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STEEL COMMITTEE**

INDIA

STEEL AND TRANSPORT: ISSUES AND OUTLOOK

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STEEL AND TRANSPORT: ISSUES AND OUTLOOK

Preface

1. This report examines the evolution of seaborne transportation costs for steelmaking raw materials (iron ore and coking coal) and finished steel products on principal shipping routes since the start of 2003. The report builds on SSY's previous steel and transport report for the OECD, published at the end of 2004. The past three years have seen an unprecedented boom in freight rates, which have also been subject to extreme levels of volatility. In assessing the reasons for the volatility, the report includes an analysis of the supply and demand fundamentals along with an assessment of the outlook for 2006 and 2007. The growth in China's steel industry in recent years has been the primary factor fuelling growth in seaborne dry bulk trade and is set to remain a key market driver over the next two years. This report also includes an assessment of the challenges and opportunities for dry bulk shipping arising from China's economic expansion.

Introduction

2. At the time of SSY's previous report on steel and transport to the OECD at the end of 2004, freight rates had just peaked at new all-time records during the fourth quarter 2004. The reasons for this were discussed more fully in the previous report, but fundamentally the record rates were caused by a surge in mineral import demand, led by China, that first overwhelmed existing fleet capacity during the third quarter 2003. This pushed freight rates to a multiple of their historic peaks as charterers scrambled to secure tonnage. Since then, freight rates have continued to be highly volatile. After the records set in 2004, last year saw some negative pressure on annual average rates, principally as the result of accelerating fleet supply. Although even at their lowest point these remained at historically high levels. By the end of the first quarter 2006 freight rates had come under further negative pressure, albeit with continued short-term spikes in response to short-term shifts in the supply/demand balance.

3. Another key source of freight rate volatility is port congestion, which continues to play an important role in tying up substantial volumes of available tonnage as vessels are forced to queue at key load and discharge facilities. The strong end to last year for Chinese iron ore imports led to severe delays at some Chinese discharge ports, helping exert upward pressure on freight rates into early 2006. In addition, Australia, which has been one of the main areas affected by port congestion during the past three years, saw delays climb from an average of less than five days in mid-November 2005 (the lowest level for at least two years) to more than nine days in mid-February (the highest level since March 2004).

4. The cost of USD per ton cargo shipments have also been affected by rising world oil prices through the impact on bunker fuel costs. For example, at Rotterdam the price of HFO has soared to around USD 300/t from USD 140-150/t at the beginning of 2005 and an average for the entire 10-year period 1996-2005 of approximately USD 130/t. SSY calculate that for a 172 000 dwt Capesize vessel performing a round voyage from Brazil to China, the bunker price component of the spot freight rate has risen from around USD 3.00/t at the start of 2005 to USD 6.50/t at the end of the first quarter 2006. Therefore freight rates are significantly higher as a direct result of rising oil prices.

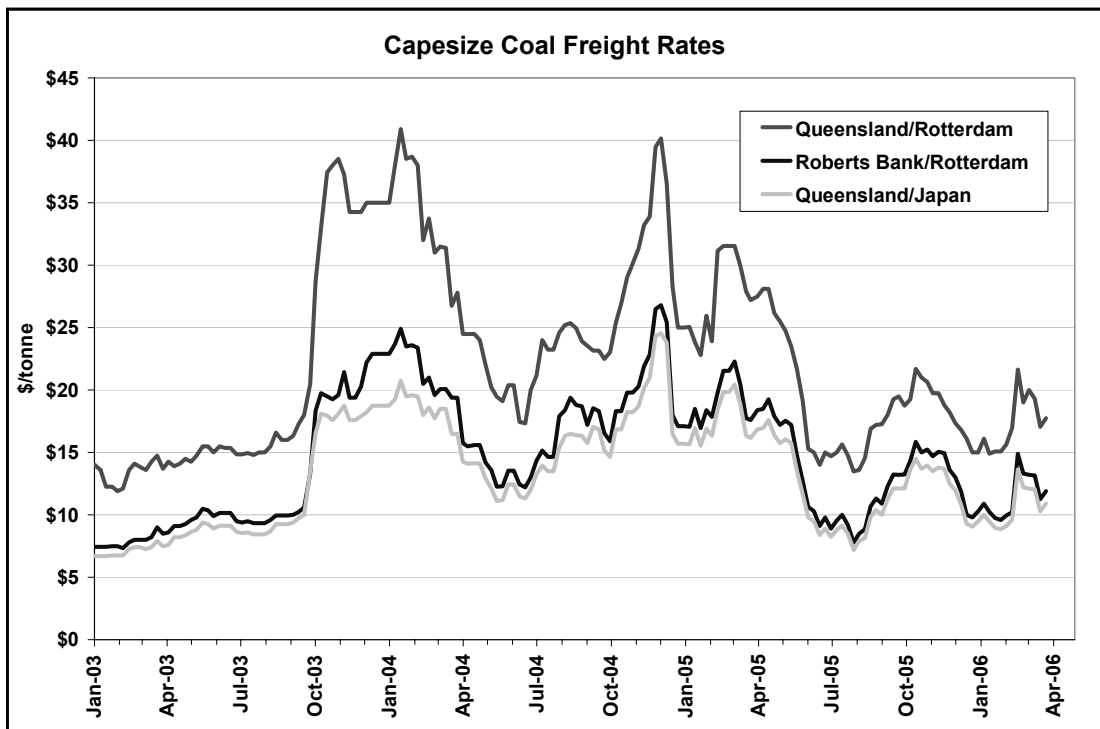
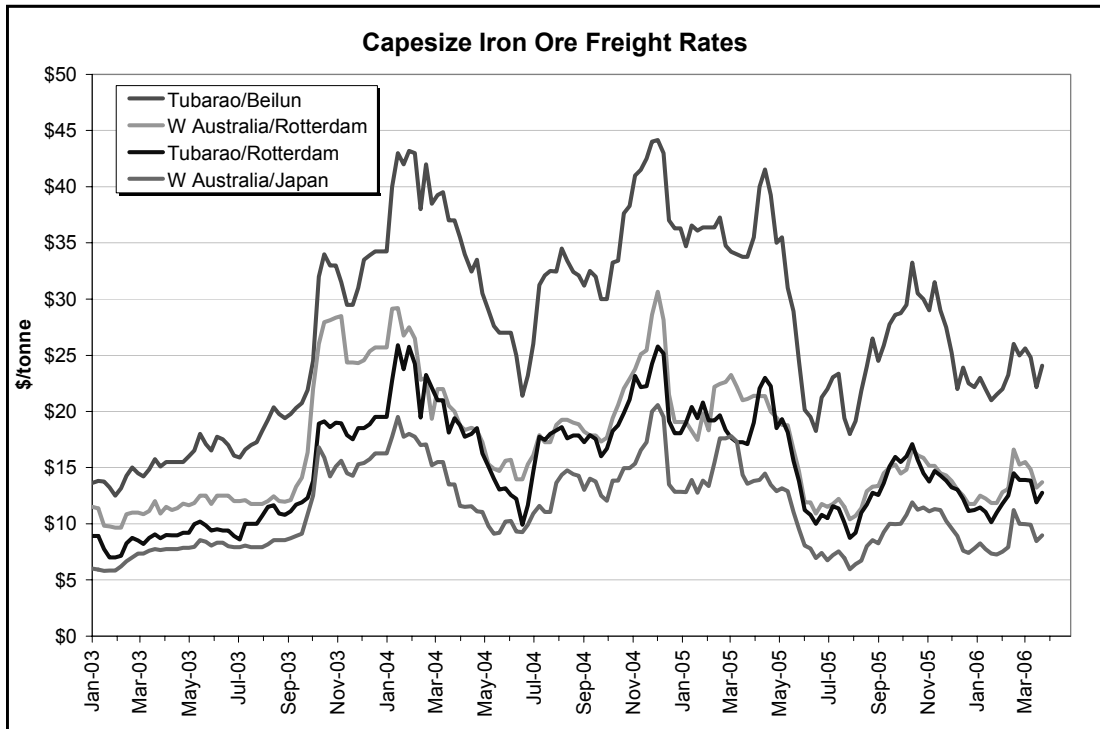
5. The effect of the development of freight market levels on the cost of transporting steelmaking raw materials can be seen in the accompanying charts. In the case of iron ore, Capesize¹ spot freight rates from the Brazilian port of Tubarao to Beilun in China averaged USD 20.40/tonne in 2003, USD 34.70/t in 2004 and USD 28.90/t in 2005. Since the initial surge in rates towards the end of 2003, freight costs on this route during 2004-date have ranged from a low of USD 18.00/t (July 2005) to a high of USD 44.20/t (December 2004). So far in 2006, this rate has fallen towards the lower end of this range, with the first quarter averaging USD 23.40/t.

6. Freight costs for coking coal have moved in a similar fashion. Capesize spot freight rates from Queensland, Australia to the Dutch port of Rotterdam averaged USD 19.90/t in 2003, USD 27.40/t in 2004 and USD 20.90/t in 2005. Since the start of 2004, rates on this route have ranged from a low of USD 13.50/t (July 2005) to a high of USD 40.20/t (December 2004). Again, the first quarter 2006 average of USD 17.40/t is towards the lower end of this range.

7. The widening in freight differentials between fronthaul (*i.e.* Atlantic to Pacific) and backhaul (Pacific to Atlantic) trades remains a feature of the Capesize market. Brazil/Japan iron ore spot rates traded at an average premium to West Australia/Rotterdam of USD 4.70/t in 2003, USD 13.70/t in 2004 and USD 12.20/t in 2005. However, despite the 2005 decline in the premium, when expressed in percentage terms the differential continued to widen. This averaged 34% in 2003, 69% in 2004 and 77% in 2005.

8. The imbalance of mineral cargo flows between the two oceans has continued to grow, with fronthaul volumes expanding through Brazil's iron ore exports to Far East Asia. Meanwhile, Australian iron ore exports are increasingly targeted at this region at the expense of Europe, while for most of the past three years, shipments of Australian steam coal have been priced out of the European market. SSSY estimate that the outflow of iron ore and coal cargoes from the Atlantic to the Pacific has exceeded the inflow by around 50 Mt in 2005 compared to 35 Mt in 2004, 10 Mt in 2003 and just +/-2 Mt in the period 1999-2001.

¹ 'Capesize' vessels are the largest size range for dry bulk vessels with capacity of upwards of 100 000 dwt. These vessels are employed on the mineral trades, with the main cargoes carried being iron ore and coal. Typical modern Capesize vessels have capacity of 150-190 000 dwt although the largest ships (of which there are relatively few) are above 300 000 dwt. These tend to be employed on dedicated iron ore trades.



9. Seaborne transport costs for finished steel products have moved in a similar pattern to those for raw materials, as shown by the following examples of annual average freight rates for shipping steel coils:

Baltic/Black Sea - basis 30 000-tonne lots

2003 – USD 35.00/tonne

2004 – USD 55.00/tonne

2005 – USD 47.00/tonne

Baltic-Continent / US Gulf - basis 10 000-tonne lots

2003 – USD 38.00/tonne

2004 – USD 55.00/tonne

2005 – USD 47.00/tonne

Black Sea / US Gulf - basis 10 000-tonne lots

2003 – USD 35.00/tonne

2004 – USD 54.00/tonne

2005 – USD 46.00/tonne

DEMAND: CURRENT SITUATION/RECENT DEVELOPMENTS

10. Trade in the three major dry bulk cargoes² rose by an estimated 6.5% in 2005. This was a slower rate of expansion than in 2004 (8%), but still represented a third year in succession when annual growth surpassed 6%. For historical comparison, over the entire twenty-year period 1983-2002 average annual trade growth was less than 3%.

11. There was, however, a marked slowdown in the pace of expansion in dry bulk trade between the first half 2005 and second half 2005. This largely reflected: (i) cutbacks in European steel production which impacted on transatlantic movements of ore and coal; (ii) the fact that both steelmaking and coal-fired generating capacity in Japan (and to a lesser extent South Korea) were already at virtually full utilisation; (iii) subdued steam coal demand in the Atlantic and (iv) some moderation in the rate of expansion in Chinese steel production.

12. As in 2004, Chinese import demand was the single most important factor behind this impressive growth in seaborne trade. China's dry bulk imports have increased by an astonishing 214% between 2000 and 2005 to total more than 400 Mt, according to Customs Statistics. Imports of coal (26.1 Mt) and grains (33.0 Mt) both reached record levels last year, but the picture was again dominated by iron ore where imports leapt by 67 Mt to 275 Mt.

Chinese Dry Bulk Imports (Million Tonnes)

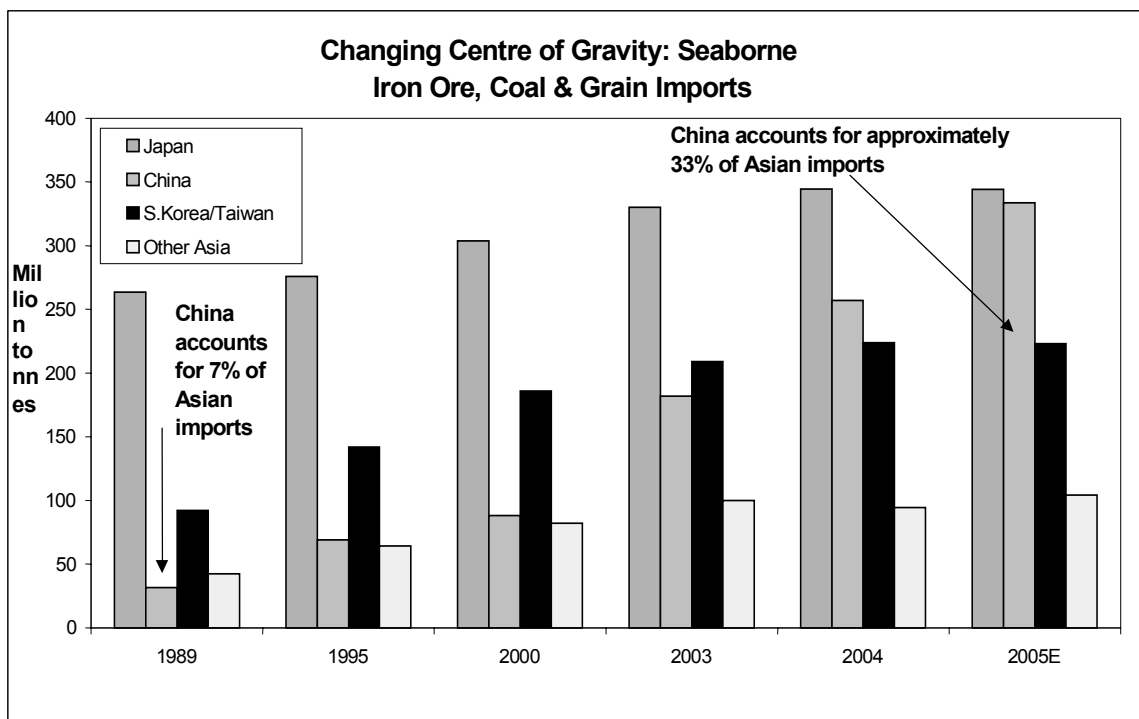
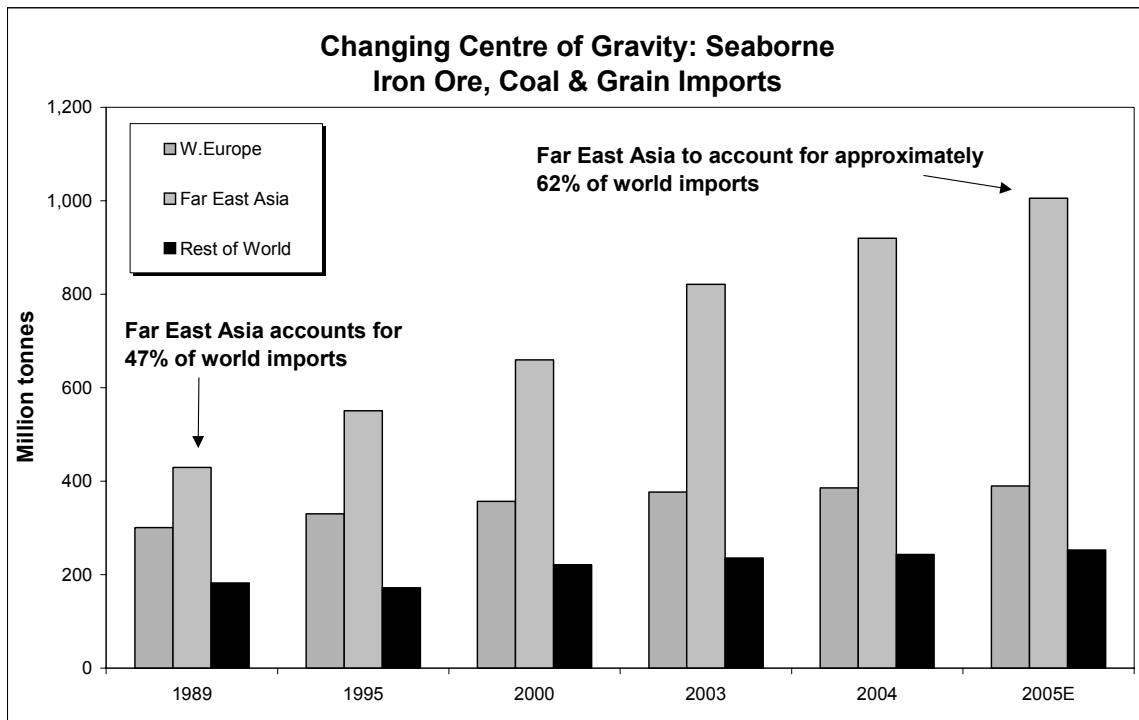
	2000	2005	% Chg
Iron Ore	70.0	275.2	+293%
Steel Products	20.7	27.2	+31%
Grains	13.5	33.0	+144%
Coal	2.1	26.1	+1143%
Fertiliser	11.9	14.0	+18%
Other Ores/Scrap*	11.1	28.8	+159%
Total of above	128.7	404.3	+214%

* Alumina, manganese ore, copper ore, chrome ore and ferrous scrap.

13. The 75-80 Mt rise in China's dry bulk imports in 2005 ensured that the country's share of world trade continued to climb with the PRC now accounting for more than 20% of all seaborne imports of iron ore, coal and grain compared with 7% in 2000. This, in turn, has pushed Asia's share of the dry bulk market above 60%.

14. Without China, world growth in the major seaborne cargoes would have been restricted to just 1.7%.

² Iron ore, coal and grains.



Demand Outlook

China

15. Despite fears of overcapacity in the country's steel sector and the implementation of macro-economic control measures by the central government, China's steel production maintained its rapid expansion in 2005. The annual total of nearly 350 Mt was up 69 Mt on 2004 (a record annual increase). As well as supporting a huge rise in iron ore imports, the increased steel production had the secondary effect of turning China into a marginal net steel exporter (by 450 000 tonnes) for the first time and added to domestic stockpiles, as reflected in falling steel prices.

16. Nevertheless, it is important to stress that most of the additional steel produced in China last year was absorbed by expanding domestic markets. Consequently, while some steel de-stocking has been necessary, an abrupt end to the upward trend in domestic steel output is not in prospect. Our base case shows Chinese output rising by 12% in 2006 and 7-8% in 2007. This is broadly in line with our expectations for underlying growth in domestic steel demand³ and assumes China does not become a major net steel exporter.

17. Even allowing for further rises in China's use of domestic iron ore supplies, SSI expects an increase in the country's iron ore imports of around 45 Mt, with a further rise of around 30 Mt in 2007, which will ensure the Chinese steel industry remains the main source of dry bulk trade growth. However, we recognise that there are major uncertainties over the speed of future import growth. For 2006 alone we are aware of forecast increases ranging from just 5-10 Mt to 60 Mt.

18. There is also considerable difference in opinion among commodity analysts over the sourcing of additional imports and, in particular, the role to be played by Indian supplies. On the one hand, rising demand from an expanding domestic steel industry is likely to limit any future growth in the country's export surplus. On the other hand, high export prices are attractive to Indian iron ore producers. Our base case assumes that Indian exports to China in 2006/7 are at similar levels to 2005 with Australia and Brazil further strengthening their share of the Chinese market (which should ensure that the vast majority of additional cargoes are carried by Capes).

19. Certainly the mining companies in both countries are lifting their capacity. Speaking at a *Metal Bulletin* event in Beijing this month, an official from Western Australia's state government claimed that output capacity in Australia will rise from 256 Mtpa in 2005 to 315 Mtpa by 2007. Last month at another iron ore conference, BHP Billiton spoke of its aims to lift output capacity by 20 Mtpa to 129 Mtpa by the end of 2007. Expansion work will be carried out at its Port Hedland terminals.

20. Meanwhile, Rio Tinto has announced plans to export the first iron ore from its 5 Mtpa expansion project at Nammuldi next month. The company will add another 7 Mtpa of new capacity at its Mount Tom Price mine by the forth quarter of 2006. Rio Tinto's Yandicoogina mine is scheduled to expand from 36 Mtpa to 52 Mtpa by late 2007. In Brazil, CVRD aims to export 22 Mt more iron ore during 2006. Various port upgrades (at Tubarao, Itaguai, Guaiba Island and Ponta da Madeira) will support further expansion in export volumes.

³ This will continue to be powered by the process of industrialization/urbanization, although as the PRC economy becomes more consumption, rather than investment-driven, we do expect to see some decline in the steel intensity of GDP.

21. We also expect China to expand further as an importer of coking coal, although increased domestic output did reduce the country's import requirements during the 2h05. Hence, our forecast for a 3-4 Mt increase in Chinese imports between 2005 and 2007 may be subject to downside risk.

22. As already indicated above, Chinese dependency on imported steel products has been sharply reduced – last year's 27.2 Mt was down 16 Mt on 2003 and the lowest annual total in four years. With the exception of some high grades of steel, we expect China to be a modest net exporter (*i.e.* around 4-5 Mt/year) over the rest of the decade.

Rest of the World

23. In the traditional steel-making centres outside China (such as Western Europe, North America and Japan) output declined in 2005, as major steel manufacturers cut production in an attempt to support international steel prices. However, with prices in these key markets rising again, the output cuts are widely expected to be reversed this year with global crude steel production rising by over 5%. Apart from China, the only other major steel producing country to significantly boost output last year was India (+17% to 38.1 Mt). The Indian government is targeting annual production of 100 Mt by 2020, but most independent observers believe that this is too conservative given the number of planned projects.

24. As previously noted, the main impact of the Indian steel industry's growth on the iron ore trades is through the potential reductions in the country's exportable surplus. For coking coal, however, there is the prospect of further strong import growth. SSY predict an 11-12 Mt rise over the next five years, but this could be subject to upward revision given planned additions to new steelmaking capacity.⁴

25. The past 12 months have seen some improvements in coking coal supplies, but balances remain tight as witnessed by the fact that: (*i*) contract prices for hard grades have slipped by just 8% after last year's 100+% increases and (*ii*) current delays at Australian export terminals are partly the result of the restricted availability of higher grade supplies. Reflecting our optimism for world crude steel production, we predict another 8 Mtpa of growth for 2006-7.

26. Steaming grades continue to account for the majority of growth in seaborne coal trade, rising by an estimated 23 Mt last year. However, recent increases have tended to be concentrated on short haul trades, such as Russia-NWE, Indonesia-India, Vietnam-China and Colombia-US.

27. Further growth in the imports of China, India and the US are key to our forecast for an average annual increase of close to 20 Mt/year in steam coal over the next two years. Other growth markets include Germany, Italy, and SE Asia. Environmental policies, including a proposed carbon tax in Japan, represent a potential medium to long term restraint on steam coal demand growth in some of the more mature steam coal markets, but cuts in coal consumption imply an offsetting rise in nuclear power generation which will be very difficult to achieve⁵.

28. Despite the potential market shocks provided by hurricanes in the US Gulf and outbreaks of bird flu in the Far East, Middle East and Europe, the overall picture for world grain trade in 2005 remained one of steady overall growth. As in recent years soya proved most dynamic with bean and meal cargoes rising

⁴ To illustrate the upward trend in coking coal import dependency, Indian steelmaker JSW are contemplating investments in Australian or Canadian mines in order to secure supplies for a planned 4.5 Mt expansion in annual crude steel production by 2008/9.

⁵ Indeed, a recent report in the Financial Times showed that leading power equipment makers in Europe are detecting a shift towards coal-fired turbine orders and away from gas (due to concerns over price and security of supply) which they expect to continue.

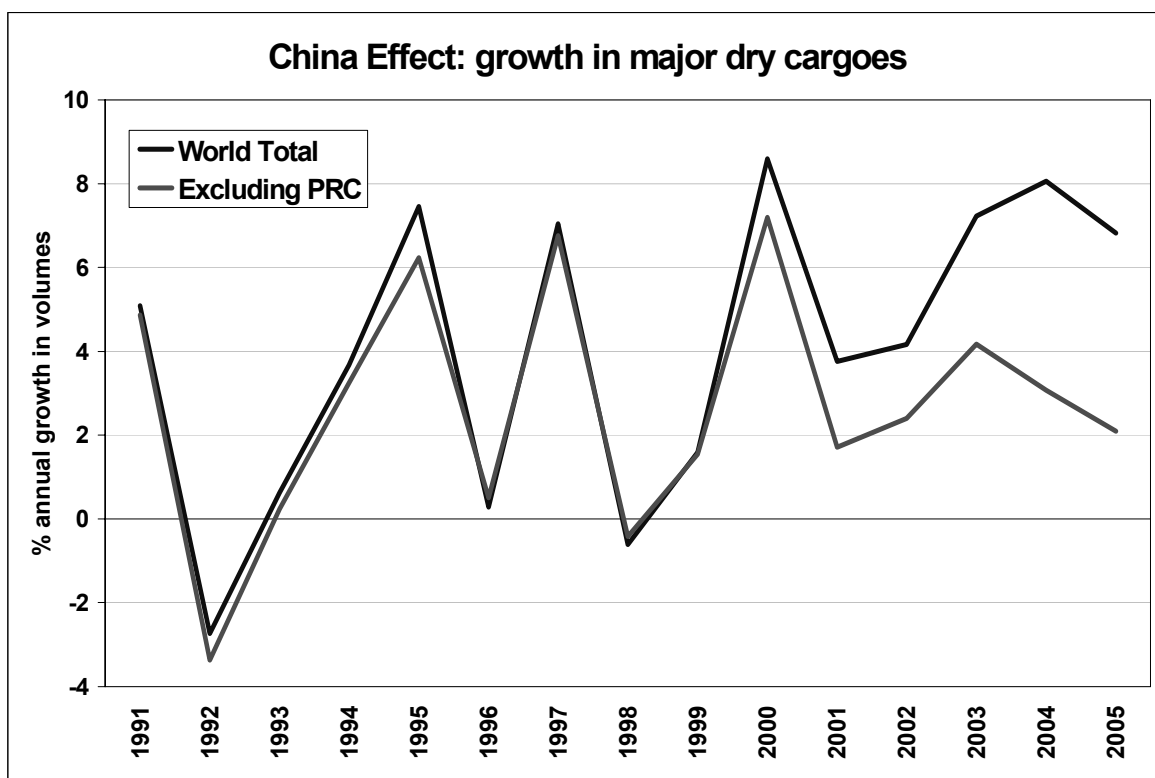
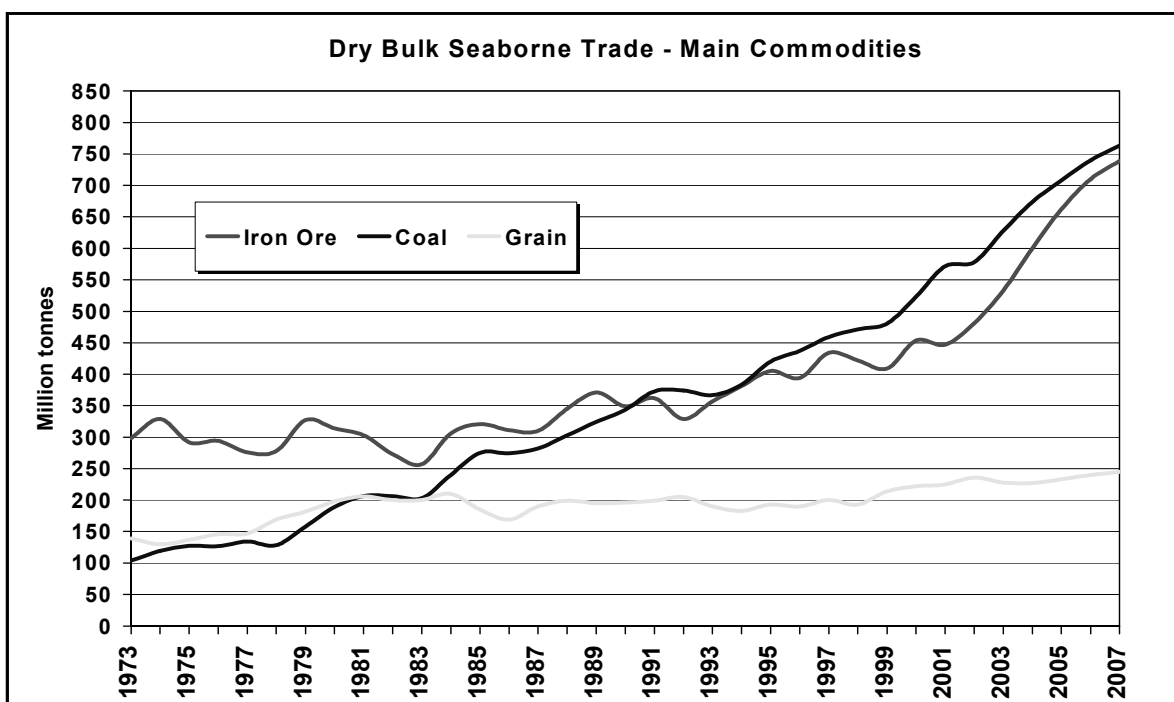
by an estimated 12-13 Mt. Approximately 50% of this increase was accounted for by China, which imported almost 27 Mt of soyabeans in 2005.

29. The pattern of Chinese-led growth in soya trade is set to continue this year, but at a much slower pace. For example, the US Department of Agriculture predict a 2-3 Mt rise in total bean and meal imports in the Oct 2005-Sep 2006 trade year (of which China is again expected to account for 50%). By comparison, SSY expect wheat and coarse grains to edge only 2-3 Mt higher.

Summary

30. The decline in freight rates over the past 12 months cannot be attributed to any fundamental weakening in cargo demand. On the contrary seaborne dry bulk trade has continued to achieve new peaks and rise at an annual rate well above historical averages. If forecasts for firm world economic growth in 2006 are realised then healthy rises in world demand for steel and energy are assured. This should translate into a 4-5% rise in seaborne dry bulk trade.

31. For 2007 we are less confident in the strength of the world economy, but still believe that trend growth in raw material demand will be sufficient to sustain an increase of around 3%. The accompanying chart shows the long-term development of growth in the major cargoes, along with our estimates for the next two years and shows that, while there is likely to be some moderation in the pace of expansion, growth in iron ore and coal is still expected to be robust. By contrast, the contribution from grain is relatively modest in pure volume terms. More important is its seasonal impact on ship demand, with Panamax and Handymax sectors potentially boosted during the second quarter peak in the Latin American grain season and the fourth quarter climax to the US export year.



Fleet Supply

32. The influence of rising fleet supply on tonnage balances became increasingly evident in 2005 as, despite new records in dry bulk trade, average freight rates declined. At 22.1 Mdw, net growth in the total dry bulk carrier fleet last year was an all-time record and roughly translated into an additional 160 Mt of annual cargo carrying capacity. This compared with fleet rises of 18.2 Mdw in 2004 and just 7.4 Mdw in 2003.

33. As the table below shows, the fastest increase in cargo carrying capacity over the past two years has occurred in the Panamax⁶ size range. The tendency towards over-supply in this size range has been reflected in a widening in the Cape:Panamax earnings ratio and encouraged more charterers to split their Cape cargoes into Panamax stems (*e.g.* on W.Australian iron ore trades).

Approximate Change in Cargo Carrying Capacity

(Mt/year)

	<i>Cape</i>	<i>Panamax</i>	<i>Handymax</i>	<i>Handysize</i>
2002	+15	+19	+32	-11
2003	+31	+9	+25	-12
2004	+51	+44	+31	+10
2005	+60	+52	+41	+12

34. Last year's increases in dry bulk cargo carrying capacity were the result of (i) a new peak in newbuilding deliveries and (ii) minimal scrapping. Additions to the Capesize (8.75 Mdw) and Handymax⁷ (5.3 Mdw) fleets represented new all-time highs, while 2005 was the second highest year for Panamax deliveries. Even in the Handysize⁸ sector deliveries were at a 7-year high. This was in spite of competition for berth space from other vessel types.

35. Crowding-out of bulk carrier building capacity has been most apparent in Korea, but has been offset by sustained high levels of activity in Japan and the opening of new Chinese berths. In 2000, China delivered less than 1 Mdw of bulkers. By 2005 this figure had risen to almost 5 Mdw and is likely to rise further as new facilities enter service during the final years of the decade (including Changxing Island, which is planned to be the world's largest shipbuilding facility by 2015).

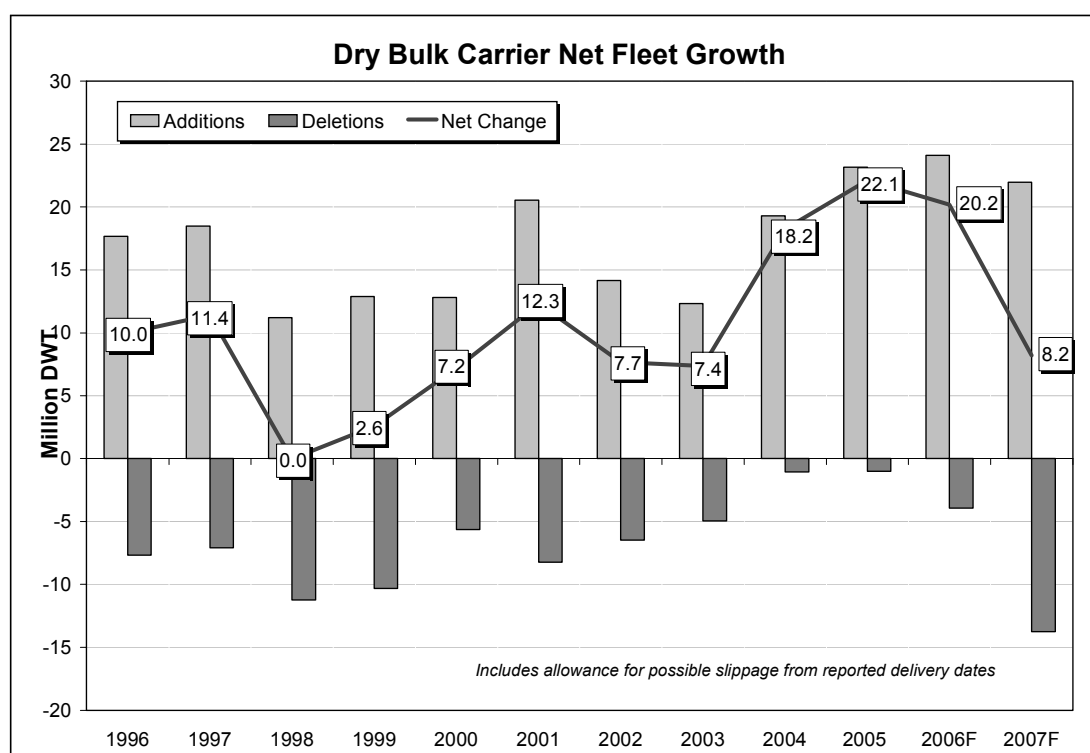
36. The outlook is for even higher bulk carrier deliveries in 2006 (24.1 Mdw), but some moderation in 2007 (to 21.9 Mdw) when containership newbuilding activity will be especially high. Consequently there is no prospect for a sharp deceleration in fleet supply growth without a marked increase in scrapping.

37. No such revival in bulk carrier demolition looks imminent. Unlike tankers, there are no fixed phase-out dates in place for this vessel type and, as a result, the decision to scrap remains a commercial one which tends to be taken on a vessel-by-vessel basis.

⁶ 'Panamax' vessels range in capacity from 60 000 to 100 000 dwt.

⁷ 'Handymax' vessels range in capacity from 40 000 to 60 000 dwt.

⁸ 'Handysize' vessels have capacity of 10 000 to 40 000 dwt.



38. Older ships tend to trade at a discount to more modern units (partly due to heavier fuel consumption) and also face longer off-hire time in weak markets. A key trigger for demolition can be the vessel's Special Survey when owners face additional repair and maintenance expenditure in order to keep their vessels trading. However, as yet, freight rates have not fallen to levels where owners of older vessels are facing trading losses and therefore they will be reluctant to invest in extending their assets' trading lives.

39. Total deletions from the fleet in 2005 remained close to the 1 MdwT of 2004, which compares with an average of over 7 MdwT for the period 1995-2003. The low number of removals from the fleet has ensured a steady rise in the supply of elderly vessels. As the table below shows, over 40 MdwT (12%) of all dry bulk tonnage is currently aged 25 years or older with a further 65 MdwT of vessels aged between 20 and 24 years. By far the biggest concentration of 25+ year old tonnage is in the Handysize sector, but rising numbers of Panamax and Capesize vessels will also reach their 25th anniversary in 2006 and 2007. This implies that there is the potential for a sharp increase in demolition volumes in the event of a protracted period of weak earnings.

40. For 2006 we expect demolition to be largely concentrated in the Handysize sector due its extremely advanced age profile⁹, but in the other size ranges it is not until 2007 that negative freight rate pressure is expected to force large numbers of vessels out of the fleet.

41. Consequently, forecast net fleet growth in 2006 shows only a limited slowdown from 2005 (to 20.2 MdwT) before a much more marked deceleration (8.2 MdwT) becomes apparent in 2007. We would, however, stress that next year's anticipated demolition is dependent on the assumed weakening in freight market conditions. If ship demand surpasses our expectations and supports vessel earnings, then this will be reflected in lower demolition.

⁹ Where in the first quarter 2006 the number of vessels deleted from the fleet or sold for demolition in the second quarter already exceed the 2005 annual total.

42. In addition to the overall growth in vessel supply, the past three years have seen some significant changes to the size composition of the dry bulk fleet which are likely to continue over the balance of the decade.

43. Perhaps the most evident of these is the progressive ageing, and resulting decline in market share, of the Handysize fleet of 10-39,999 dwt. Even though the evidence of the period charter and secondhand markets shows that there remains a strong baseload demand for modern Handysize units, few shipyards are marketing designs for this vessel type.

44. This process has been exaggerated by the emergence of the Supramax vessel of 50-59,999 dwt. With more than 360 of these vessels delivered since the start of the decade they now account for around 30% of the total Handymax (40-59,999 dwt) fleet and over 85% of the Handymax orderbook. The popularity of the Supramax design (which is deployed on a range of mineral trade and grain trades, as well as carrying minor bulk cargoes) means that the current newbuilding orderbook below 50,000 dwt is equivalent to just 5% (6.4 Mdw) of the existing fleet. For those charterers in the steel trades that cannot utilise the larger units, due to either port capacity constraints and/or cargo stem sizes, this trend can only intensify their difficulties in securing modern tonnage.

45. The other main fleet development impacting on the steel-related bulk trades is the rising size of Capesize vessels. For example, whereas in the existing fleet the average vessel size is 169,000 dwt, this rises to 202,000 dwt for vessels currently on order. Indeed the orderbook includes more than 20 contracts for ships of 300-320,000 dwt - the vast majority of which will operate on dedicated trades from Brazil.

Dry Bulk Carrier Fleet by Size/Age (Million Dwt):

As at March 2006

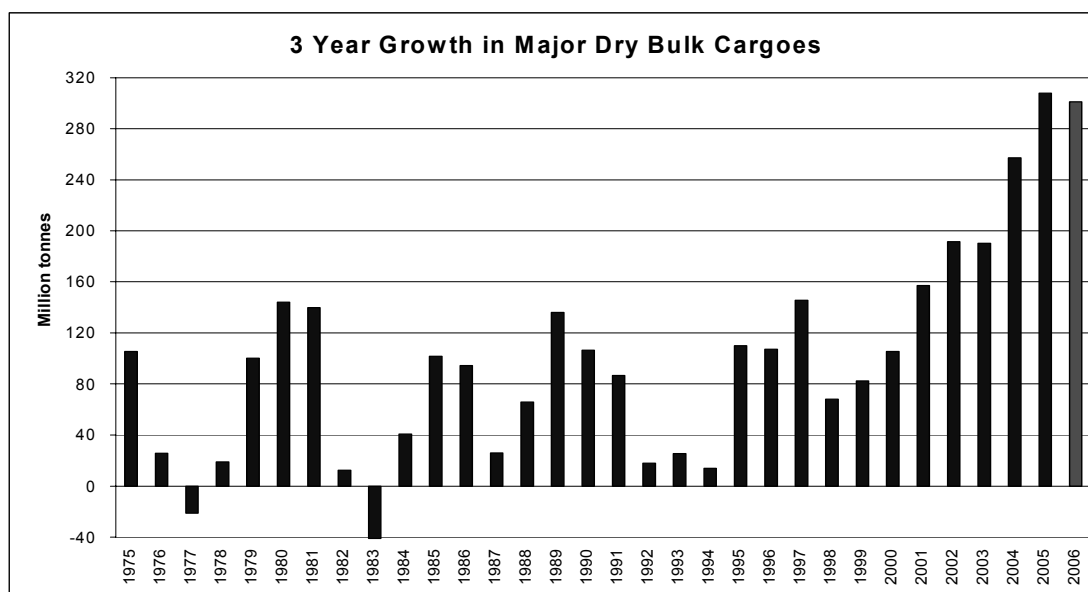
Built/Dwt	10-39,999	40-59,999	60-99,999	100,000+	Total
Pre-1982	24.2	4.3	7.3	5.1	40.9
1982-86	22.4	12.2	14.7	15.8	65.1
1987-91	4.0	5.4	8.5	15.3	33.2
1992-96	6.5	11.2	14.9	24.7	57.3
1997-01	8.9	15.5	27.7	23.9	76.0
2002-06	7.1	18.5	22.0	27.1	74.7
Total Fleet	73.1	67.1	95.1	111.9	347.2
On Order	4.8	12.5	18.9	27.8	64.1
<i>% of Fleet</i>	<i>6.6%</i>	<i>18.6%</i>	<i>19.9%</i>	<i>24.8%</i>	<i>18.5%</i>
<i>% of 20+ Yr Fleet</i>	<i>10.3%</i>	<i>75.8%</i>	<i>85.9%</i>	<i>133.0%</i>	<i>60.5%</i>

China Boom: Challenges & Opportunities

46. As detailed elsewhere in this report, the boom in dry bulk freight market conditions of the past three years has been due primarily to the China effect on dry bulk trade.

47. This is illustrated by the accompanying chart which shows the three year change in the major dry bulk cargoes (iron ore, coal and grain) since the mid 1970s. During the 1980s and 1990s dry bulk trade growth was extremely cyclical, largely reflecting trends in the industrial economies of the US, Europe and Japan. As these economies matured, so underlying rates of expansion in seaborne trade declined. It was against this background that investment in new ships and ports was undertaken. By contrast, driven by the surge in Chinese import demand, the current decade has seen a rapid and continuous expansion in cargo volumes. Three year growth in the major cargoes has averaged over 200 Mt since 2000, and is expected to stand at 301 Mt in 2006, compared with an average of approximately 70 Mt over the entire period from 1975-1999.

48. The greatest impetus has, of course, come from the 205 Mt rise in annual Chinese iron ore imports since 2000, which has impacted most on shipowners in the Capesize sector carrying Australian, Brazilian and South African ore into China¹⁰. A major expansion in China's Capesize capable port facilities has accompanied the increase in iron ore imports but, significantly, the Chinese-owned Capesize fleet remains modest. The situation will change over time through a combination of newbuilding activity (see fleet supply) and acquisitions in the secondhand market, but for the time being the Chinese ore trades are predominantly served by chartered-in vessels.



49. Such has been the increase in iron ore flows to China that it has also lifted demand for sub-Capesize tonnage, notably for Handymax vessels of 40-59,999 dwt, which are well suited to the Indian ore export trades (China imported 68.6 Mt of Indian iron ore in 2005 compared with 50 Mt in 2004 and 22.4 Mt in 2002).

50. The tremendous rise in iron ore imports has tended to overshadow developments in other Chinese dry bulk trades, but there have also been significant rises in the past three years in PRC imports of grains

¹⁰ As reflected in the average earnings for 170 000 dwt Capes for the past 2.5 years of USD 58 000/day, compared with pre-boom averages of around USD 17 000/day for this size of vessel.

(+19 Mt), coal (+15 Mt) and minor ores/scrap (+11Mt). This has chiefly been to the benefit of demand for Handysize, Handymax and Panamax vessels on such routes as Vietnam-China (anthracite) and Latin America-China (soya).

51. The initial challenge for the shipping industry created by China's raw material import boom was to supply the vessels required to meet such an explosion in demand. With Capesize capacity overwhelmed in the fourth quarter 2003, charterers were forced to split their cargoes into smaller stem sizes. Even though the freight market has subsided from its peaks of 2004 and early 2005, there is still a high incidence of cargo splitting into Panamaxes during times of relative strength in Capesize demand and freight rates¹¹.

52. A more fundamental response to the squeeze in tonnage supply created by Chinese demand has been through increased newbuilding. As outlined in the Fleet Supply section of this report, bulk carrier deliveries are running at all-time highs, led by record volumes of Capesize construction. The Capesize newbuilding programme has been chiefly based in Japan, but more recently in China, where the country's shipyards are scheduled to deliver 15 vessels of 100,000+ dwt this year compared with six in 2004 and zero as recently as 2002.

53. The continued development of the Chinese shipbuilding industry is expected to be a key factor in ensuring that, despite (i) continued trade growth and (ii) requirements for fleet replacement, there is an adequate supply of Capesize vessels over the rest of the decade to ensure that the tonnage shortages of fourth quarter 2003- first quarter 2005 are not repeated.

54. Perhaps the greatest challenge currently posed for the shipping industry by China's expansion is how to manage the freight market risks created by the increasing dependency on a single demand source. Even for those owners or charterers active in trades within the Atlantic basin and which have no direct link to events in China, the freight rates they negotiate can be heavily influenced by short term fluctuations in PRC demand. For instance, a temporary dip in Chinese iron ore imports during the second quarter 2005 triggered a steep decline in rates for all sizes of dry bulk carrier through its impact on both the physical market and market sentiment (*i.e.* fears that the reductions in cargo demand might prove more lasting).

55. Changes in Chinese trade patterns can also affect the relative, as well as the absolute, strength of freight rates. A recent example has been provided by the Handymax market, where the differential between fronthaul (Atlantic-Pacific) and backhaul (Pacific-Atlantic) rates has been eroded from an average of nearly USD 11 000/day in 2004 and 2005 to less than USD 1 000/day in the first quarter 2006. Moreover, by the end of March fronthaul rates were trading at an unprecedented *discount* to the backhaul of nearly USD 4 000/day. We largely attribute this dramatic shift to (i) China's transition from a net importer to net exporter of steel products (which has dampened demand for cargoes from Latin America and the Black Sea) and (ii) a sharp rise in the country's cement exports (a significant share of which is exported to the US).

56. The additional spot market volatility created by the "China effect" has helped the development of freight futures as one means of managing freight market risk, as well as encouraging charterers in the steel industry to limit their spot market exposure through greater reliance on a portfolio of contracts of affreightment and/or short term period charter cover.

57. While China's continued economic expansion will pose further challenges for the shipping industry, it is the potential opportunities offered by sustained high rates of trade growth that are the main driver of new investment in the dry bulk sector. In particular, owners are focussing on the prospective

¹¹ Recent examples include November 2005 and February 2006, when rising Capesize rates encouraged charterers to make greater use of Panamax vessels on W.Australia-Far East Asia voyages.

growth in the country's iron ore imports, encouraged by a host of new export projects in Australia and Brazil.

58. Although SSY anticipate some moderation in the pace of expansion in the Chinese import trades over the next five years, we expect the trend to remain upwards. Our current base case shows a 150 Mt rise in Chinese iron ore imports between 2005 and 2010 with the majority of the additional cargoes expected to be sourced from Australia and Brazil (and therefore carried by Capesize vessels).

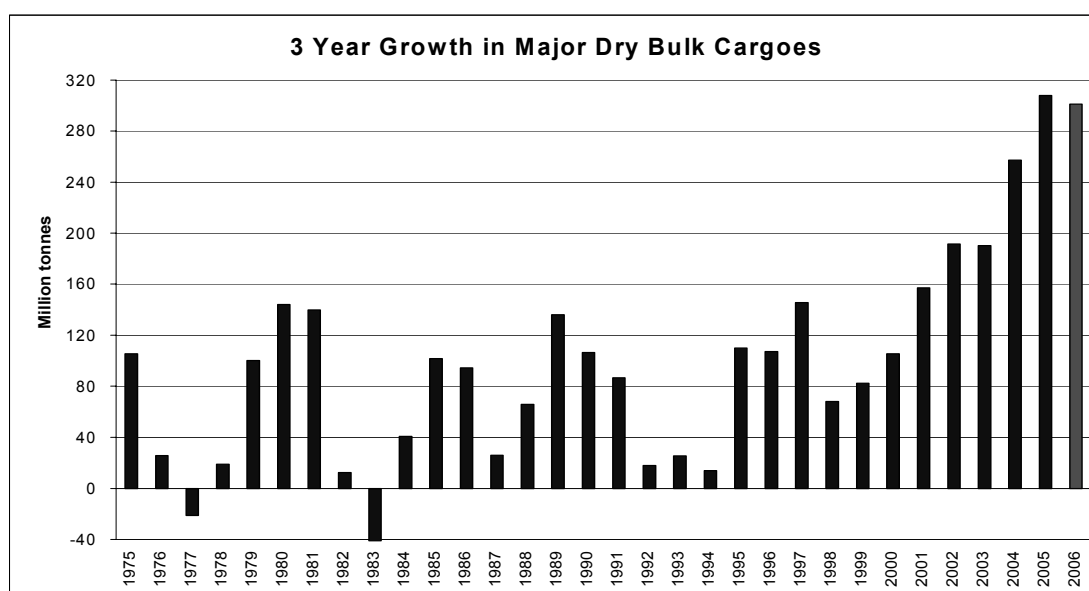
59. This should ensure that annual growth in tonne-mile demand on the seaborne iron ore trades averages 6-7% p.a. in the current decade – the fastest underlying rate of increase since the 1960s.

Market Outlook

60. After three consecutive years (2002-2004) when growth in demand for bulk carriers was faster than the growth in vessel supply, the situation reversed in 2005 as net fleet growth rose to a new peak. However fleet utilisation remained high, as illustrated by continued spot market volatility.

61. For 2006 we expect the gap between the supply & demand growth curves to widen. This will put further negative pressure on freight rates, which is expected to continue into 2007 and lead to a period of increased demolition, creating the platform for another rise in rates towards the end of the decade.

62. Current long-term period rates and derivatives prices imply market expectations of lower freight levels in the next two years. Current one-year period time charter rates for Capesize tonnage of around USD 30 000/day are at a discount to the current spot market while 5-year rates of USD 25-26,000/day stand at a further discount. Freight Forward Agreement (FFA) prices are more bearish, with the remainder of 2006 currently priced below USD 30 000/day and calendar year 2007 lower, at around USD 23 250/day.



Implications

63. General expectations for softer freight markets in 2006-07 have caused some relief for charterers in the steel-related bulk trades. Several are opting to defer negotiating new contracts until the second half 2006, when they believe market conditions will be more in their favour. Despite this more relaxed

approach, however, it is clear that the experience of the past two years has led to increased levels of long term contract/period charter cover as spot market exposure is reduced.

64. With daily hire costs for a modern Capesize vessel having ranged from USD 20 000 to over USD 100 000 during the past three years, long term charters can be very attractive for those companies looking to secure their future freight costs. Current five-year rates may prove expensive in the near term if the market continues to fall. However, our expectations for *(i)* above-average rates of demand growth for the rest of the decade, and *(ii)* increased scrapping of older vessels, imply that a return to the protracted periods of weak freight markets experienced in the 1990s and 1980s is very unlikely. Locking in tonnage for five years guards against being hit by potential spikes in freight rates later in the period. Current ten-year rates of around USD 21 750/day offer a further discount.

65. The freight futures market has seen some significant developments over the past year, particularly with the arrival of clearing houses. This should persuade more companies, concerned with counterparty risk, to feel more confident about trading futures in order to hedge their freight costs. While several major steel companies have been tracking the FFA markets closely, many have yet to participate. One actively traded FFA route is Tubarao/Beilun, offering a paper hedge to those involved in the fronthaul iron ore trades. However, brokers report that trading volume on this route remains thin, with more players required in order to increase liquidity.

66. Those companies active in seaborne trade of finished steel products should be assisted by recent moves by the Baltic Exchange to develop a Handysize futures market. This is currently under discussion amongst FFA market participants and should offer another potential tool for reducing charterer exposure to escalating freight costs, especially given the squeeze in supply of modern Handysize tonnage.