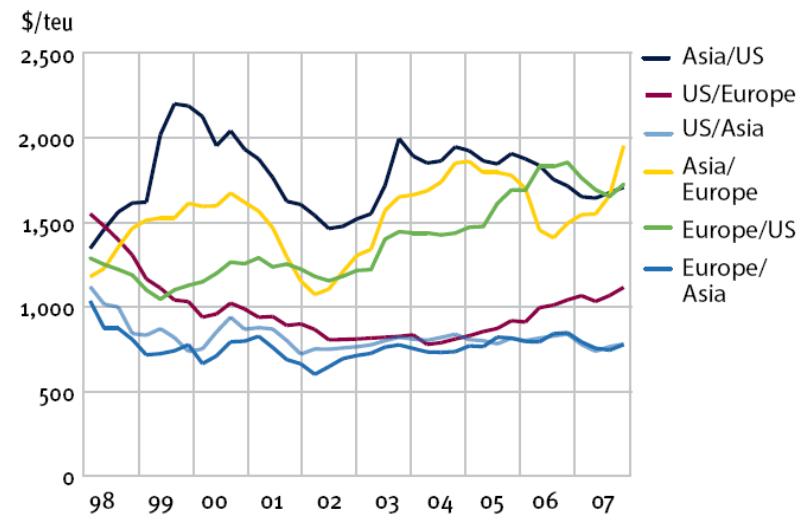
Source: R.S Platou Economic Research

Trends in shipping – container sector

Fall of the dollar continued to have a positive effect on ship occupancy ratios in the container shipping sector

- Worldwide container ship demand in 2007 increased by 14-15%, while the increase in world container ship capacity amounted to 14.5%.
- The strongest increase in demand was noted on the trade lane from Asia to Europe.
- Fall of the dollar continued to have a positive effect on ship occupancy ratios.
- Container trade from Asia to the US in 2007 grew by only 2%, while trade in the other direction jumped 15%.
- European volumes to the US were basically unchanged while US exports to Europe rose 30%.
- Container ship fleet productivity in 2007 was reduced by increased port congestion, especially in Europe.
- This forced some operators to reschedule and expand their capacities by adding extra ships in order to better maintain schedules and save fuel costs.
- Freight rates in 2007 were slightly higher compared with the prior year, with wide variations between the different trade lanes.

Container freight rates (quarterly)
in \$ / teu*, 1998 - 2007



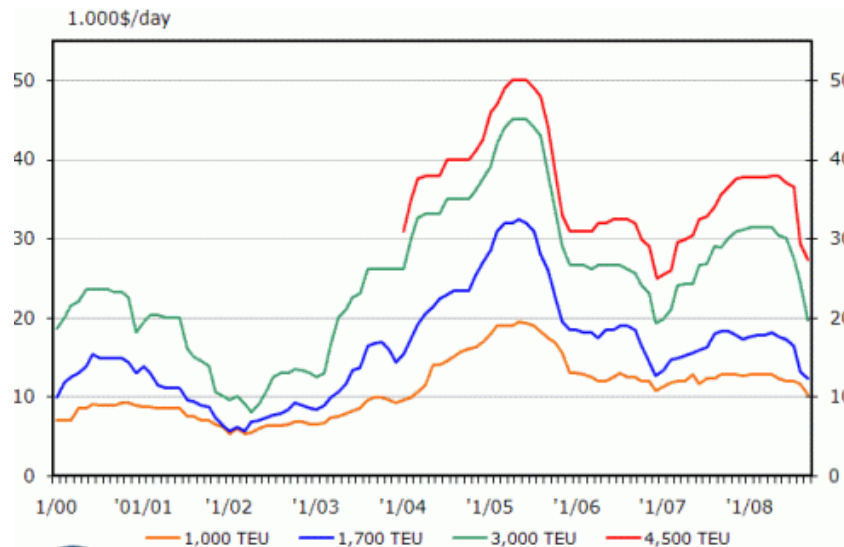
* teu = twenty foot equivalent unit

Source: R.S Platou Economic Research, 2008

Trends in shipping – container sector

Rates have fallen significantly over the last couple of months as the impact of the credit crunch has spilled over to world trade

12 month Charter Rates for Container Ships (Monthly)

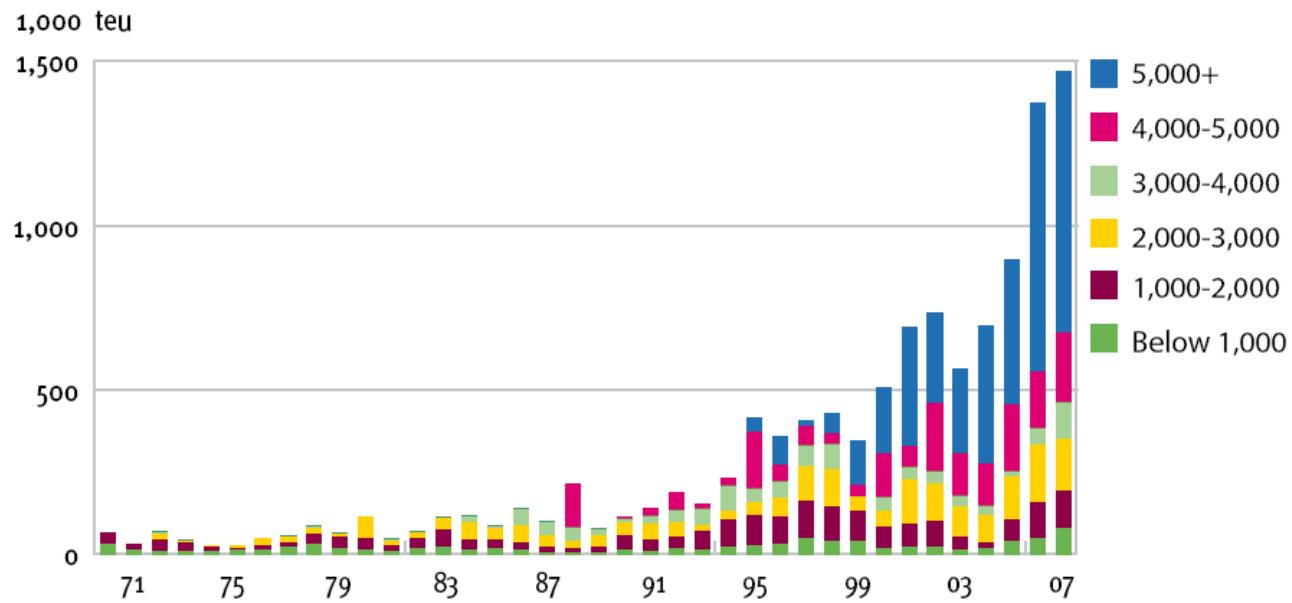


* teu = twenty foot equivalent unit
Source: R.S Platou Economic Research, 2008

Trends in shipping – container sector

Firm growth of worldwide cellular container fleet in 2007

Worldwide fully cellular container fleet by year of built, 1998 - 2007



Source: R.S Platou Economic Research, 2008

Several other factors have an effect on the container shipping sector

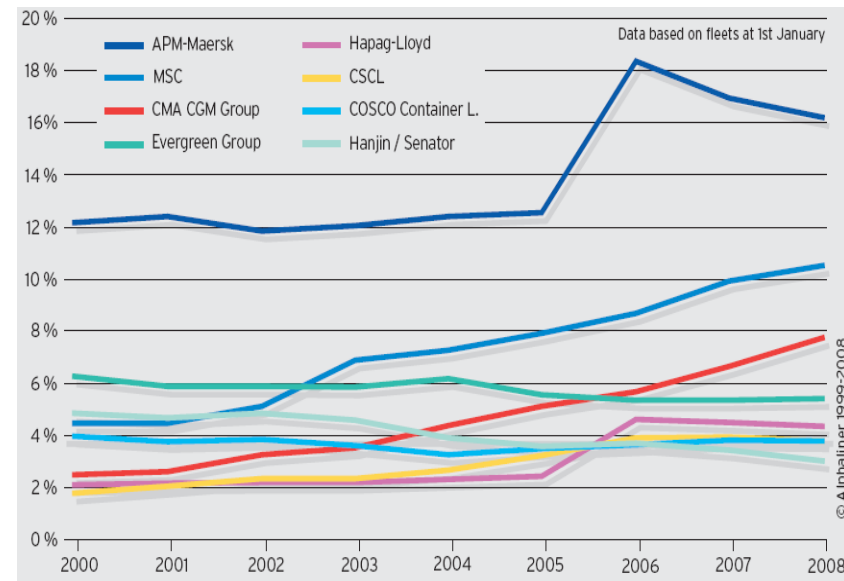
- The hike in bulk carrier charter rates has driven conbulklers and large multipurpose ships out of the container trades into the bulk trades; the shift of cargoes from bulkers to boxes remains modest, however.
- The increase in bulk carrier rates also provides an incentive to shift containerisable cargoes, like agro products, forest products, steel products and other minor bulks as commodities, from bulk carriers to containers.
- Further increase in container ship sizes.
- Persisting trade imbalance in container trades on east – west routes, e.g. transpacific and Europe - Asia.
- Introduction of the Authorised Economic Operator status by the EU in January 2008.
- Because of the abolition of European conferences in October 2008, container carriers will have to compete without cartel arrangements.
- Controlling terminals increasingly is a key to success for carriers in the seaborne container trade market:
 - Controlling terminals helps operators avoid the disruptions in schedules caused by the ‘first come, first served’ principle or fixed berthing windows, with other carriers seeking the same window.
 - A number of carriers set up terminal operating subsidiaries a while ago, others try their best to either enter or develop their existing activities in this sector.
 - Trend was reinforced in 2007 with further initiatives in this direction in the years to come.

Trends in shipping – container sector

Leading trio controls one-third of the container liner market

- The combined market share of Maersk line, MSC and CMA CGM group grew from 33.1% to 34.1% in terms of teu capacity during 2007.
- Maersk's market share went down from 16.8% to 16.1%, MSC went up from 9.8% to 10.4% and CMA CGM went up from 6.6% to 7.6%.
- MSC and CMA CGM are further boosting their positions as they continue to take the ships that other lines are discharging – or subletting.
- Several M&A deals in 2007, e.g.:
 - CMA CGM bought niche carriers Cheng Lie Navigation, US Lines and Compagnie Marocaine de Navigation.
 - Hamburg Süd acquired Costa Container Lines.
 - Samskip acquired Team Lines from Delphis NV.
 - Holland Maas Shipping was taken over by undisclosed buyers.
 - Lemissoler Shipping company acquired Baltic Container Lines (BLC).
 - Unifeeder was acquired by P/E investor Montagu.

Evolution of container operator market shares, 2000 - 2008



Source: Alphaliner, 2008

Trends in shipping – container sector

Orderbook of container vessels with a capacity of more than 7,500 TEU is twice as large as current operated fleet

Operated container fleet and orderbook by size category as of February 2008

Size (TEU) category	Operated fleet			Orderbook			Orderbook share (TEU)
	Ships	TEU	Average TEU	Ships	TEU	Average TEU	
> 7,500	190	1,671,000	8,800	330	3,530,000	10,700	211%
> 5,000	413	2,415,000	5,800	177	1,084,000	6,100	45%
> 4,000	401	1,780,000	4,400	256	1,121,000	4,400	63%
> 3,000	315	1,072,000	3,400	72	248,000	3,400	23%
> 2,000	693	1,749,000	2,500	155	401,000	2,600	23%
> 1,000	1,190	1,647,000	1,400	305	439,000	1,400	26%
> 100	1,150	696,000	600	144	119,000	800	17%
Total	4,352	11,057,000	2,500	1,439	6,942,000	4,800	63%

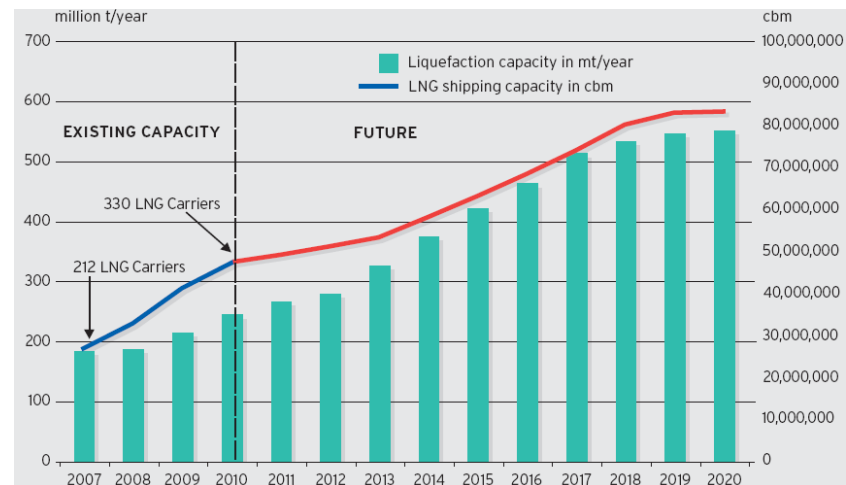
Source: Dynamar, 2008

Trends in shipping – LNG sector

Export capacity of LNG in 2007 was limited by utilisation rates of the liquefaction plants

- The worldwide demand for LNG carriers in 2007 increased by an estimated 13%.
- Important drivers: increase in traded volumes and increased transport distances.
- Higher prices in the Far East in 2007 attracted a number of cargoes from the Atlantic basin – twice as much as in 2006.
- Bottleneck in the LNG market was the export capacity which is limited by the utilisation rates of the liquefaction plants.
- The worldwide LNG fleet in 2007 grew by 17% (34 vessels), resulting in drop in the utilisation rate.
- Only 25 new vessels were ordered in 2007: due to significant cost increases for new liquefaction plants, many projects experienced delays and thus delayed the ordering of new ships.
- The LNG fleet is set to grow by 22% in 2008, while demand volumes may grow by only half this amount, leading to a further decline in the utilisation rate of LNG vessels.

Worldwide LNG liquefaction capacity versus shipping transportation capacity (below 35 years), 2007 - 2020



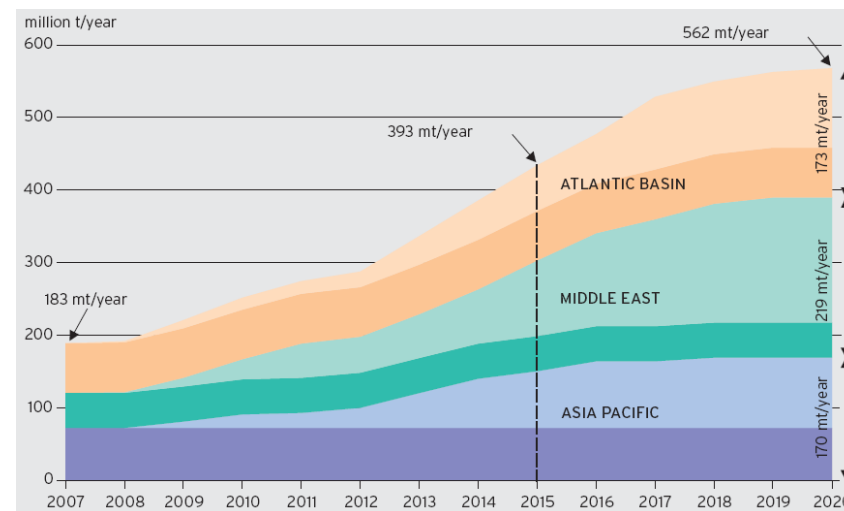
Source: Barry Rogliano Salles, 2008

Trends in shipping – LNG sector

The United States will likely be one of the main areas of LNG import growth in the coming years

- For now, Asia remains the biggest buyer of LNG: Japanese imports comprised more than half of Asia's imports in 2007.
- US will likely be one of the main areas of import growth in the coming years: North America may likely offer some 50% of the future world demand growth.
- Enormous future needs because of new LNG projects.
- Planned an possible future projects by Qatar, Iran, in the Gulf of Guinea and by Russia in the Arctic.
- New LNG ship concepts will be developed in the next few years, fulfilling or even creating new niche businesses, e.g.:
 - Ships with an onboard liquefaction capacity and an LNG storage capacity.
 - Floating factories similar to FPSO.

Implementation of LNG projects until 2020



Source: BRS, 2008



Expected impact of recent
developments in shipping

Increased credit risk in the current market requires careful consideration of business relationships

Relationships with charterers:

- Charterer defaults are expected;
- Early vessel redeliveries and renegotiation of time charter terms;
- Cancellation of contracts;
- Delays in cash settlements;
- Increase in claims and disputes;
- Pressure on rates and terms;



Some considerations for shipping companies;

- Is sufficient working capital available in the business?
- Has the credit risk been assessed for all charterers/counterparties?
- Can some of the risk be insured?

Relationships with shipyards:

- Delays in vessel deliveries as shipyards are failing to obtain necessary financing or refund guarantees;
- Cancellation of orders as shipping companies fail to obtain necessary financing;
- Quality concerns over vessels delivered by greenfield yards;
- Shipyard closures;
- Increase in disputes/claims with yards.



- Are current orders placed with reputable/well established yards?
- Has the credit risk been assessed for both the yard and the refund guarantor?
- Are any of the associated risks refundable?
- What are the implications of cancelling newbuilding orders?

More shipping companies and expected to face financial difficulties. Same applies to scrapyards.

Increased volatility in freight rates:

- Companies tied into time-charter agreements entered into during market peak expected to face financial difficulties;
- Some vessels expected to be laid up as not economically beneficial to operate or to support higher freight rates;
- Vessels acquired during market highs will likely trade below cash break-even point if financed through loan finance;
- M&A activity will be slow making it difficult to value second hand vessels;
- Forced sales of vessels expected to increase.



Some considerations for shipping companies;

- Perform break even analysis to determine financing needs over the short and medium term under different scenarios;
- Consider hedging strategies through use of freight derivatives;
- Consider opportunities that may be available in expanding fleet.

Scrap prices facing a downward trend

- Scrapyards also finding it difficult to raise finance;
- Delays expected in taking on more tonnage for scrap.
- Scrap prices expected to fall further.
- Some scrapyards to face bankruptcy.



- Have a clear strategy for trading old vessels;
- Consider costs of lay-up if not possible to scrap immediately or for speculative purposes.

Financing is becoming difficult to obtain and is more costly

Difficulties in raising new finance:

- Reduction in lending activity by lending banks;
- Tighter covenants and loan terms;
- More thorough due diligence/credit assessment process by lending banks;
- Higher margins;
- Other sources of finance may not be attractive in short term.



Some considerations for shipping companies;

- Be proactive and open in relationships with banks;
- Build trust through transparency and provision of reliable information;
- Outline business strategy and investigate alternative financing options early;
- Be specific on finance requirements and perform a sensitivity analysis on your model.

Developments with existing bank loans:

- Breaches of covenants are expected (particularly loan to value ratios);
- Renegotiations of repayment terms and loan structures;
- Loan to Equity conversions expected;
- Ship arrests and work-outs in some circumstances;



- Anticipate breaches of covenants and prepare ways to mitigate these;
- Perform sensitivity analysis on future cash flows and have a back-up plan;
- Discuss possibilities with the lending banks early.

Trends in shipping – Implications of recent developments

Implications on financial performance

Implications on financial performance:

- Impairment of assets/investments;
- Onerous contracts;
- Increased claims/disputes;
- Increased occurrence bad debts;

Possible developments in the industry:

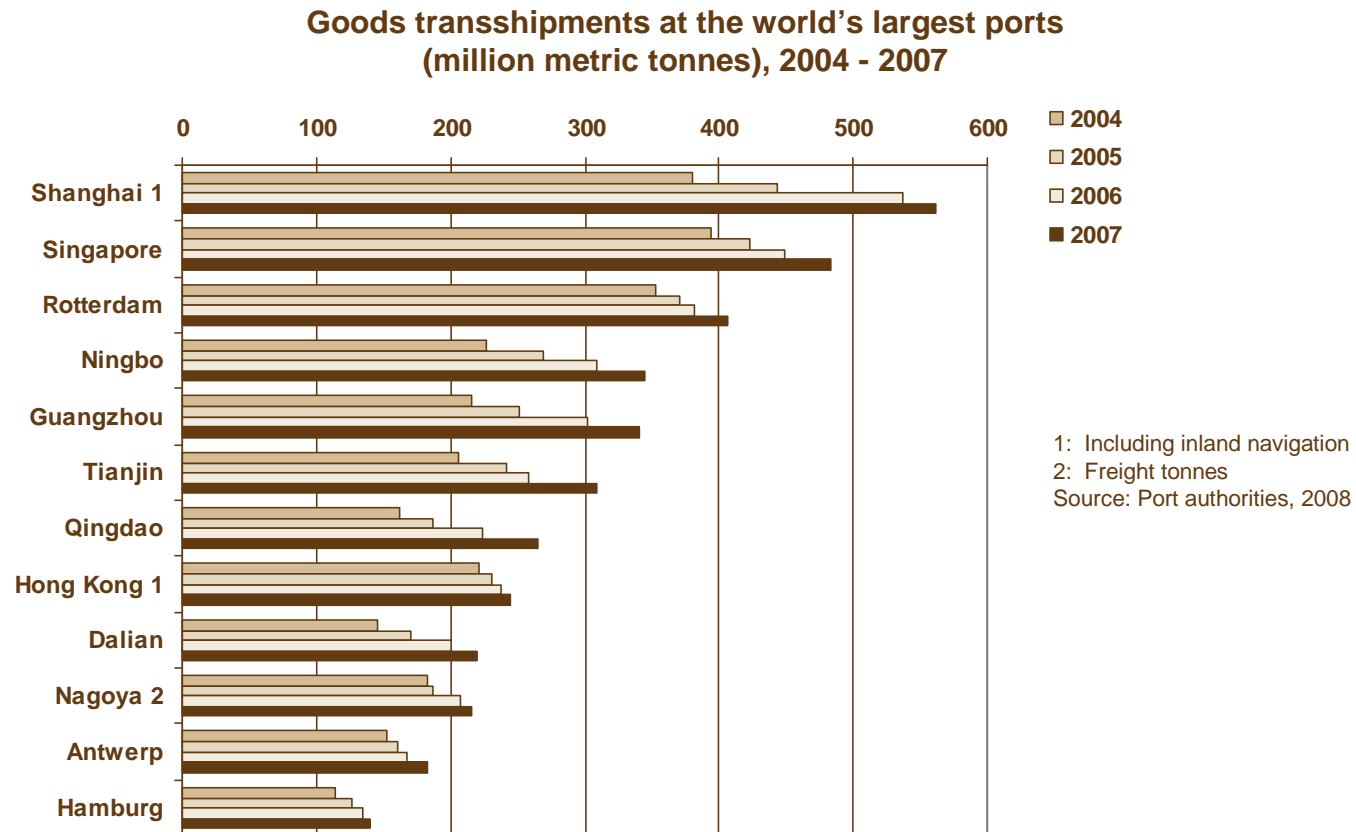
- Consolidation in the industry, particularly for companies that suffer from low liquidity or high orderbooks for which no firm financing commitments have been obtained;
- Banks seeking a more active role in Boards of companies or in influencing decisions;
- Debt to Equity conversions;
- More risk sharing relationships between charterers/financiers and shipping companies;
- Divestment of non-core activities;
- Focus on risk management activities.



Trends in ports

Trends in ports

Continuing strong traffic growth at Chinese ports

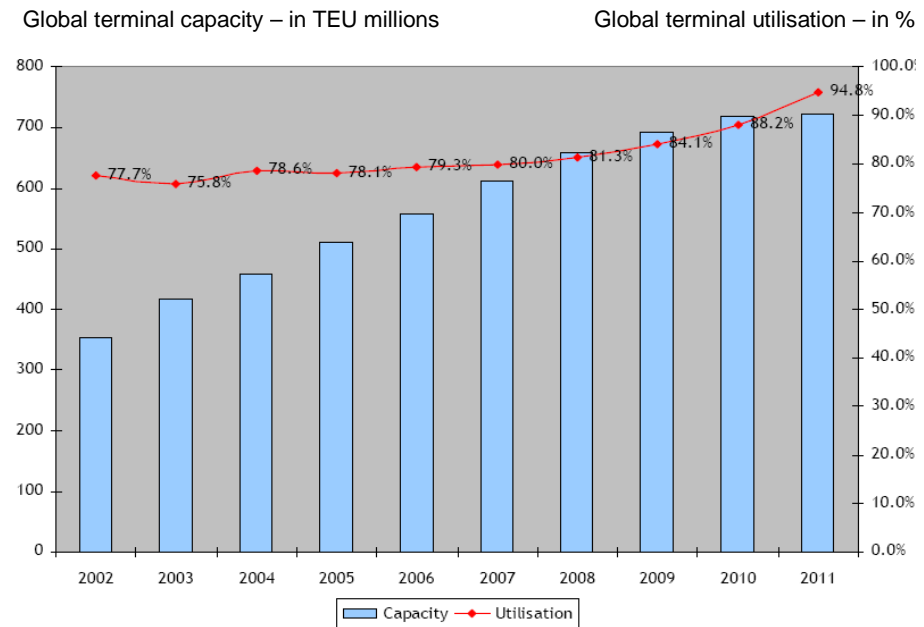


Trends in ports

Global container port capacity is reaching critical levels

- Global container port capacity is reaching critical levels.
- Development of new port capacity in countries like China is fast, but in other regions (like US and Europe) much slower, due to many procedures (i.e. public inquiries, Environmental Investigation Agencies, inefficient hinterland connects, etc.).
- As from 2006 there is increasing interest of investment banks and other financial institutions to invest in the container terminal business, e.g.:
 - Goldman Sachs purchased a 49% stake in operator SSA Marine.
 - Insurance conglomerate American International Group (AIG) bought the US terminals of DP World.
 - A unit of Deutsche Bank bought Maher Terminals.
- Terminal valuations have doubled in 2005 and 2006 and have increased even further in 2007.

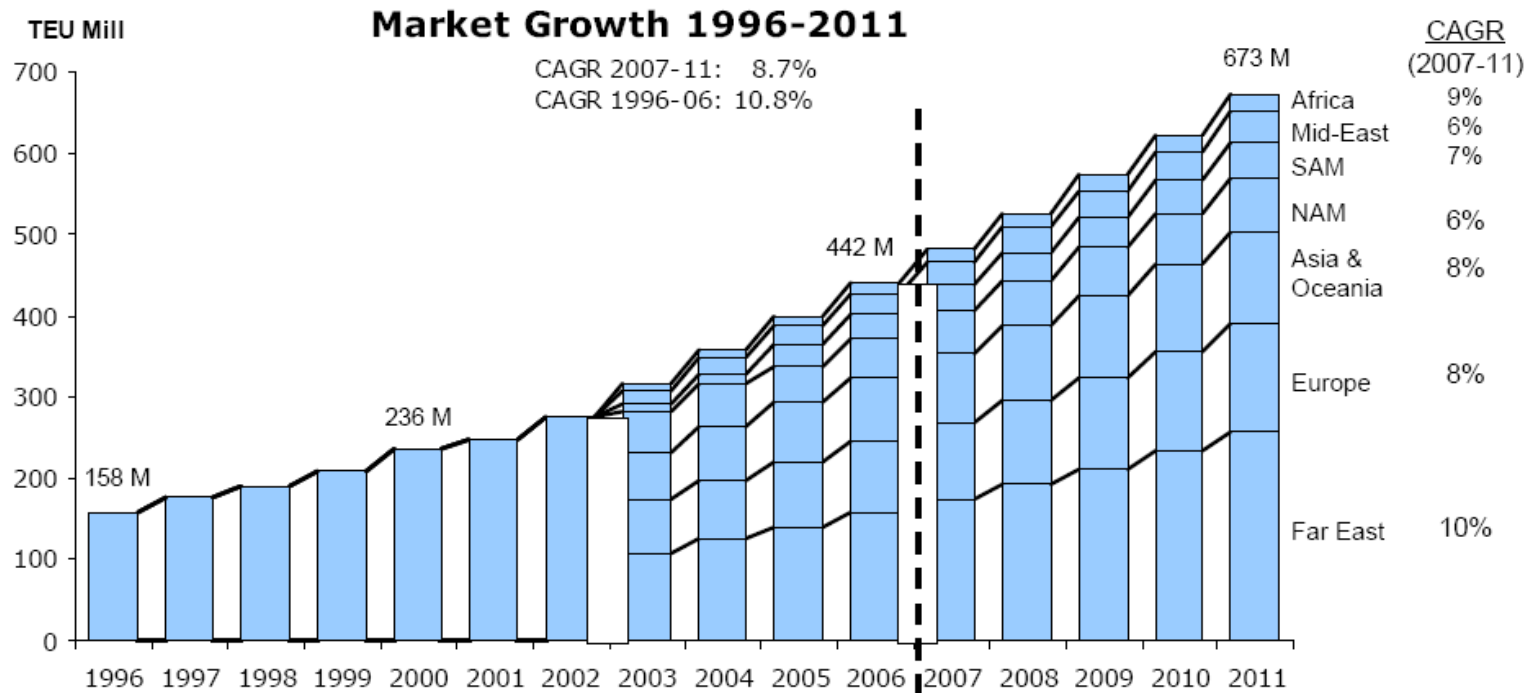
Global container terminal capacity / utilisation, 2002- 2011



Trends in ports

Container port industry growth is expected to continue as a result of globalisation and higher global wealth

Global container port market growth, 1996 - 2011

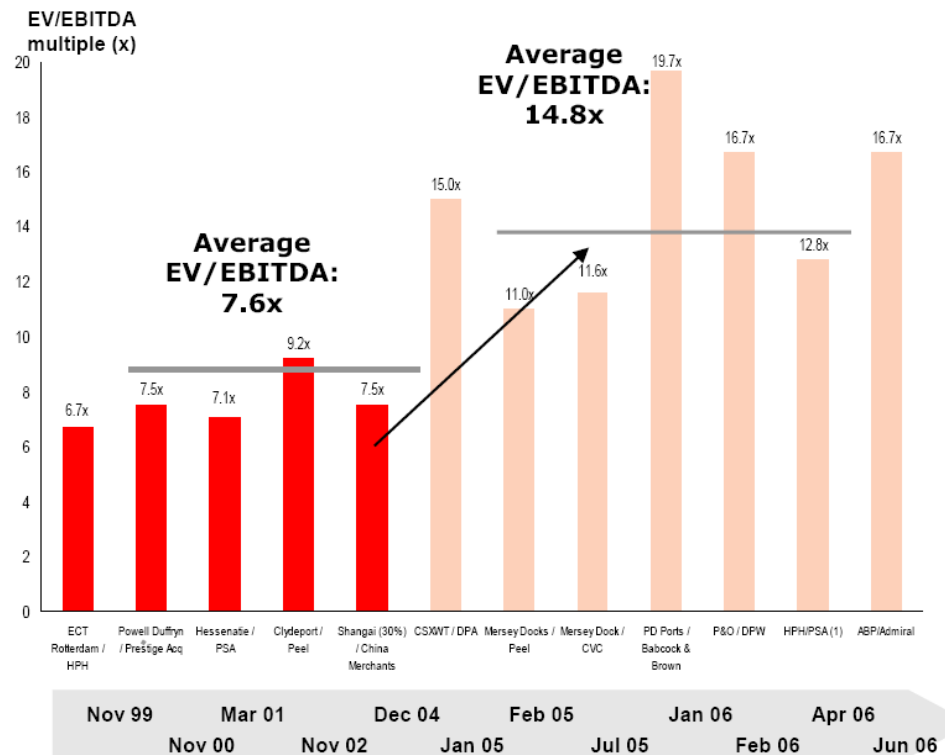


Source: APM Terminals, 2007

Trends in ports

Growing involvement of private investors in port projects leading to increasing EV / EBITDA multiples

Enterprise Value / EBITDA of terminal transactions, November 1999 – June 2006



Source: HSBC and various publicly available information, 2007

Trends in ports

Policy decisions can have a substantial impact on the business agreement and valuation of terminal transactions

Policy decision	Description	Considerations
Term of concession	<ul style="list-style-type: none"> Length of time that a concession partner will be allowed to lease and operate the asset 	<ul style="list-style-type: none"> What is political sensitivity to term of concession? What is value of incremental term length?
Rates	<ul style="list-style-type: none"> Rate increases and limits will be mandated 	<ul style="list-style-type: none"> Public appetite for future increases What is the elasticity of demand?
Expansion / enhancements	<ul style="list-style-type: none"> Will the port allow or mandate future expansion / enhancements to the asset? 	<ul style="list-style-type: none"> What enhancements are necessary? Future expansion if capacity is constrained
Non-compete	<ul style="list-style-type: none"> Potential commitment of the port to limit competitive development 	<ul style="list-style-type: none"> Is this good public policy? What are future capital plans that could have an impact if any?
Construction requirements	<ul style="list-style-type: none"> Capacity constraints, if any and other requirements Materials and methods 	<ul style="list-style-type: none"> Allowance for phasing could enhance feasibility What construction factors are important?
Operating and maintenance standards	<ul style="list-style-type: none"> Manual of specific operation conditions and rules to which a concession partner must adhere 	<ul style="list-style-type: none"> What are operating and maintenance conditions that are most important?
Labour	<ul style="list-style-type: none"> Status of existing employees Conditions for new concession company employees 	<ul style="list-style-type: none"> Will the concessionaire be held to the port's employment standards?
Environmental	<ul style="list-style-type: none"> Responsibility for existing potential environmental liabilities, if any 	<ul style="list-style-type: none"> Are there any known environmental liabilities?

Source: Goldman Sachs, 2007

October 2008

Trends in ports

Major port holdings are extending their network of dedicated maritime container terminals

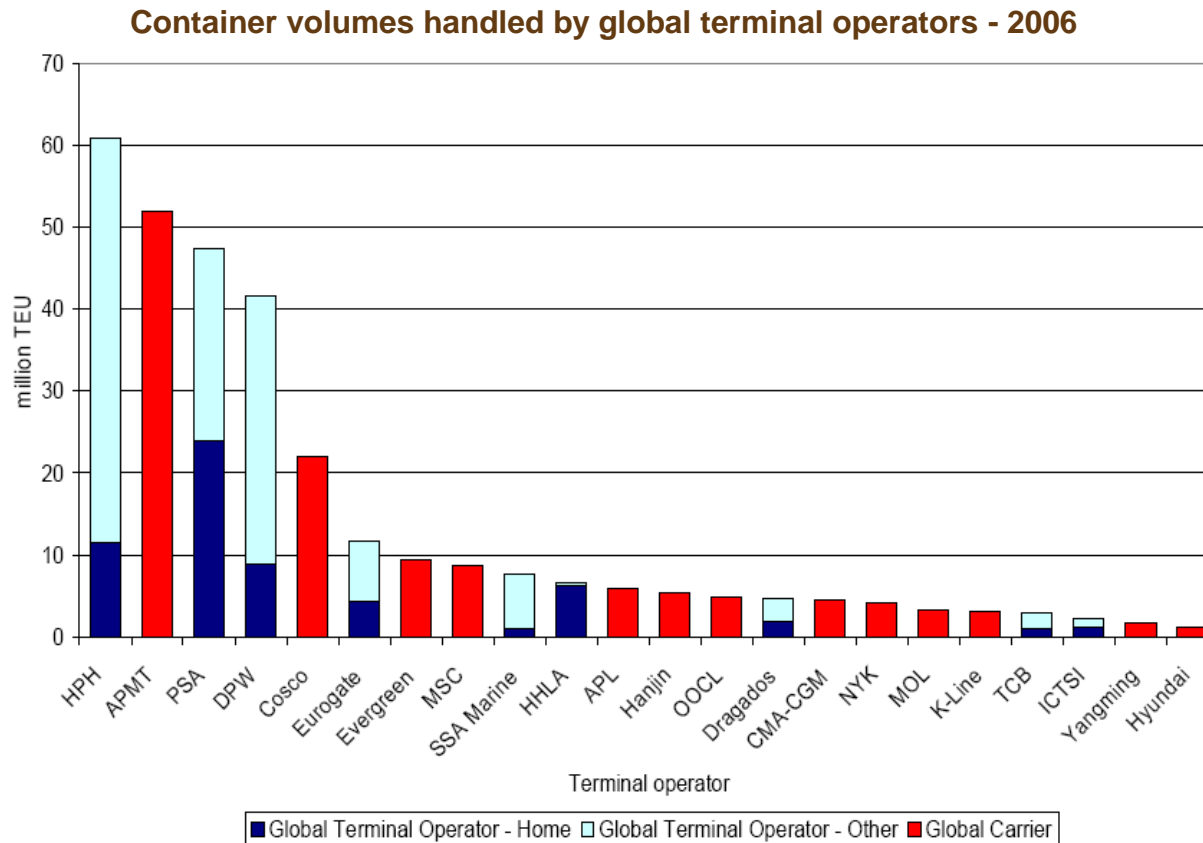
Dedicated maritime container terminals controlled by major port holdings, 2007

Holding	Australia	Europe	North America	Pacific Asia	South America / Caribbean	South Asia / Middle East	Total
APM Terminals		7	13	7	3	5	35
Dubai Ports World	5	9	1	10	3	12	40
Hutchison Port Holdings		7		21	8	2	39
Port of Singapore Authority		10		18		1	29
Total	5	33	14	56	14	20	143

Source: Hofstra University, 2007

Trends in ports

Most container terminal operators have expanded internationally from a clearly identifiable home port



Source: Drewry Shipping Consultants, 2007

Trends in ports

The main rationale behind the emergence of large port holdings covers five key areas

Financial assets	Large financial assets and the capacity to tap global financial markets. Terminals as equity generating returns.
Managerial expertise	Experience in the management of containerised operations. IT and compliance with a variety of procedures.
Gateway access	Establishing hinterland access. Creation of a “stronghold”. Provides a stable flow of containerised shipments. Development of related inland logistics activities.
Leverage	Negotiate with maritime shippers and inland freight transport companies favourable conditions. Some are subsidiaries of maritime shipping companies.
Traffic capture	Capture and maintain traffic for their terminals.
Global perspective	Comprehensive view of the state of the industry. Anticipate developments and opportunities.

Trends in ports

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Financial assets	Large financial assets and the capacity to tap global financial markets. Terminals as equity generating returns.
Managerial expertise	Experience in the management of containerised operations. IT and compliance with a variety of procedures.
Gateway access	Establishing hinterland access. Creation of a “stronghold”. Provides a stable flow of containerised shipments. Development of related inland logistics activities.
Leverage	Negotiate with maritime shippers and inland freight transport companies favourable conditions. Some are subsidiaries of maritime shipping companies.
Traffic capture	Capture and maintain traffic for their terminals.
Global perspective	Comprehensive view of the state of the industry. Anticipate developments and opportunities.