SHIPPING MARKET REVIEW 2ND HALF 2007

APRIL 2008

Ship Building

Record-high newbuilding prices prevail in all major segments. Nevertheless, the average daily earning requirement continues to increase. Even though, contracting activity broke all records in 2007. We question the sustainability, of this situation as we regard the current orderbook to be excessive. Accordingly, we expect overall contracting activity to be low in 2008 and 2009. In terms of ship prices, we expect a gradual decline throughout 2008 and 2009, probably moderated by order cancellations.

CONTRACTING PRICES

Record-high newbuilding prices prevail in all major segments
Newbuilding prices continue to increase. Dry bulk prices increased 30% during 2007 compared to 2006. Tanker and Container newbuilding prices increased 9% and 4% respectively (fig. 1 and 2).

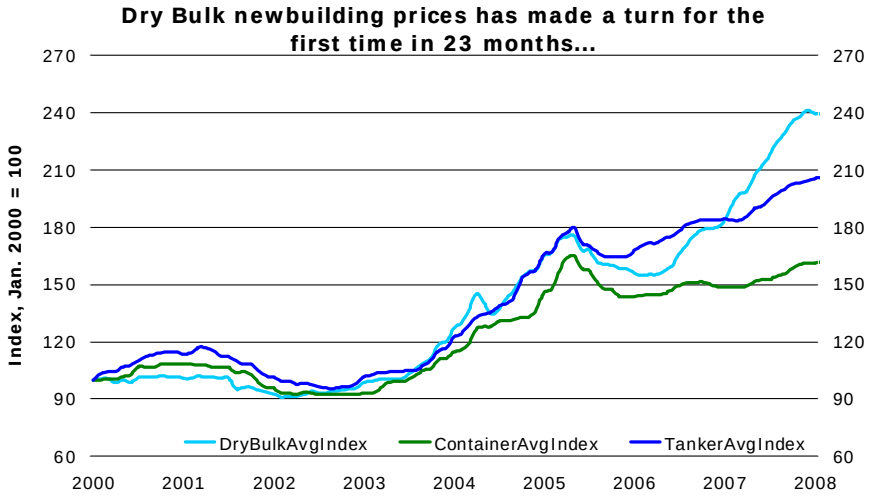
Tanker newbuilding prices are currently 25% above the 5-year average. In other words, tanker newbuilding prices would have to decline 53% before reaching the low levels of 2002.

Dry Bulk newbuilding prices are currently 39% above the historical average. Current dry bulk newbuilding prices would have to decline 61% before reaching the 2002 level.

Container newbuilding prices on the other hand seem less volatile. Current average newbuilding prices are 15% above the 5-year-average. Accordingly, the average newbuilding price may decline by 43% before flirting with the all time low.

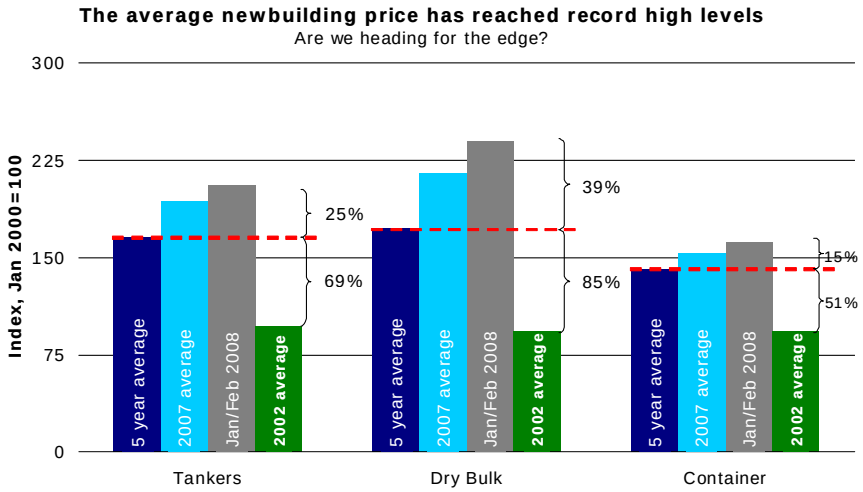
Are trees growing into the skies or are we about to enter the pruning season? Dry Bulk newbuilding prices recently declined for the first time in 23 months. Is this the first sign of prices generally turning south?

Figure SB.1



Sources: Clarksons, Danish Ship Finance

Figure SB.2



Sources: Clarksons, Danish Ship Finance

Dry Bulk contracting activity in 2007 equivalent to more than four times the average order level

The newbuilding price increases, as described above, are the result of a very large order intake by shipyards in 2007. As illustrated by figure 3, the contracting activity reached a new record level in 2007, with 234 million dwt contracted. This is 2.6 times more deadweight on order than the 10-year average.

The main contracting activity has been within the dry bulk segment, with 146 million dwt contracted (i.e. almost four time the 10-year average contracting level). The container segment also has significant contracting activity, with 35 million dwt contracted against a historical average of 15 million dwt. Tanker shipowners have contracted slightly above historical average in 2007 with 44 million dwt contracted (against a historical average of 35 million dwt).

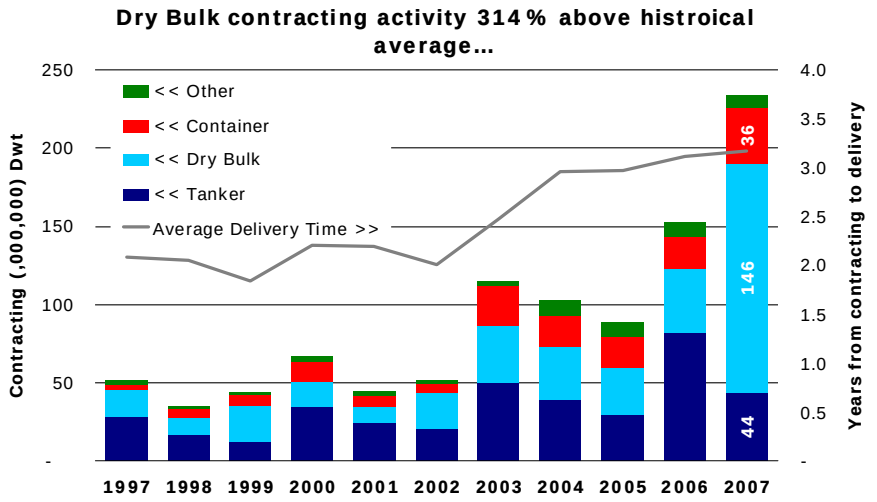
Is global contracting activity being driven by rational expectations or gold rush?

One may be tempted to consider whether this major surge in contracting activity is a sober reflection of demand expectations or simply a gold rush. Anyhow, it is clear that considerable scrapping activity and/or world economic growth would be required to absorb the expected fleet growth at current freight rates.

Despite substantial contracting activity, delivery time has increased by only a modest 2% during 2007, reflecting significant investments in shipyard capacity – 24% of the current global orderbook is placed with Greenfield shipyards. Chinese shipyards account for 1/3 of the aggregated global orderbook and more than 2/3 of global Greenfield shipbuilding. Whether these ships will be delivered according to schedule remains to be seen.

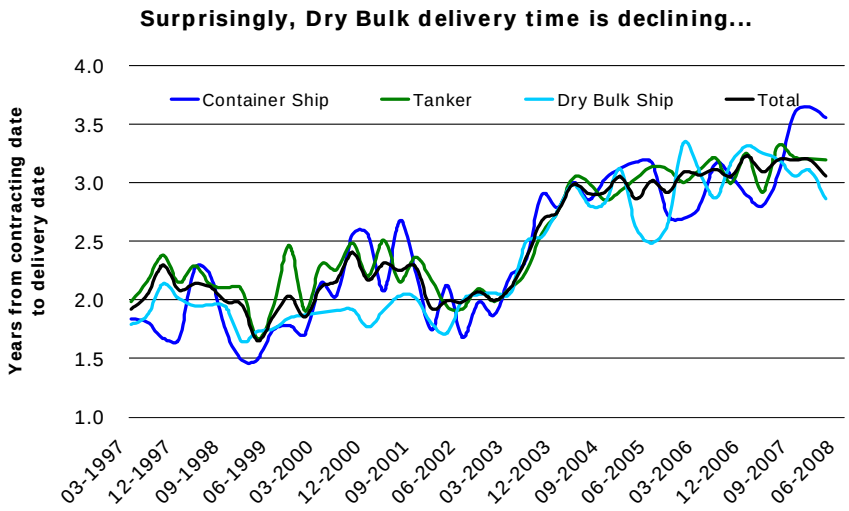
As European shipowners account for 41% of the current world orderbook, they are heavily exposed to the risk inherent in Greenfield shipbuilding. Greek and German shipowners, accounting for 21% and 11% of Greenfield contracting at Chinese shipyards, are accordingly, the most exposed (fig. 10 and 11).

Figure SB.3



Sources: Clarksons, Danish Ship Finance

Figure SB.4



Source: Clarksons, Danish Ship Finance

Ship prices have set new records. And required earnings per day are following suit.

In order to put newbuilding prices into perspective, we have calculated the implicit daily earnings requirement. The assumptions behind these calculations are in line with the shipping industry standard. Generally speaking, we assume that a ship will operate for 25 years, after which it will be scrapped. The only conservative assumption we have made in our calculations is that we have used a relatively high cost-of-capital (15%). A lower cost-of-capital would lower the vertical difference between the dark blue and the light blue line in figures 5, 6 and 7.

Daily earning requirements has increased significantly

The significant newbuilding price increases mean that the implicit average daily earning requirement has increased 37%, 70% and 111% for container, tank and dry bulk respectively. The largest ship types have increased the most, which explains why our analysis is focusing on Capesize, Panamax and VLCC vessels.

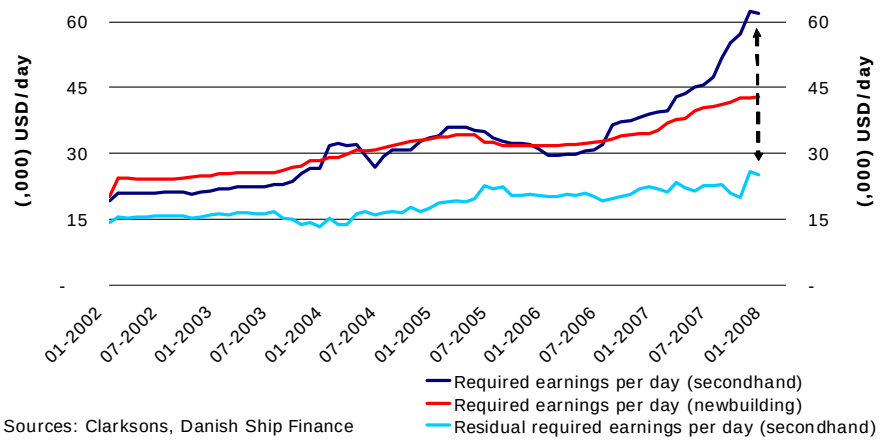
One might fear that the heavy contracting activity has fuelled newbuilding prices beyond a sustainable level. Yet newbuilding prices, in general, seem not to have disconnected from secondhand prices (measured by implicit daily earning requirement). As illustrated by the three graphs (fig. 5, 6 and 7), there is a close relationship between the implicit daily earning requirement for a secondhand (dark blue line) and a newbuilding vessel (red line).

Buying a secondhand vessel today - without employment - is attached with a considerable market exposure (counterparty risk)

No rule without an exception. The daily earning requirements for especially Dry Bulk vessels seems to separate themselves (fig. 5). Whether it is secondhand prices that have exceed the expected value of future earnings or the newbuilding price that (due to the significant investments in Greenfield shipyards) has increased less than implied by daily earnings potential is difficult to settle. However, one thing is sure current 5-year-old dry bulk vessels on average require 23% higher daily earnings than a corresponding newbuilding vessel. The explanation may in part be found in the residual value of the secondhand vessel after deducting the value of

Figure SB.5

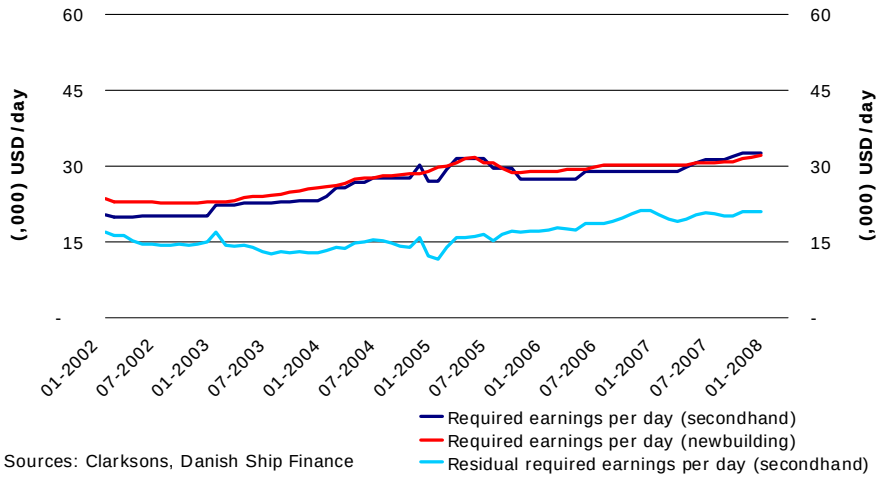
Capesize - increased gap between required earnings per day and residual required earnings per day - indicating greater counterparty risk...



Sources: Clarksons, Danish Ship Finance

Figure SB.6

Container, Panamax - stable counterparty risk



Sources: Clarksons, Danish Ship Finance

a three-year timecharter. We refer to this value as the residual ship value and to the implicit required daily earnings as the residual required earnings per day (light blue line in fig. 5, 6 and 7).

In sum, residual required earnings per day on average have increased significantly less than required earnings per day reflecting the current high market expectations and hence timecharter rates.

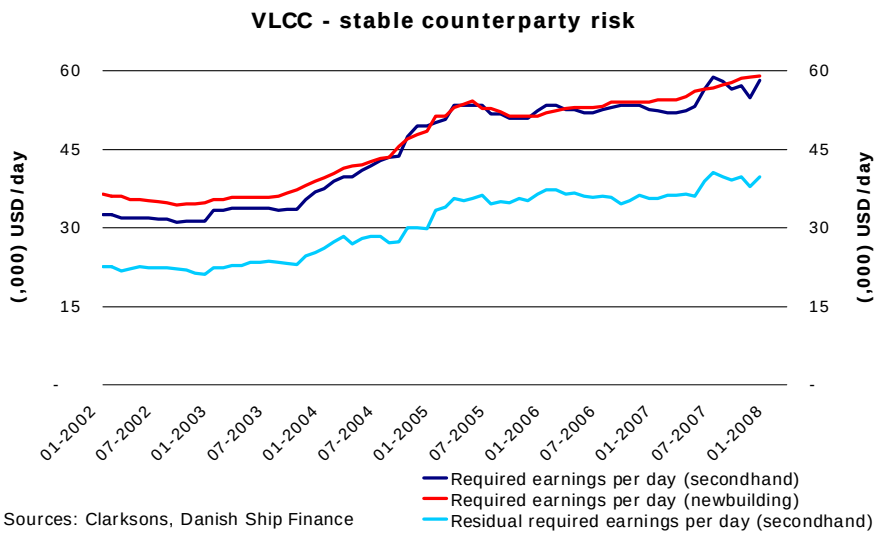
The daily earning requirements have never been higher

Figure 8 summarizes figures 5, 6 and 7 by comparing current earning requirements to the 5-year average levels. Generally, ship prices and the corresponding daily earning requirements have never been higher. The most notably ship type is again Capesize (Dry Bulk) where the high freight rates in 2007 have pushed 2007 ship prices significantly above historical levels with a correspondingly high lifetime earning requirement.

It is interesting to study the relationship between required earnings per day and residual required earnings per day for the different historical levels. For both Panamax and VLCC vessels, the current residual required earnings per day is 52% and 45% below the daily earnings requirement for a vessel without three years employment. For a capsize vessels, the difference is even more pronounced! The difference between the required earnings per day and the residual required earnings per day is 119% (i.e. more than double the daily earning requirement if the vessel is without charter in three years). These observations tell us a great deal about the high market expectations and especially about increased risk.

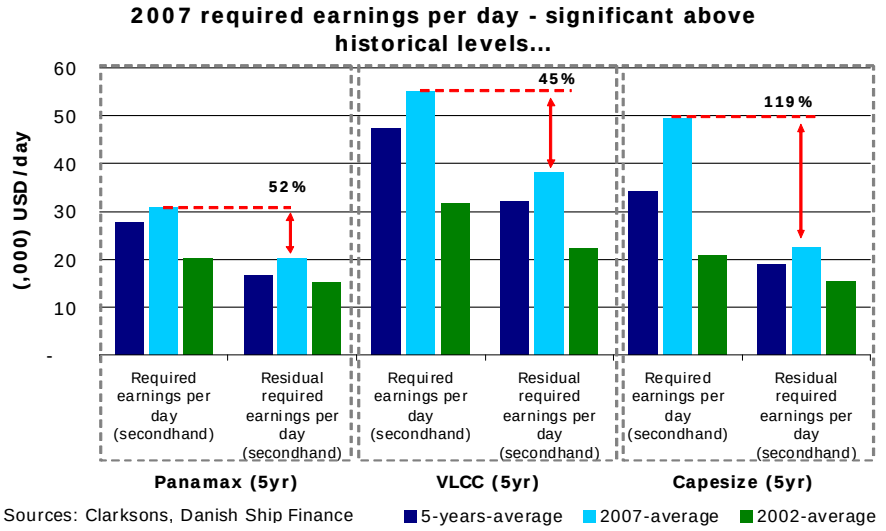
For how long this situation is likely to continue is difficult to predict. Traditionally, what is to be regarded to be an abnormal low risk (i.e. buying at high prices, chartering out in three years and thereby reducing risk in terms of daily earning requirement) is not expected to stay for long. Combined with the fact that leading macroeconomic indicators are beginning to point south, we expect ship prices to decline accordingly.

Figure SB.7



Sources: Clarksons, Danish Ship Finance

Figure SB.8



Sources: Clarksons, Danish Ship Finance

OUTLOOK

The orderbook is substantial in all major segments. Greenfield shipyards account for almost 24% of all newbuilding orders. We expect supply to overshoot demand if the entire orderbook is actually delivered. This is likely to impact ship prices and ultimately freight rates negatively.

For a long time now, we have been arguing that ship prices should be falling rather than rebounding. Although, so far, we have been wrong in our timing, we maintain our forecast.

The global orderbook is excessive

We regard the current orderbook to be significantly too big in all three major segments (fig. 9). Combined with a trembling global macroeconomy (where the US economy is on the brink of a recession), global demand is unlikely to offer any short term relief. The likely impact of a significant supply surplus is declining freight rates and, ultimately, secondhand prices.

Accordingly, we expect global contracting activity for 2008 and 2009 to be - at best - below 5-year average.

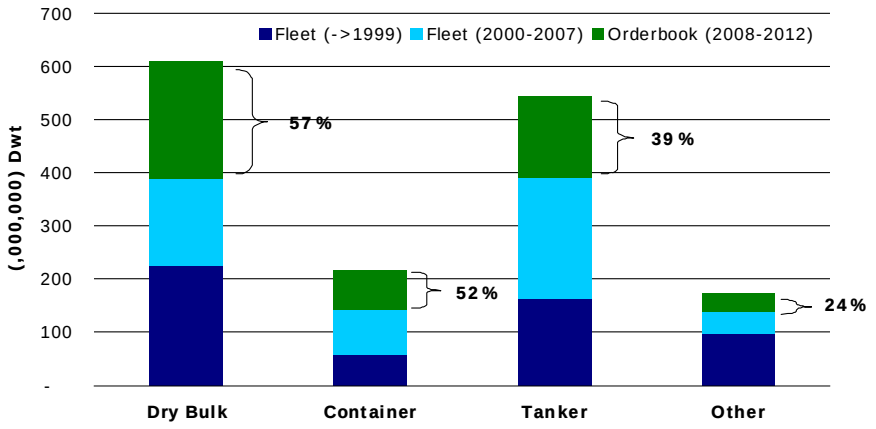
Sticky newbuilding prices

The impact of low contracting activity on newbuilding prices is more gradual. As long as shipyards are fully booked 3-4 years ahead, they hold substantial pricing power. Traditionally, shipyards do not offering price reductions until delivery time gets close to 18 months. If this rule of thumb holds true in the future, it will take some time with low contracting activity before newbuilding prices respond.

However, this does not mean that a short term arbitrage window (lower newbuilding prices / shorter delivery time) is not possible. Japanese and South Korean shipyards have not forgotten owners cancelling orders when the market turned down last time. The lesson learned is that some owners will find ways to walk away from contracts that yards would be more than happy and capable of fulfilling.

Figure SB.9

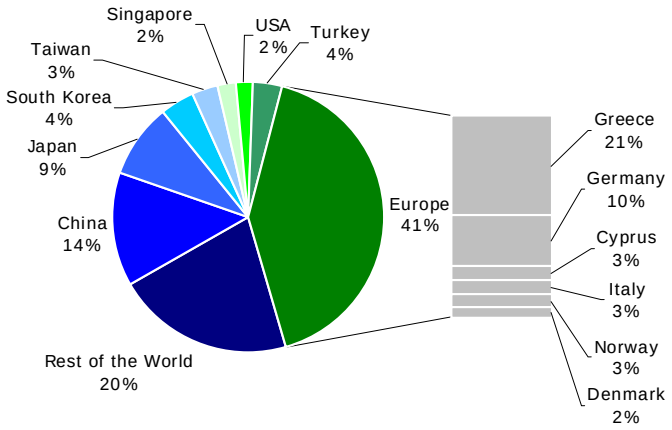
The Dry Bulk fleet is expected to grow 57% during the next four years...



Sources: Clarksons, Danish Ship Finance

Figure SB.10

Greek, Chinese and German shipowners accounts for almost half of the world orderbook



Sources: Clarksons, Danish Ship Finance

Potential significant order cancelation

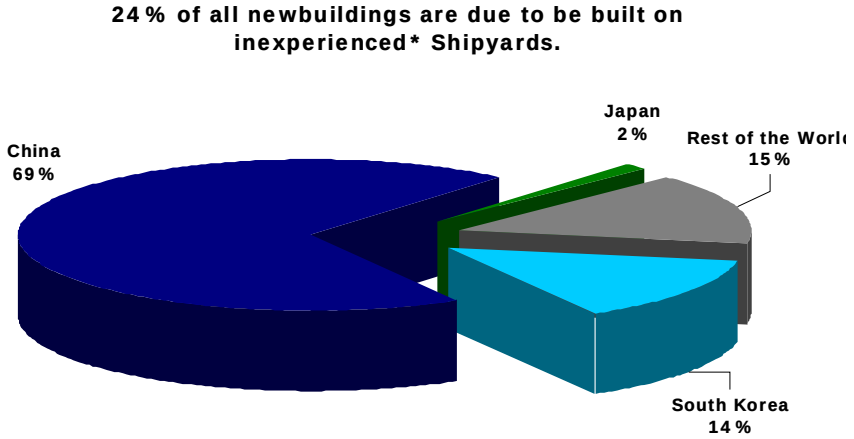
Two factors point in the direction that owners may cancel contracts in the near future. The first aspect relates to insufficient financing of the current orderbook. Naturally, we do not expect a delivery collapse, but we do see some significant obstacles for the expected delivery program. The second factor that may act as a cancelation option is if shipyards are behind schedule, providing shipowners with an option to cancel the contract. This is particularly relevant, given Greenfield shipyards' large share of the world orderbook.

Since the US subprime crisis, adequate access to capital has become a hot topic. The first reaction in the market for ship financing has now emerged: a number of credit institutions offering ship financing are proving more reluctant to lend funds. If this trend continues, the supply of ship financing could become insufficient, causing, among other things, an increase in credit margins. This topic might be regarded as trivial - but it is not! Newbuilding prices have increased significantly over the last years, making the global newbuilding program a serious financial liability for ship owners (not to mention refundment guarantees for shipyards). If these liabilities are to be financed mainly by debt, it will require that all the international credit institutions engaged in ship financing significantly expand their exposure. Accordingly, inadequate access to ship financing might force some shipowners to cancel newbuilding contracts. Yet it seems unlikely that all newbuildings will be financed by debt as many shipowners have acquired significant wealth during recent years.

The second factor that may provide shipowners with an option to cancel contracts is significant delivery delays. According to our estimate, 24% of the current orderbook is placed on Greenfield shipyards (fig. 11), where Chinese shipyards account for more than 2/3. Thus, Chinese shipyards may be an obvious target for concern, but they do not have the monopoly on potential failure. South Korean and Japanese Greenfield shipyards seem equally exposed.

Whether the perceived increased risk of cancellation will impact newbuilding prices is a question about timing. But one thing is sure, ships that for some reason is not entering the market is good news

Figure SB.11



Sources: Clarksons, Danish Ship Finance

* Shipyards that has deliveren less than 100.000 dwt

for expected future freight rates and secondhand values given the high orderbook.

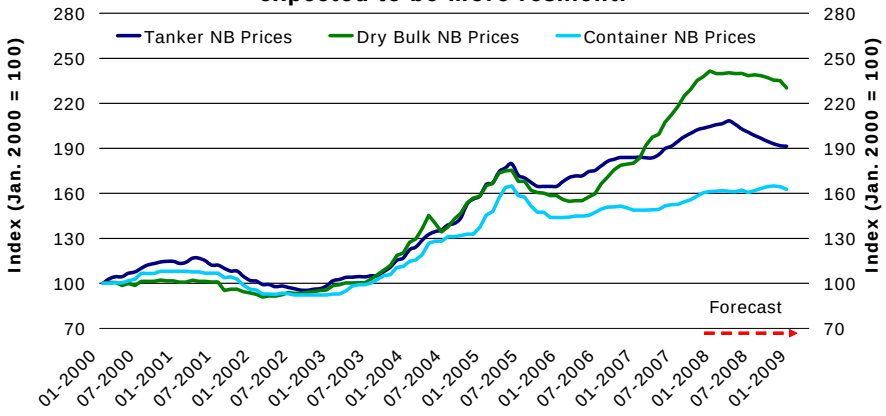
Newbuilding prices is expected to decline in 2008

The outlook for newbuilding prices is thus highly dependent on the interplay of cancellations and the delivery time. To be able to translate this into newbuilding price forecasts, we have developed a model that forecasts the newbuilding price trend for the three main segments (fig. 12). Central to the forecast model is the aggregated contacting/delivery ratio. Given our basic belief that the current orderbook significantly overshoots expected demand; we expect very weak contracting activity for some years to come. This is equivalent to saying that we expect the average delivery time to shorten significantly during the next two to three years. That is expected to lower shipyards' pricing power gradually as the shipyards' order cover moves towards a painful 18-months. Second, the risk of inadequate access to ship financing is likely to reinforce this downward sloping newbuilding price trend. Shipyards that are heavily exposed to order cancellations (Greenfield yards) may be tempted to accept lower prices in order to survive. This is likely to provide a short term window for newbuilding price cuts as shipowners bid for the open slots.

As illustrated by figure 12, our model expects dry bulk and tanker newbuilding prices to decline during 2008, whereas container newbuilding prices are expected more stable. ■

Figure SB.12

Dry Bulk and Tanker newbuilding prices is expected to decline in 2008. Container newbuilding prices is expected to be more resilient.

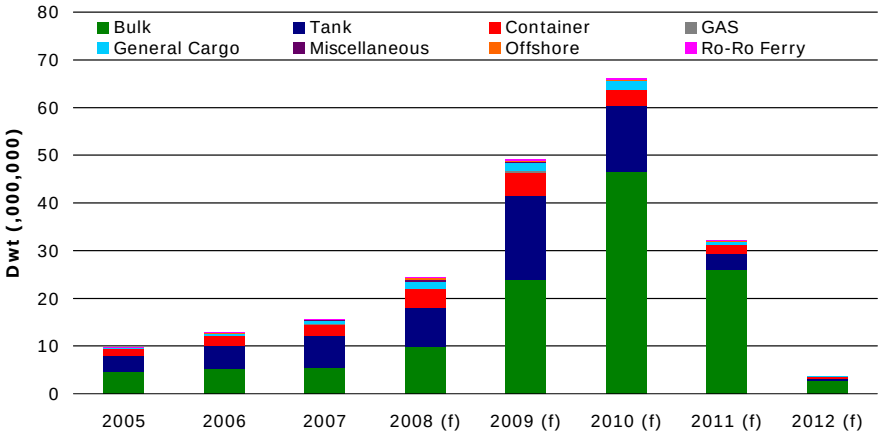


Sources: Clarksons, Danish Ship Finance

Fleet & Orderbook as per 31 Jan. 08 by Region of Build and Year of Delivery

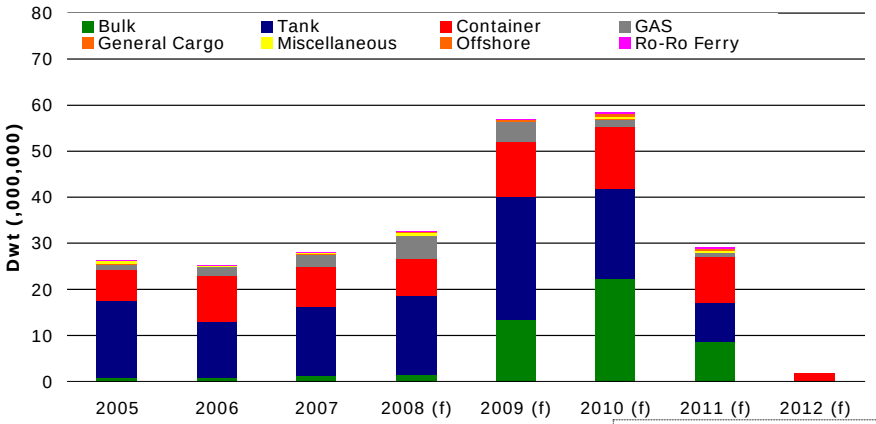
(Excludes allowances for possible slippage from scheduled delivery dates)

China



Sources: Clarksons, Danish Ship Finance

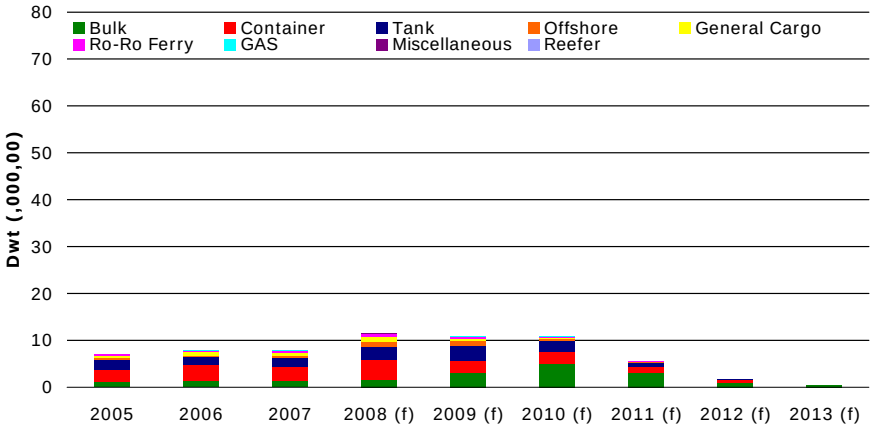
South Korea



Sources: Clarksons, Danish Ship Finance

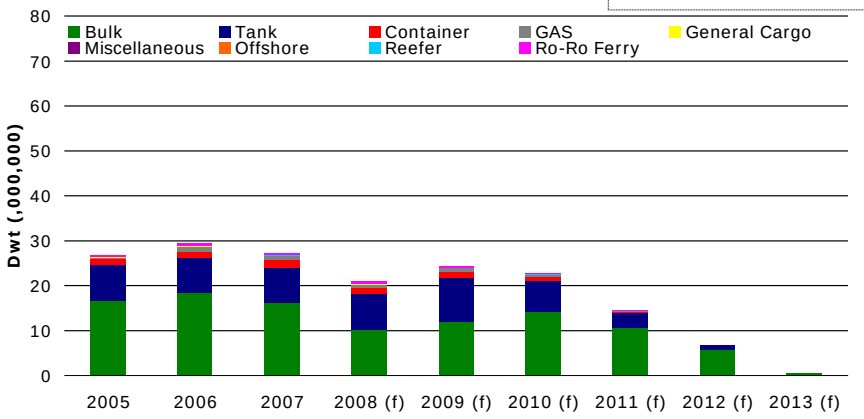
The Japanese orderbook may appear smaller than it actually is, as Japanese yards have a tendency not to register their orders until shortly before the actual ship building takes place.

Rest of World



Sources: Clarksons, Danish Ship Finance

Japan



Sources: Clarksons, Danish Ship Finance

Crude Tankers

2007 was a remarkable year for the crude tanker market. As demand bottomed out in late 2007, freight rate volatility increased. Secondhand and newbuilding prices seem immune to the falling freight rates as prices continue to increase. With the world economy on the brink of an economic recession, OPEC seems to raise output to fight the high oil price and stimulate demand. Will that be enough to elevate crude tanker demand and hence freight rates in 2008? We believe not.

FREIGHT RATES

High freight rate volatility in late 2007

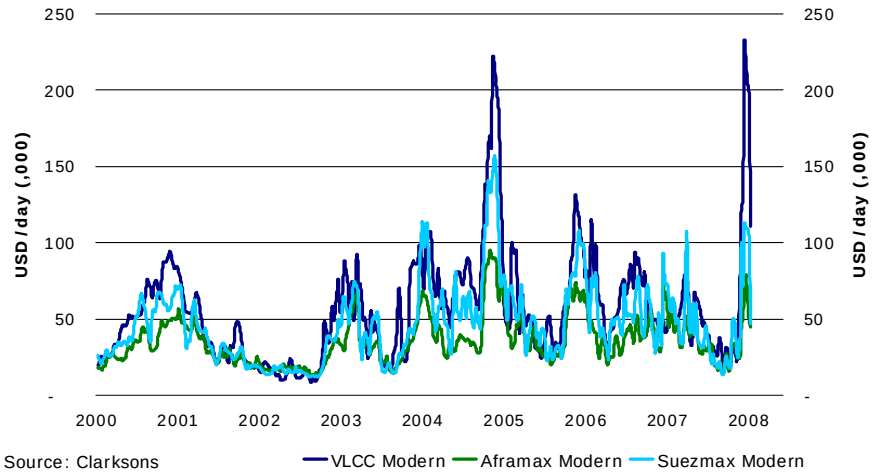
VLCC freight rates reached new record levels in 2007. In one week, VLCC freight rates increased by more than 100,000 USD/day, closing above 230,000 USD/day or approximately 5% higher than the 2004 record level. Not only was it the highest daily rate, it was also the product of the largest weekly gain since 2000. Yet, three weeks after the record was attained, a new record was achieved: the largest drop in VLCC freight rates since 2002. In early 2008, VLCC freight rates declined by 87,000 USD/day, closing, nonetheless, 100% above the 2007-average freight rate level.

In autumn 2007, Suezmax acknowledged the largest weekly freight rate volatility since 2000. In September 2007, Suezmax was flirting with the all-time low freight rate level of August 2002 (12,000 USD/day), just 1,700 USD/day above. Two months later, the freight rates increased more than 65,000 USD/day in one week, closing above 112,000 USD/day. Even so, that was not enough to break the record level of 157,000 USD/day obtained late November 2004.

Analysis of the freight rate spread reveals that VLCCs in 2007 have been trading with a discount (especially out of West Africa). Thus, VLCC's traded on heavy discounts in order to be competitive, taking into account the longer time on higher demmurrage rates.

Figure T1

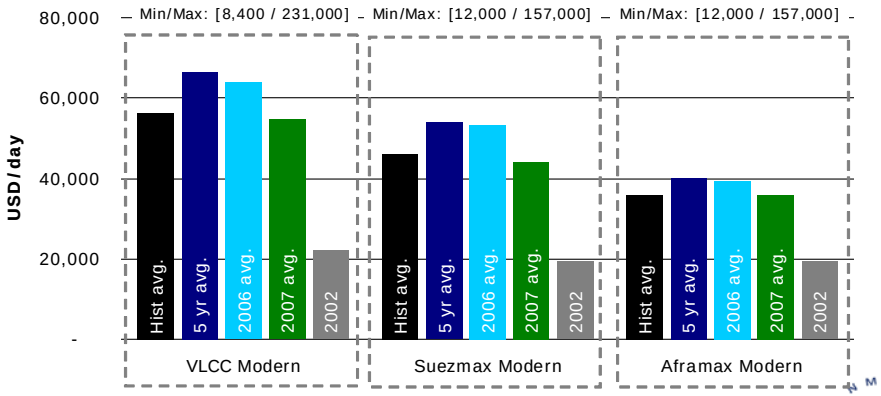
High freight rate volatility in 2007



Source: Clarksons

Figure T2

Average tanker earnings for 2007 - 16% below the 5-year-average



Sources: Clarksons, Danish Ship Finance

Generally speaking, spreads have been declining in 2007. The VLCC-Suezmax spread is approximately 18% lower than the 5-year-average, whereas the Suezmax-Aframax spread climbed even further down the road, averaging 40% below the 5-year-average.

SUPPLY & DEMAND

Crude tanker demand has been low as OPEC production is down by 1% and the forward premium is negative. Fleet growth has been moderate and is therefore not regarded to have played a major role.

High world GDP growth and strong oil demand growth has not been enough to lift crude tanker demand throughout the second half of 2007. What has happened? 1) Is it all about OPEC production growth? 2) Is it all about the forward premium? Or 3) has the crude tanker fleet simply grown much faster than demand?

The low freight rates are not a reflection of high fleet growth

The 2007 fleet growth has been moderate, averaging 7% across all segments, with the main activity in the Aframax and Suezmax segments. Demolition activity has been slightly above the 2006 level, with the main activity in the Aframax segment and no scrapping activity in the VLCC segment (mainly due to conversions). The net effect was an addition of 16 million dwt. The VLCC segment grew 6% or approximately 8.6 million dwt, compared to 2006.

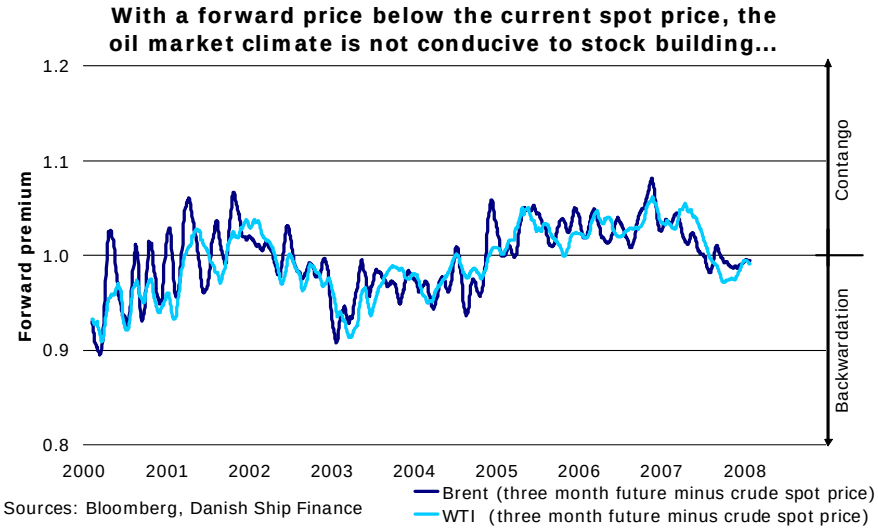
The forward premium explains lower demand for crude tankers

The forward premium has been negative (backwardation) throughout most of the third and fourth quarters of 2007. Traditionally, a negative forward premium is associated with a drain on inventories and hence insufficient demand for crude tankers.

Irrational behaviour fuelled the sudden surge in freight rates

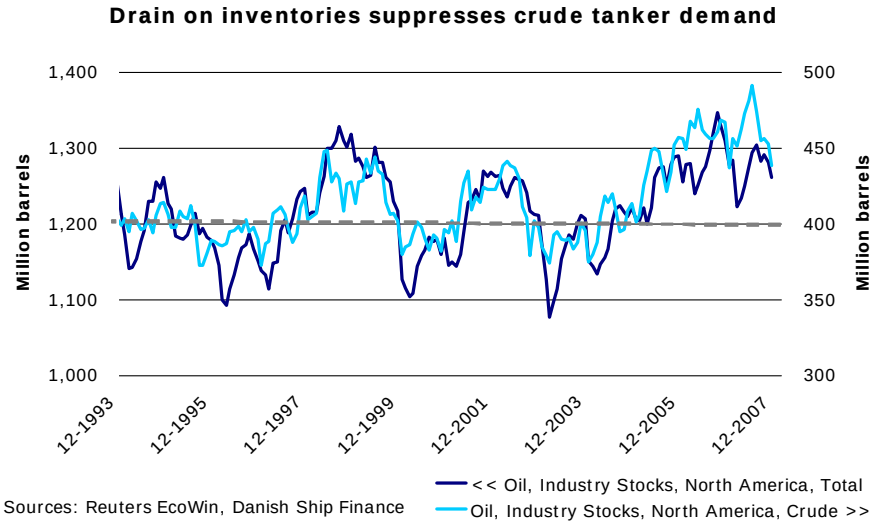
A large number of VLCC vessels were available in the Arabian Gulf during third and fourth quarters. By October 2007, the number of VLCCs due in the Arabian Gulf in four weeks reached a new record level, with 82 vessels available. Traditionally, there has been a high correlation between availability in the Arabian Gulf and the average VLCC spot rate (illustrated by figure T5). It was therefore

Figure T3



Sources: Bloomberg, Danish Ship Finance

Figure T4



Sources: Reuters EcoWin, Danish Ship Finance

unexpected and seemingly illogical to see the sudden surge in average VLCC spot earnings in November 2007. As theory would predict, VLCC availability dropped slightly - but was that sufficient to justify the surge in VLCC freight rates? Or was the surge simply an example of irrational exuberance? We subscribe to the latter view.

Low OPEC production growth has dampened crude tanker demand

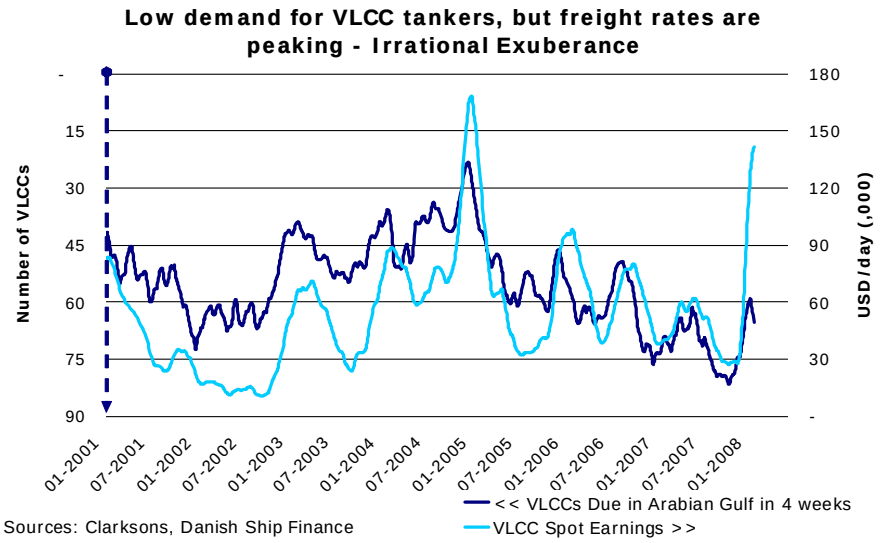
The decision by OPEC to lower production in 2007 seems to be the single most important factor behind the weak crude tanker demand and hence freight rates. As illustrated by the figure T6, OPEC production growth declined 1% in 2007.

The crude tanker market does not seem to be in disequilibrium

Overall, the supply-demand balance is unable to fully explain the freight rate surge as it is relatively uncommon to have a situation with apparent overcapacity and rising prices. One may be tempted to conclude that the surge in freight rates was driven by a mix of market sentiment and panic. But such a view needs to explain how market sentiment can take-off with 60-80 VLCCs available and significant drain on inventories. Positive crude stock changes may be the explanation.

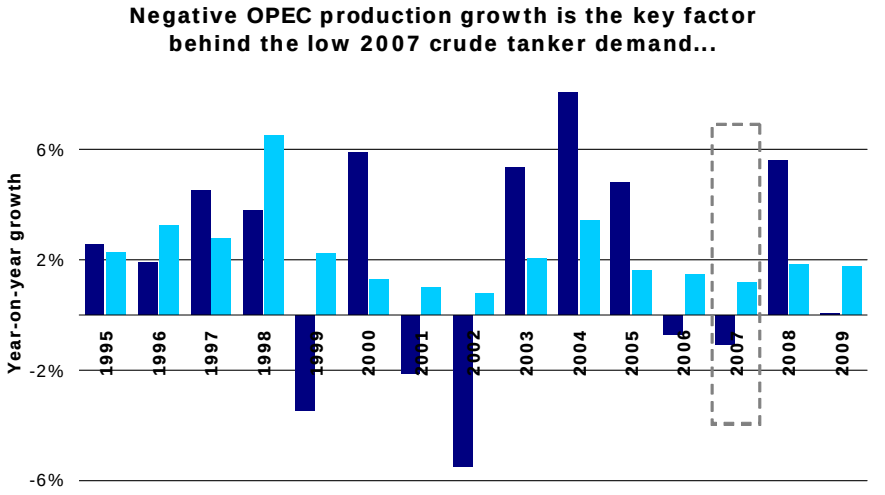
The US government controlled crude stock has been climbing during the second and third quarter of 2007. This may be the positive story to highlight in order to drive up market sentiments.

Figure T5



Sources: Clarksons, Danish Ship Finance

Figure T6



Sources: Reuters EcoWin, EIA, Danish Ship Finance

2007 was a year with low contracting activity, higher delivery times and higher newbuilding prices.

Crude tanker newbuilding prices are up 12%
The average oil tanker newbuilding price has risen 12% (75 USD/dwt) in 2007 compared to 2006-level. In a five year perspective, 2007 prices are 23% (135 USD/dwt) above the 5-year-average.

Newbuilding prices are increasing along with longer delivery times
What is behind these significant newbuilding price increases? We believe that there is more to the story than rising steel prices. Our fundamental hypothesis is that newbuilding prices are increasing due to longer delivery times and vice versa. The logic is simple but nevertheless important to state. Longer delivery times are a product of more ships on order than the current capacity can handle, which turns the pricing power in favour of the shipyards. Shorter delivery times are accordingly expected to be a product of a lower contracting activity than deliveries.

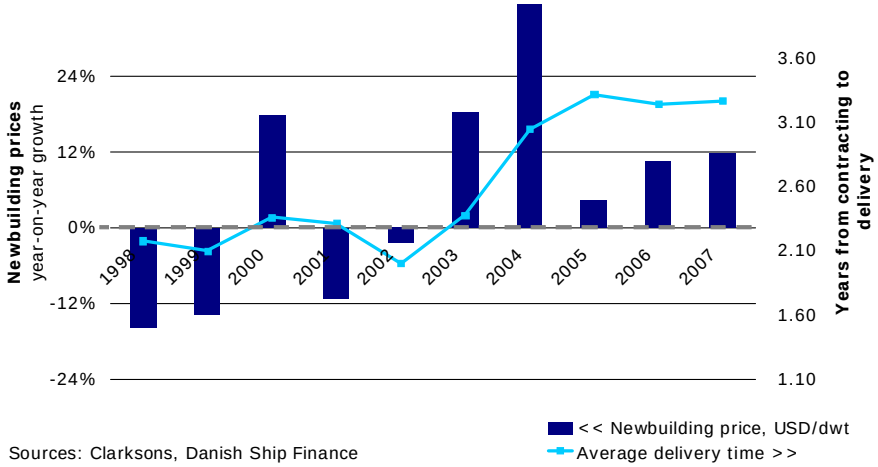
Declining crude tanker contracting activity
In 2007, 26 million dwt was contracted (mainly VLCCs and Suezmax), equivalent to 47% of the contracts fixed in the record year 2006. Compared to the 5-year-average, 2007 contracting activity is 15% lower, equivalent to approximately 5 million dwt.

Taking a step back, it seems irrational that average tanker newbuilding prices increased 10% in 2006 while average delivery time was slightly declining. How was this attained? Was the shorter delivery time too minor to be priced in to the newbuilding price? Or are we basically wrong in our assumption?

High global contracting activity is driving tanker newbuilding prices
The relationship between newbuilding prices and delivery times is a rule of thumb more than an identity. Thus, the hypothesis holds true on the aggregated level but is not 100% accurate when applied to individual segments. It might happen that some structural changes lower the production time of a segment without necessarily impacting the newbuilding price.

Figure T7

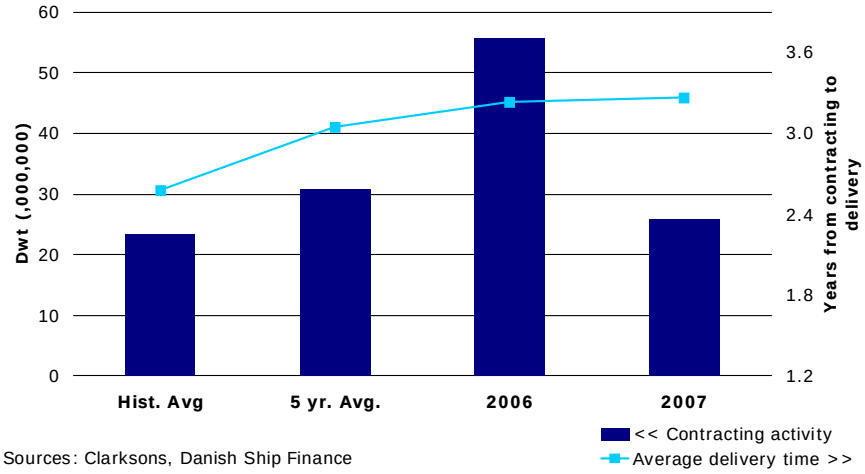
Newbuilding prices are increasing due to longer delivery times and vice versa



Sources: Clarksons, Danish Ship Finance

Figure T8

Contracting activity for 2007 closed 11% below the 5-year-average



Sources: Clarksons, Danish Ship Finance

Increased OPEC production is intended to be the tide that lifts crude tanker demand – but will it? We expect VLCC freight rates to decline by as much as 20-25% in 2008.

Fundamental economic theory postulates an inverse relationship between quantities and prices. The crude oil price has been flirting with USD 100 per barrel for the first time ever. What is this telling us? Are we about to witness lower demand for oil and crude tankers as oil prices are increasing?

In a bull market, oil demand seems price inelastic

In previous cycles, high oil prices were largely a reflection of tight supply. In recent years higher oil prices have been reflecting buoyant global demand. Does that mean that global oil demand has become price inelastic? The answer is no! At the margin, demand is being affected by the high oil price but the impact has been masked by strong economic growth.

But what has generated the strong economic growth and the strong appetite for oil? How did the oil price reach USD 100 without having a detrimental effect on global oil demand? The simple answer is excess supply of liquidity and low global inflation.

The last few years of high liquidity has generated high global GDP growth, stimulated global demand and has accelerated global demand for commodities. The transition of China and to a lesser extent India has on the one hand fuelled commodity price inflation but on the other hand lowered manufacturing costs. The net effect has been global high economic growth and low inflation.

Low demand impact from rising oil prices due to low inflation

In sum, the demand impact of the rising oil price has been mitigated by three factors: a strong growth momentum, price controls in some key markets and, in particular, low global inflationary pressure. We emphasis the low inflationary pressure as a fundamental issue, as it allows policymakers to avoid a sharp monetary response to fight the rising energy prices.

Figure T9

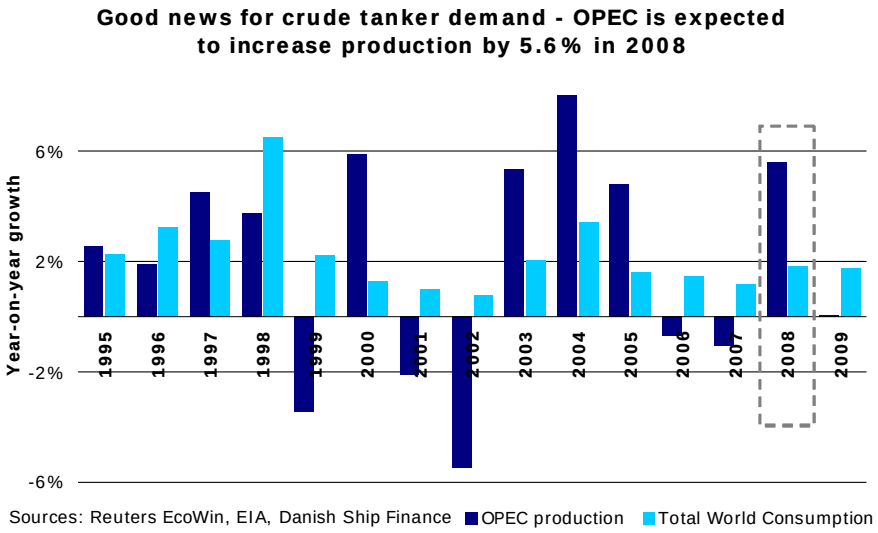
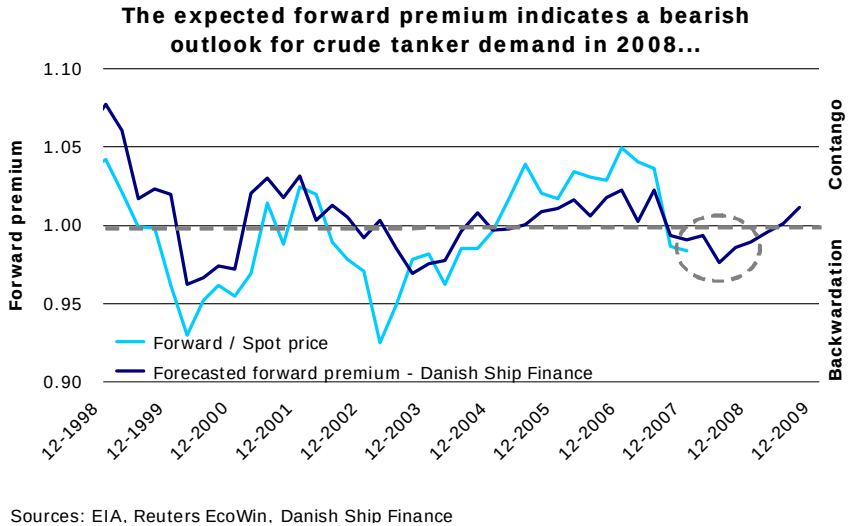


Figure T10



However, by mid-year 2007 the US growth locomotive seemed to be running out of steam. Launched by the Adjustable Rate of Mortgage (ARMs) reset, the US credit market changed dramatically. Credit spreads suddenly widened, banks faced major losses, and the access to capital became more restricted. This has, at best, placed the US economy on the brink of a recession, and the world economy is trembling accordingly (whether decoupled or not).

Oil price elasticity may normalize as US economy enters a recession
At this stage, the main risk is that rising oil prices may accelerate the consumption-driven recession and hence lower global oil demand and demand for crude tankers.

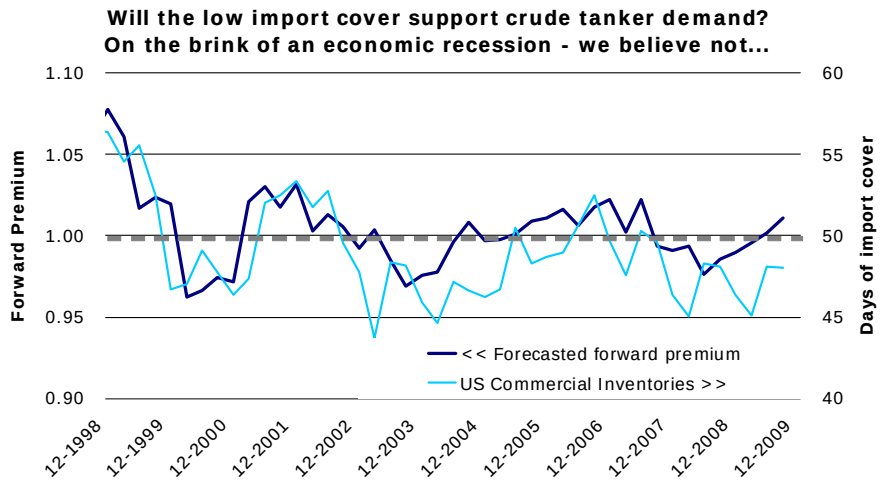
OPEC is increasing production to fight oil price increases
As OPEC controls the marginal barrel, it holds the key to oil prices and hence crude tanker demand. In accordance with the EIA, we expect OPEC to raise output for 2008 in order to curb the potential negative spillovers from weakening global demand growth.

OPEC has announced that it will increase production by as much as 5.6%, compared to the 2007 output (figure T9). We expect that this is to be regarded as a pre-emptive announcement, in order to signal willingness to act as a "lender of last resort". The reality might be more cautious in order to avoid a "boom-bust" scenario. OPEC has memories of raising supply just as global growth was slowing. This combination (of lower GDP growth and increased OPEC production) is likely to drive oil prices further down than intended.

Crude tanker demand is increasing in OPEC production
How is this expected to impact crude tanker demand? On the one hand, further output is good news for crude tankers, as it is expected to increase demand for freight movements. However, in terms of inventory build-up the announcements are less favourable. Following the logic that higher prices reduce demand, expectations for further output increases is likely to drive the forward price below the spot rate. As discussed above, this situation is called backwardation and does not favour stock building.

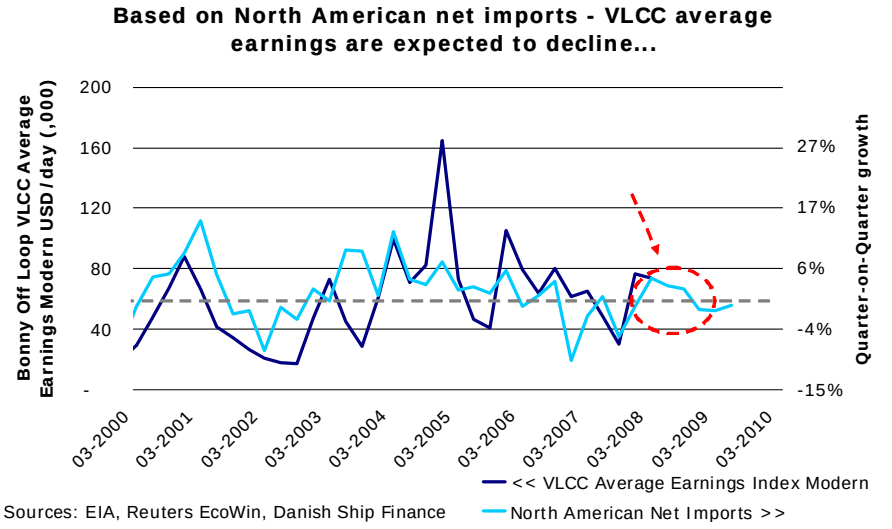
Based on EIA data, we have developed a model that seeks to forecast the crude oil forward premium (figure T10). This model focuses on supply reactions to changes in consumption. On the

Figure T11



Sources: EIA, Reuters EcoWin, Danish Ship Finance

Figure T12



Sources: EIA, Reuters EcoWin, Danish Ship Finance

basis of US oil consumption, we use the model to forecast US Commercial Inventories and ultimately VLCC freight rates.

The forward premium is expected to stay negative in 2008
According to the model, the forward premium will stay negative throughout 2008, indicating further commercial inventory drains and hence lower net imports. The impact on crude tanker demand is expected to be significant.

VLCC freight rates are expected to decline by 25% in 2008
Despite increased OPEC output, our model forecast VLCC freight rates will decline by as much as 20-25% during 2008 (figure T12). EIA expects US oil consumption to increase 1.1% despite an economic recession. We expect a fairly less optimistic scenario.

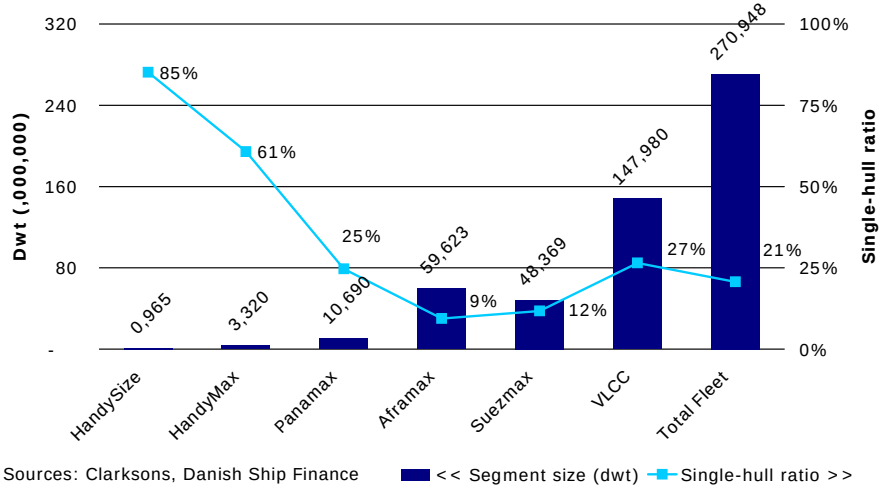
Three critical assumptions…
However, three critical factors in particular impact the accuracy of the model. First, the model is dependent on expected world (US) economic growth (i.e. oil consumption) and the corresponding supply reaction. Second, we presume that oil inventories will pursue a strategy of securing a target zone for "days of import cover". That implies that changed per day consumption significantly alters the need for imports. Third, the growth of the crude tanker fleet may notably affect freight rates.

An economic slowdown is expected to impact global oil demand
Let us start by analysing the uncertainty attached to EIA's estimated 2008 oil consumption. The key issue is whether the US economy is the locomotive that drives the world economy or not. Will the Asian economies continue to prosper and consume oil at the current pace if the US economy enters a recession? On the one hand, countries with huge foreign exchange reserves hold the opportunity to stimulate economic growth through boosting government consumption. On the other hand, however, it is not a sustainable alternative to US demand. Thus the biggest threat to the world economy and crude tanker demand is a US economy entering a - consumer driven - economic recession.

The return of oil price elasticity is expected to impact oil demand
One of the central issues here is whether an economic slowdown will have a more hefty impact on oil consumption than it has had in the

Figure T13

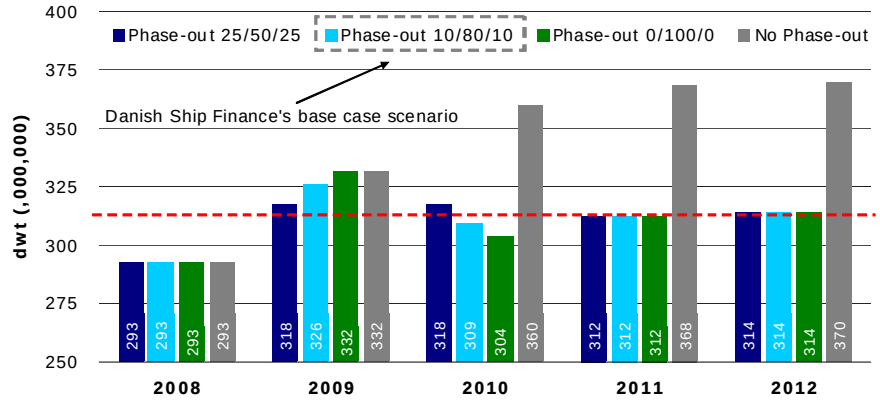
Lower scrapping potential among large crude tankers



Sources: Clarksons, Danish Ship Finance

Figure T14

Moderate scrapping in 2008 and 2009
Phase-out scheme for single hull tankers 2009/2010/2011



Sources: Clarksons, Danish Ship Finance

past. We believe that the impact will be more significant than during previous cycles. Here is why: The high oil price has impacted oil demand in sectors where substitution has been possible at reasonable costs. In particular, the demand for oil in heating and power generation has fallen as consumers are switching to cheaper alternatives such as coal and to a lesser extent natural gas. Thus, the transportation sector holds the key to oil demand.

A consumer-driven economic slowdown will most likely impact the transportation sector negatively. We therefore expect that an economic slowdown will hit US oil demand harder than we have seen during previous cycles.

In terms of North American Net Imports and hence VLCC freight rates, we see a scenario of lower imports than expected more likely than the opposite, with a direct negative impact on freight rates.

Chinese oil imports may surprise…
The Chinese aim for increasing "days of import cover" may represent the upper-hand in terms of crude tanker demand and hence freight rates. This aspect may significantly lower the crude tanker demand impact of declining US consumption. However, the Chinese stock building seems to be highly oil price focused. That is to say that the oil price has to drop considerably below current levels for significant Chinese inventory build-up. Still, this scenario seems less likely in an economic environment of Chinese-government-stimulated economic growth.

Extraordinarily high scrapping or early phase-out could support freight rates, but is regarded to be unlikely in 2008
The tanker fleet is expected to grow 8% during 2008. This is fairly in line with the historical average and does therefore not in itself represent a reinforcement aspect in terms of freight rates.

An extraordinarily high scrapping activity or early phase-out of single hull crude tankers could potentially move the market balance in favour of higher freight rates.

Our baseline hypothesis regarding scrapping and phase-out, is simple and straightforward: vessels will be operating until they are no longer profitable. Accordingly, we assume that *young* small single-hulled crude tankers will potentially be operating after the IMO deadline of year-end 2010. On the other hand, we do not believe that many large tankers will be operating by that time, as both East Asian and Southeast Asian countries have been expressing environmental concerns regarding single-hulled tankers.

In conclusion, we do not see any mitigating circumstances that may alter our freight rate forecast. VLCC freight rates are expected to decline as world oil demand is not expected to inflate in 2008. Secondly, it seems unlikely that the supply side should shift in favour of increasing freight rates due to scrapping or phase-out of single-hull tankers. ■

Danish Ship Finance's crude tanker expectations for 2008:

- Increased OPEC output for 2008
- Low additional inventory build-up in 2008
- Moderate fleet growth (+8%)
- Low scrapping activity
- No single hull phase-out activity
- Decreasing VLCC freight rates (~ 20-25% during 2008)

Container Ship

Freight rates gained 8% in 2007. Operators have reduced speed and adjusted route capacities in order to handle declining demand growth. The contracting activity set new records despite high newbuilding prices. For 2008 and 2009, freight rates are expected to decline as supply is expected to exceed demand.

FREIGHT RATES

Average head-haul freight rates gained 8% in 2007

In our previous Shipping Market Review, we forecasted head-haul freight rates would stay at or slightly below the third quarter 2007 level. Our short-term forecast turned out to be fairly accurate. For the full-year 2007 freight rate forecast we predicted a 3-5% fall on average for the main head-haul routes.

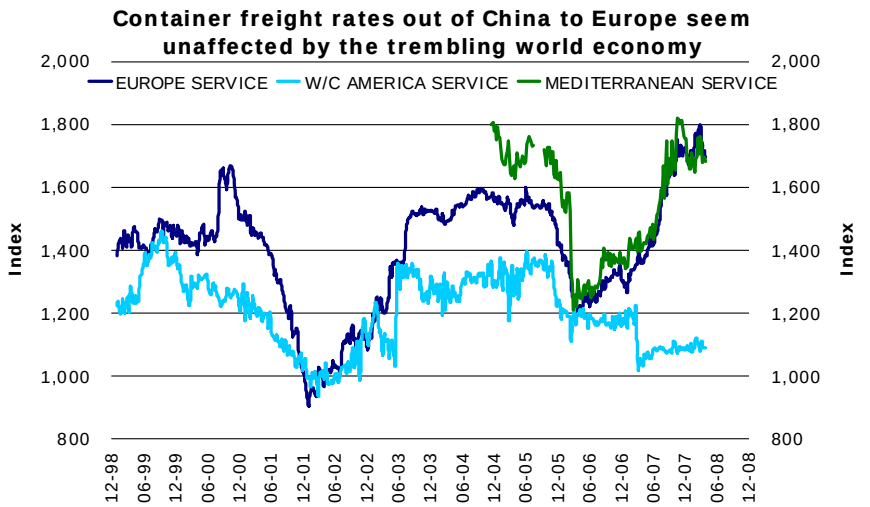
The leading head-haul route from Asia (China) to Europe seems – so far – unaffected by the turbulence on the international financial markets. Freight rates gained 18% in 2007 compared to 2006 and are now approximately 20% above the 5-year average level.

The economic slowdown in the US has impacted the head-haul route from Asia (China) to North America negatively. In 2007, freight rates lost on average 7% compared to 2006 and were on average 10% below the 5-year average.

As a weighted average over the major head-haul routes, freight rates gained approximately 8% in 2007.

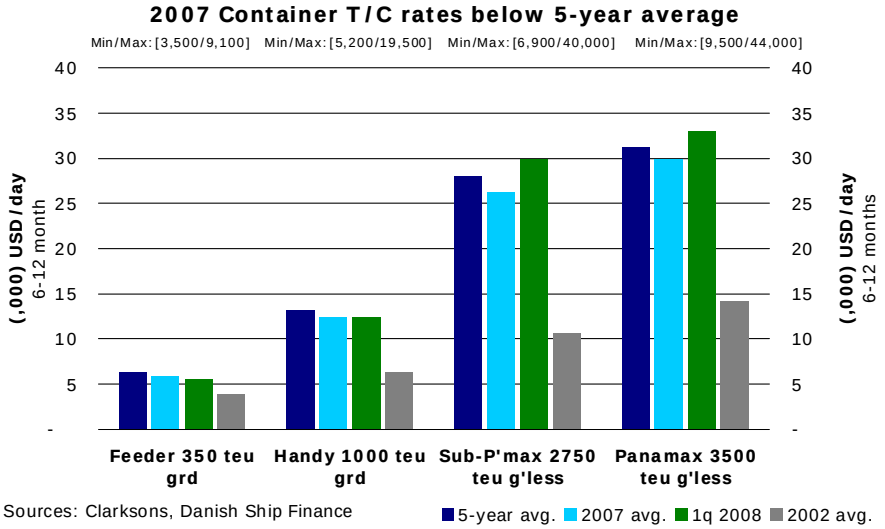
Timecharter rates increased slightly during 2007, with the biggest ships gaining the most. Panamax timecharter rates increased 13% compared to 2006 and closed 4% below the 5-year average. This is supposed to reflect the 6-12 month market expectations for the container market.

Figure CS.1



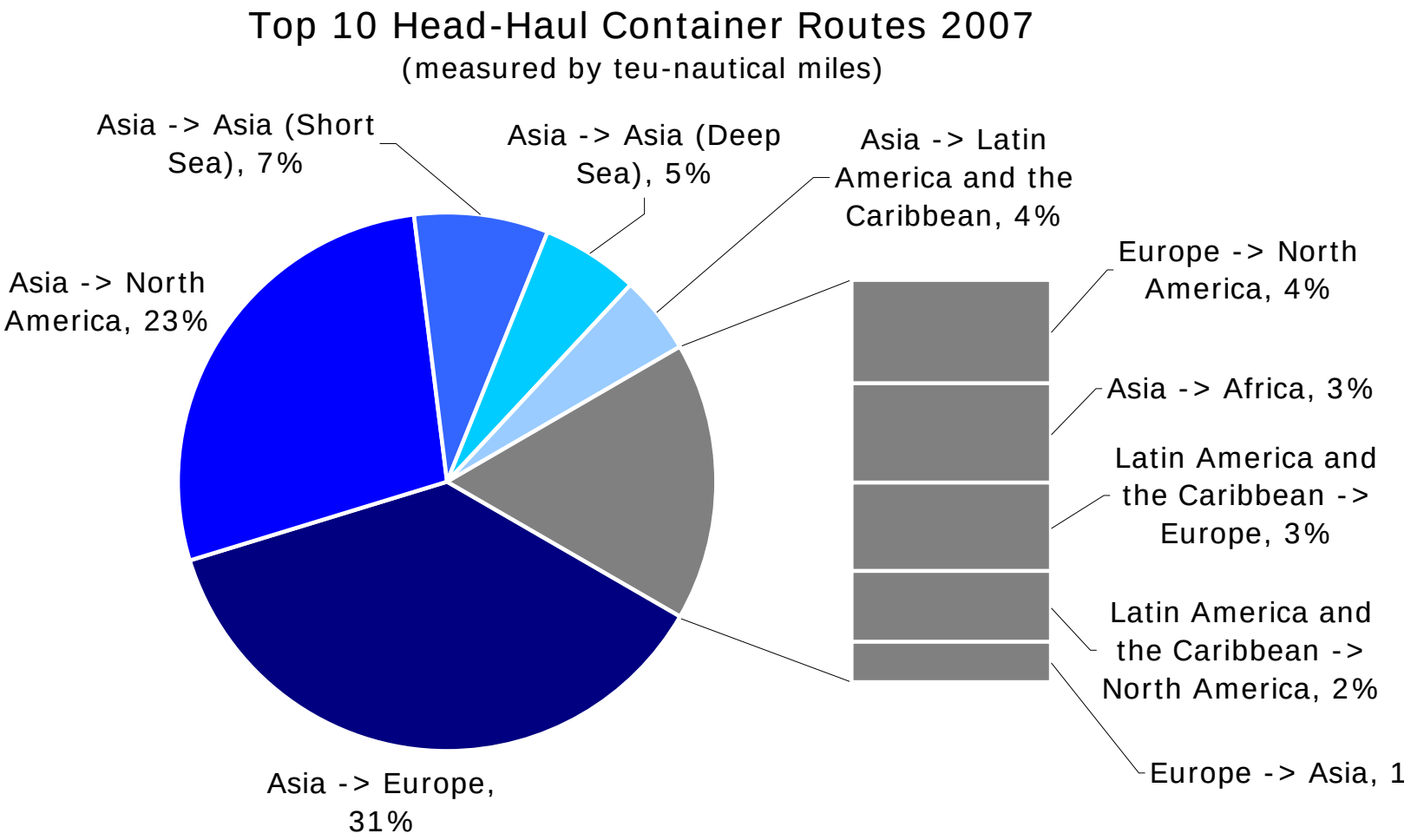
Source: Ministry of Communications of the People's Republic of China

Figure CS.2



Sources: Clarksons, Danish Ship Finance

Figure CS.3



Sources: Global Insight, Danish Ship Finance

Low head-haul demand growth as North American imports growth declined. Supply adapted, mainly through reduced average speed. The supply surplus ended lower than anticipated six months ago.

In our previous Shipping Market Review six month ago, our base case scenario for 2007 was a supply surplus around 6%-points, given a 16% supply growth and 10% demand growth. The reality turned out otherwise, with a supply surplus of only approximately 3%-points.

Initiated by the US mortgage reset, the American consumers were suddenly forced to tackle years of low savings and over-spending. This translated clearly into lower US imports; the import growth rate closing at a modest 2%, whereas it was anticipated around 10% six months ago (fig. 4).

European demand growth has been crucial in offsetting the supply surplus

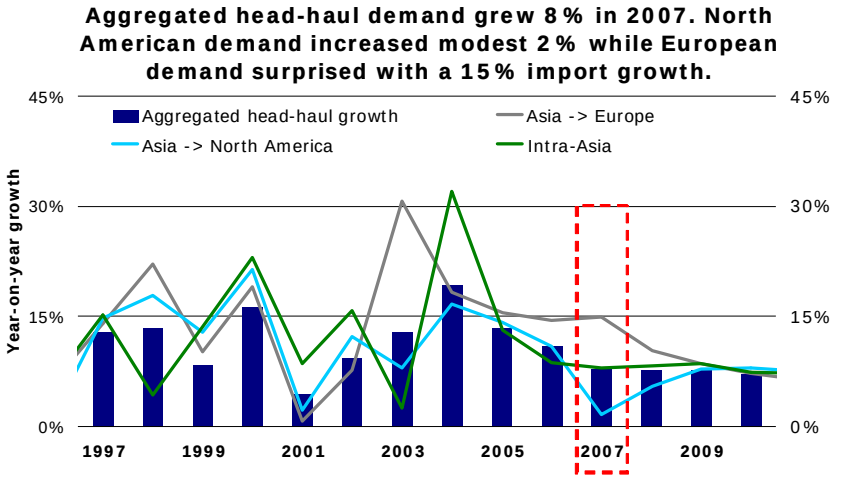
Head-haul container demand was heavily dependent on long additional teu-miles (i.e. European imports). European import growth turned out 2%-points higher than anticipated six months ago, closing at 15% (fig. 4).

Nevertheless, head-haul demand growth, weighted by the relative size of the routes (fig. 3), grew 8% in 2007, whereas a 10% growth rate was expected six months ago.

The supply side has shown capability to adjust to lower demand growth. Six months ago, a supply growth of 16% for 2007 was anticipated, whereas the actual growth rate was 10%. Furthermore, the productivity of the container fleet was reduced in 2007 due to port congestion – especially in Europe.

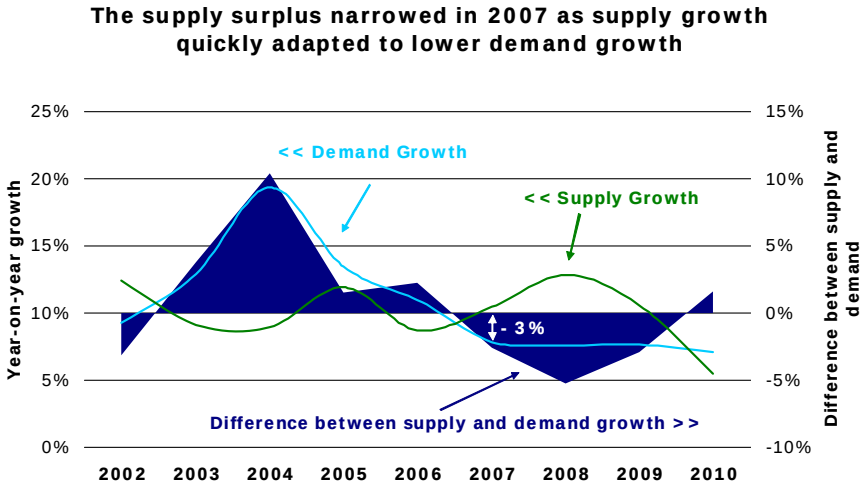
Confronted with a supply surplus, port congestion, and bunker costs around USD 500 per ton, some operators were persuaded to reschedule routes and reduce speed (reducing the speed from 25 to 20.5 knots reduces bunker consumption by approximately 20%).

Figure CS.4



Sources: Global Insight, Danish Ship Finance

Figure CS.5



Sources: Global Insight, Clarksons, Danish Ship Finance

Consequently, operators increased voyage time and deployed an additional vessel. On the Far East – Europe routes operators deployed for example nine vessels on 63-day round voyages, rather than the previous norm of eight ships with a 56-day voyage time. The strategy has, of course, been to slow down ships in order to save fuel costs, with the added bonus of bringing slack into the schedule in order to reduce the impact of delays caused by port congestion. In addition, this strategy is supposedly cost neutral as the fuel saving is expected to offset the cost of running an additional ship.

CONTRACTING & SHIP VALUES

High contracting activity despite record high ship prices

Contracting activity went up 74% in 2007, compared to the 2006 level. Ship owners continue to favour large vessels in the race for lower marginal costs. Accordingly, Post-Panamax contracting activity set a new record, with 2.2 million teu contracted in 2007 (fig. 6).

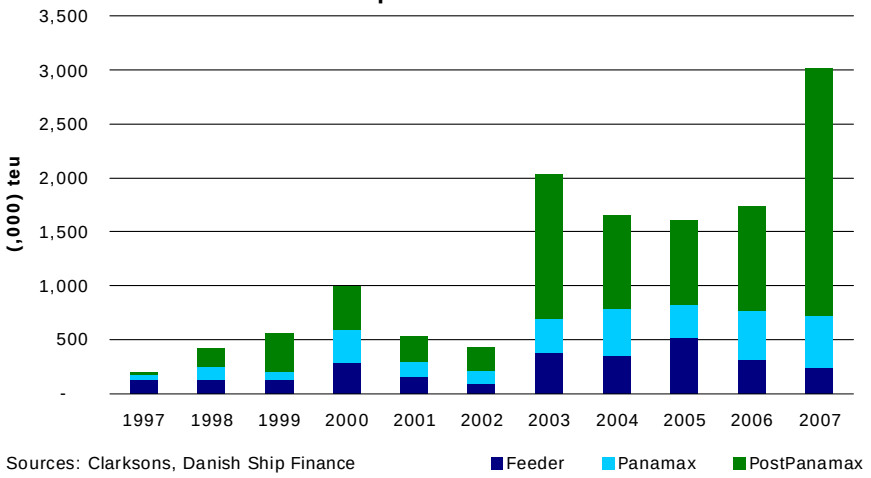
As discussed in the Ship Building chapter, ship prices continue to increase. Measured in terms of required earnings per day, secondhand and newbuilding prices seem to increase in tandem (fig. SB.6, Ship Building). However, this is not equivalent to concluding that prices equal values, as it might be that current prices have pushed the daily earning requirement to an unsustainable level.

Have panamax secondhand prices peaked?

As illustrated by figure 7, the current daily earning requirement (secondhand value) is in line with the current one-year timecharter rate. Nevertheless, from a banker's perspective, we argue that the current earning requirement of approximately USD 32,000 per day is unsustainable in a 20-year investment perspective. Based on monthly data from January 2002 to December 2007, the probability of daily earnings at or above the current level is only 25%.

Figure CS.6

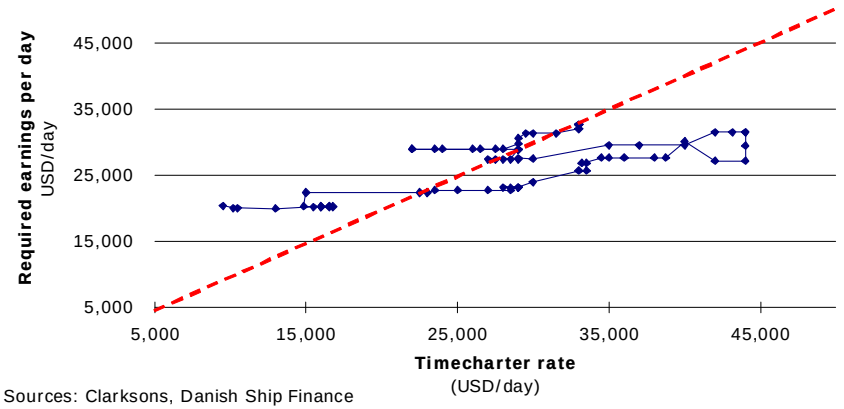
Post-panamax contracting activity up by 139% in 2007 compared to 2006



Sources: Clarksons, Danish Ship Finance

Figure CS.7

Panamax secondhand prices in equilibrium. But will the high daily earnings continue for the remaining 20 years operational lifetime? We believe not.



Sources: Clarksons, Danish Ship Finance

Global head-haul demand seems incapable of matching the excessive entry of new tonnage in the coming two years. Lower average speed may help reducing the supply-demand gap, but we nevertheless expect average head-haul freight rates to decline in 2008 and 2009.

At the beginning of 2008, the prospects of buoyant container demand seemed gloomy. The two main head-haul importers, Europe and North America, both seem, at best, to be on the brink of low economic growth. It is therefore hardly surprising that operators are looking to Asia, the third largest head-haul importer, for a glimmer of hope.

Intra-Asian trade unlikely to drive global head-haul container demand growth in 2008 and 2009

For some time now analysts have been discussing whether Asian imports represent an actual alternative to US imports in terms of leading global demand growth. Proponents focus on the fact that Asian imports currently account for 28% of global imports (measured in teu), leaving Asian imports second only to North American imports (fig. 8). They argue that Asia's new role as a major importer leaves the global economy less exposed to a US economic slowdown.

This argument is obviously correct, but is insufficient in itself to allow us to conclude, that Asia is capable of actually driving the global containerized trade growth. Adjusting for distances (fig. 9), Asia's share of aggregated world imports is significantly reduced to the third largest importer, with, only 18% of global containerized imports.

Low upside for intra-Asian container demand

Intra-Asian trade is to a great extent driven by Chinese imports of components. If Chinese export growth slows due, for example, to an economic recession in US and/or EU, intra-Asian trade is expected to follow suit.

Accordingly, the essential issue here is not so much the actual size of the Chinese GDP growth but rather its source. We do not doubt that China will deliver an impressive GDP growth rate over the next few years, but we question whether this growth rate will generate further container demand.

Fiscal stimuli do not generate container demand.

The Chinese economy is a supply pulled economy, that is to say, an economy driven by exports (in contrast to the US, which is driven by consumption). Accordingly, if North American and/or European imports decline it will have an almost direct impact on Chinese growth. The Chinese government can, of course, choose to offset the decline through an expansive fiscal policy approach. This is, however, unlikely to benefit container demand. Accordingly, we do not expect Chinese economic growth to save the day for container demand.

Lower long-term Chinese GDP growth expectations

Furthermore, China faces a major internal risk factor that is as likely as lacking exports to harm GDP growth: financial distress. In the late 1990s, non-performing loans was the major issue for the Chinese financial system and hence for the sustainability of the Chinese economy. The Chinese non-performing loan debate has been close to non-existent for the last five years, due to government recapitalization of the state-owned banks and substantial lending growth (making the non-performing loan ratio negligible). This does not, however, preclude Chinese banks from being beyond reach of a potential non-performing loan crisis. Here is why.

Rising Chinese non-performing loan ratio

First, according to Standard & Poor's, the official non-performing loan ratio for the major Chinese commercial banks stood at 6.63% of total loans at the end of September 2007 but rose to 6.74% by the end of December. This might seem like a small increase in the ratio, but remember that this increased occurred in tandem with a GDP growth above 11%

(4th quarter 2007). The economy was awash with capital, inflation increased faster than interest rates (which causes debt payments to decline relative to revenues and asset values), loans expanded rapidly (which should push the non-performing ratio down), and equity issuance surged. An increasing non-performing loan ratio in a bull market is definitely a warning for future growth prospects.

A skeleton in the cupboard?

Second, in 1999 the Chinese state-owned banks transferred the bulk of their non-performing loans to four asset management companies. The four asset management companies issued 10-years bonds and exchanged the non-performing loans at book value with these bonds - leaving the parent banks' balance sheet fully compensated. The big issue now is what happens when the bonds mature in 2009. Have the four asset management companies recovered sufficient cash for the book value transfer in 1999? We believe not.

Without drawing any parallel to the US sub-prime crisis, one can only imagine what happens in case these off-balance-sheet placements are returning to the four state-owned banks. Further, what will happen to the Chinese growth miracle if borrowers are hit by a combination of rising interest payments, lower external demand (i.e. exports) and credit constraints?

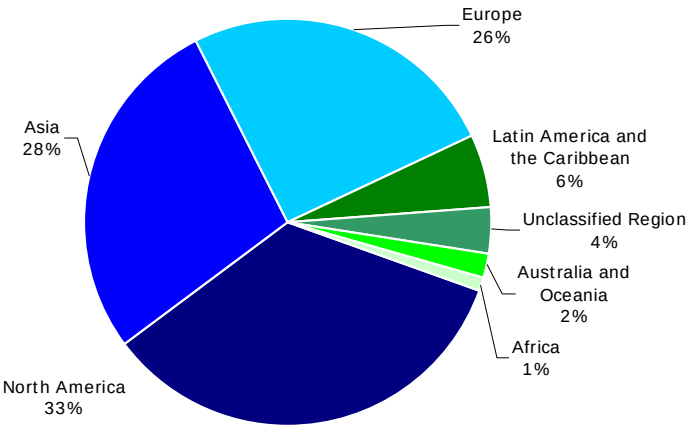
To put it briefly, intra-Asian trade unlikely to provide any demand upside if North American and/or European GDP growth declines.

Therefore, the central issue remains the impact of the current turmoil on North American and European (head-haul) demand, not whether the trade environment is weakening. The 8% head-haul growth we saw in 2007 is unlikely to be repeated in 2008 and 2009.

Our forecast model is based on data provided by Global Insight. For the sake of good order, since Global Insight's data was released, new information regarding the scope of the US-generated credit crisis has come to light.

Figure CS.8

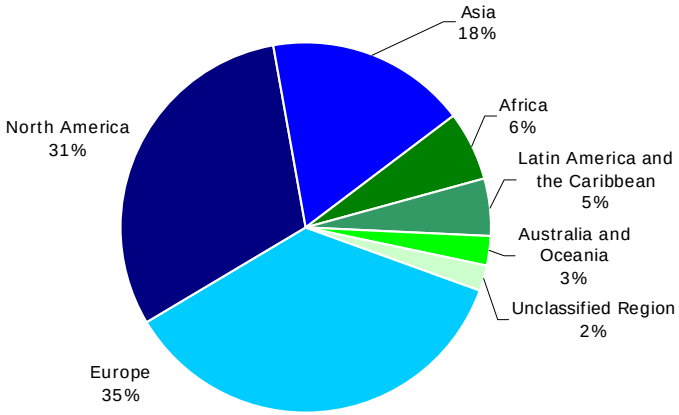
Aggregated world imports - Asia ranks second in world trade measured in teu moves



Sources: Global Insight, Danish Ship Finance

Figure CS.9

Aggregated world imports - Asia ranks third in world trade measured in teu-nautical miles



Sources: Global Insight, Danish Ship Finance

For 2008, we expect head-haul demand to grow 6-7%.
According to our world trade statistical source, Global Insight, global head-haul growth for 2008 is expected around 8% (fig. 10).

Based on our considerations regarding intra-Asian trade, we do not have an equally optimistic view on head-haul demand growth for 2008. We expect head-haul demand to grow by 6-7% in 2008.

For 2008, we expect US import growth up by 2%
Despite lower GDP growth forecast for 2008, Global Insight expects North American imports to grow 5% (+2% in 2007). Given the latest update on US private consumption and GDP growth, we hold a more conservative position for US import growth of around 2% (fig. 10).

For 2008, we expect European imports to grow 10%
Regarding European imports, we do not have any specific reservations about Global Insights forecast. As illustrated by figure 10, Global Insight forecasts that European imports from Asia will increase by 10% in 2008 (+15% in 2007).

For 2008, we expect Intra-Asian trade growth to decline
Intra-Asian trade is in Global Insight's optic expected stable in 2008 (+8%) whereas we – in line with our discussion above – expect intra-Asia trade significantly below 2007 level.

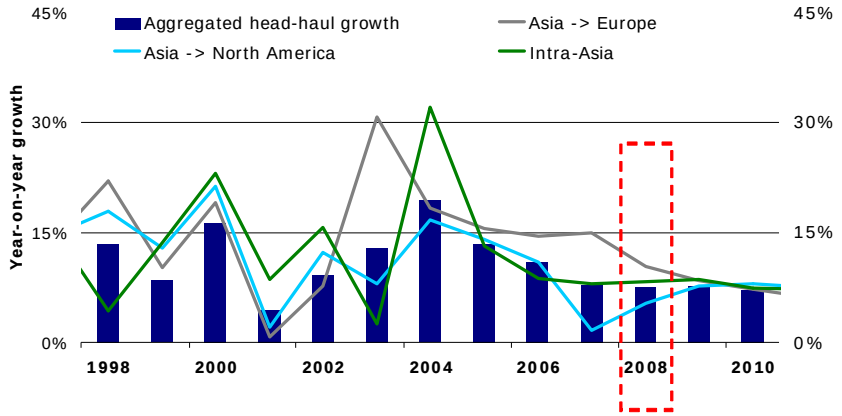
The World Bank's latest forecast for the Chinese economy expects Chinese GDP growth down by approximately 2%-point, to 9.4%, in 2008.

For 2009, we expect head-haul demand to grow by 6-7%
As illustrated by figure 10, Global Insight forecast a head-haul demand growth for 2009 of around 8%, mainly driven by an improved US economy (light blue area) and improved intra-Asian trade (green area).

We do not see the supporting evidence. First of all, for the US economy, we do not expect that tax rebates and interest rate cuts will be the perfect mixture for a quick fix of the consumption driven

Figure CS.10

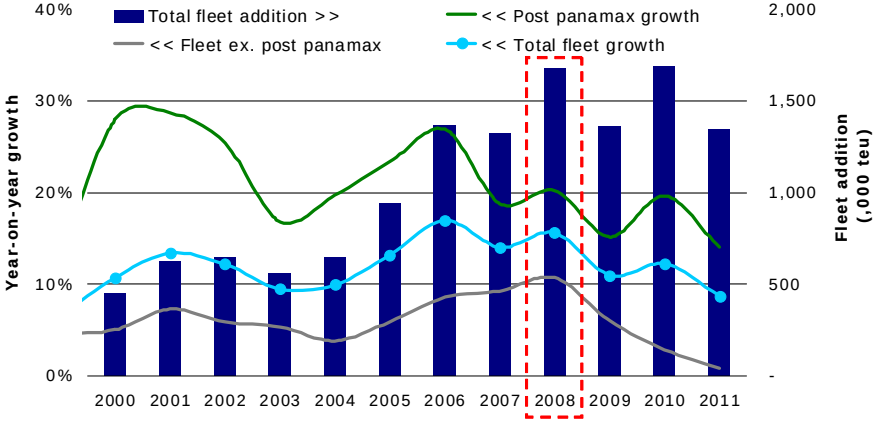
Lead by European imports from Asia, aggregated head-haul demand is expected to grow by 8% in 2008.



Sources: Global Insight, Danish Ship Finance

Figure CS.11

The container fleet is set to grow by 16% in 2008 equivalent to more than 1.6 million teu entering service



Sources: Clarksons, Danish Ship Finance

recession. Reflecting cautions in response to shrinking (asset-based) saving wealth and rising cost of necessities (inflation), US consumers seem to spend only 20 cent of each rebate dollar. In an economy driven by private consumption and with a less-than-favourable demography (implying little pent-up demand) this is not expected to be sufficient to boost demand. Accordingly, we expect the negative consequences of lower consumption to dominate any positive growth factors, for example, increased US exports in 2009. Therefore, we do not anticipate significantly higher GDP growth in 2009 than we predict for 2008.

For 2009, Intra-Asian trade growth is declining

For Asian imports, we hold the same reservations for 2009 as for 2008. Yet we stick to Global Insight's baseline assumption of 9% growth in intra-Asian trade growth as the timing of lower intra-Asian trade growth is difficult to predict with any reasonable degree of certainty.

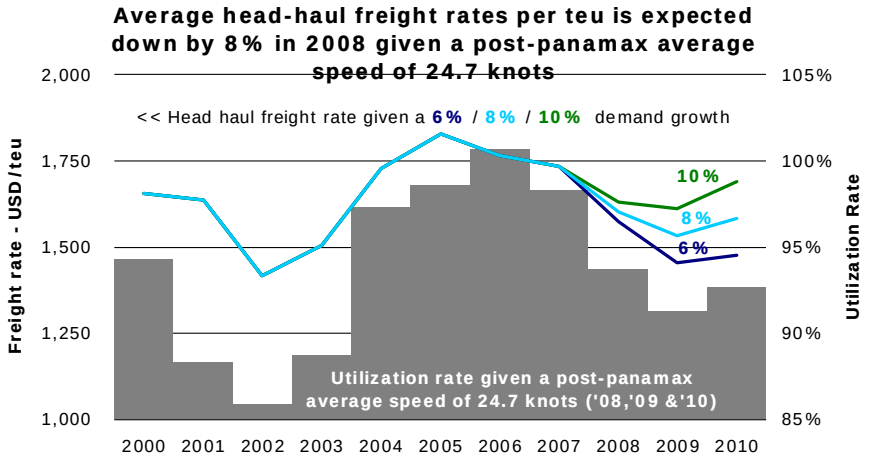
The container orderbook is excessive

On the supply side, the factor dominating the picture is the excessive orderbook. The container fleet is set to grow by 16% in 2008 equivalent to more than 1.6 million teu entering service (fig. 11). As operators are struggling to lower marginal cost their appetite for larger ships continue. Accordingly, the post-panamax segment is expected to grow 20% in 2008, whereas the smaller segments are set to grow 11%. For 2009, 1.3 million teu is scheduled to enter the market equivalent to a fleet growth of 11%. The post-panamax segment – expected to grow 15% – is again the operator's favourite, whereas the smaller segments are set to grow 6%.

Feet utilization expected to decline in 2008 and 2009

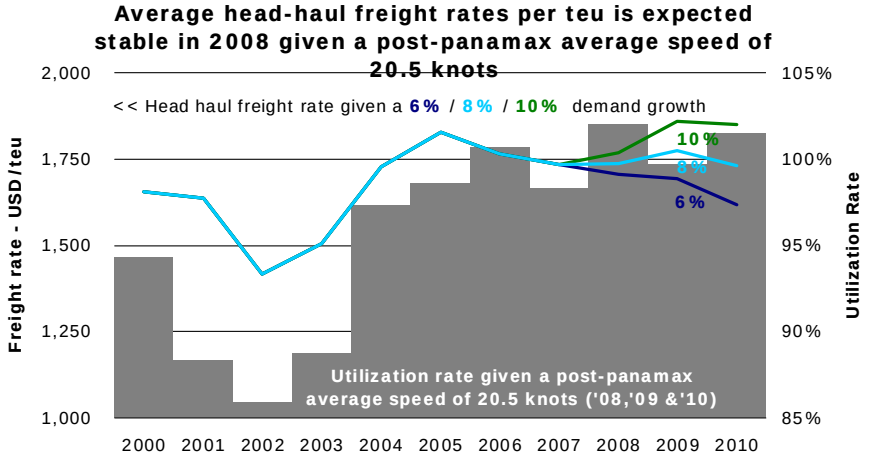
With low head-haul demand growth for 2008 and 2009,and a fleet growth of 16% in 2008 and 11% in 2009,the supply-demand balance seems heavily exposed to a supply surplus. If the reduced speed approach is broadly adopted, it seems possible to maintain or even raise fleet utilization above the 2007 level (fig. 12 & 13). An average speed for a post-panamax vessel below 20 knots is regarded unlikely due to engine constraints.

Figure CS.12



Sources: Global Insight, Clarksons, Danish Ship Finance

Figure CS.13



Sources: Global Insight, Clarksons, Danish Ship Finance

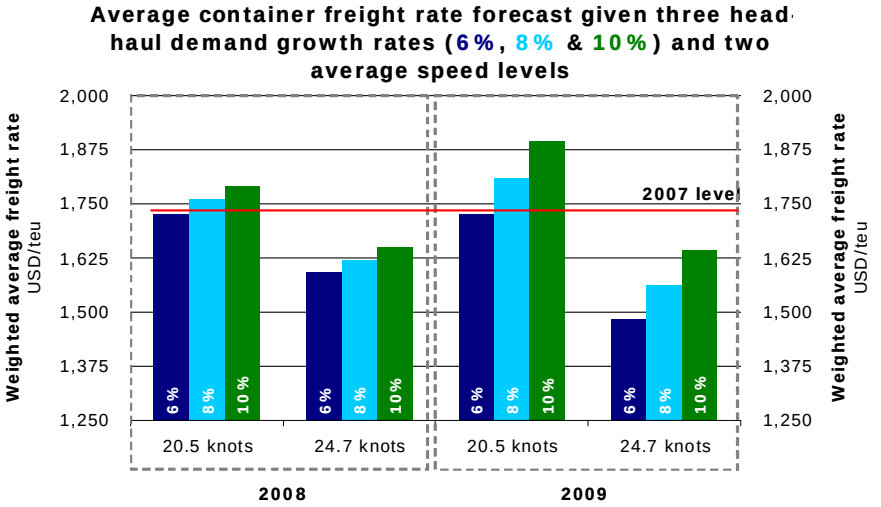
Freight rates expected to decline 2% in 2008 and 1% in 2009

As illustrated in figure 14 and 15, freight rates are expected to decline in 2008 and 2009 in four out of six scenarios. If the post-panamax segment maintains an average speed of 24.7 knots, freight rates would decline in all scenarios, both in 2008 and in 2009.

According to our discussion above, Global Insight expects head-haul demand to grow by approximately 8% in both 2008 and 2009 (light blue square in fig. 14). However, as discussed above, our base case scenario is closer to an average head-haul demand growth for 2008 and 2009 around 6% (dark blue square in fig. 14). We expect the average post-panamax speed to average around 20.5 knots in both 2008 and 2009.

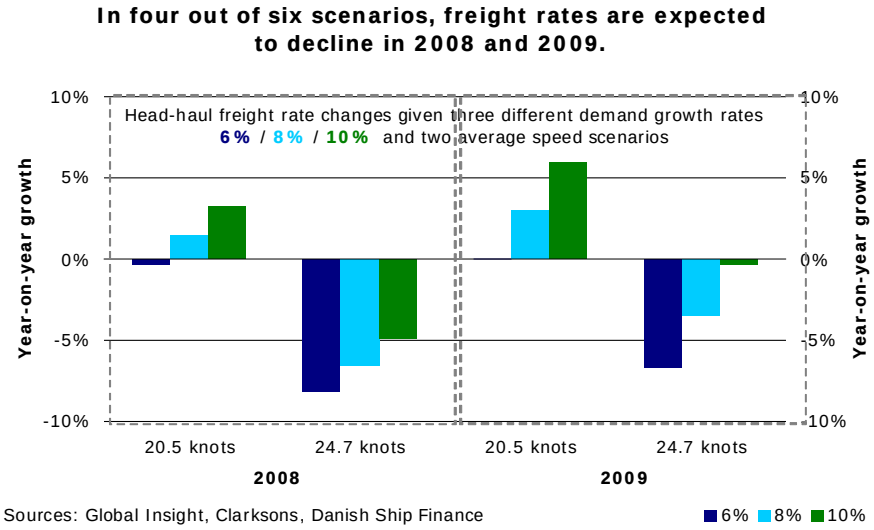
It is important to note that, our freight rate model forecasts a *weighted-average* freight rate per teu for the major head-haul routes. This is to say, that the daily freight rate forecasts should not to be translated into a specific route forecast, as freight rates, at the individual level, is as much a question about capacity, utilization and speed as it is a demand issue. ■

Figure CS.14



Sources: Global Insight, Clarksons, Danish Ship Finance

Figure CS.15



Sources: Global Insight, Clarksons, Danish Ship Finance