

**MARITIME UNION OF AUSTRALIA (MUA)**

**SUPPLEMENTARY SUBMISSION TO THE  
HOUSE OF REPRESENTATIVES STANDING  
COMMITTEE ON INFRASTRUCTURE,  
TRANSPORT, REGIONAL DEVELOPMENT AND  
LOCAL GOVERNMENT**

**INVESTMENT IN SHIPPING**

**INQUIRY INTO COASTAL SHIPPING POLICY  
AND REGULATION**

**12 May 2008**

**MARITIME UNION OF AUSTRALIA (MUA)**

**SUBMISSION TO THE HOUSE OF REPRESENTATIVES STANDING COMMITTEE  
ON INFRASTRUCTURE, TRANSPORT, REGIONAL DEVELOPMENT AND LOCAL  
GOVERNMENT**

**INVESTMENT IN SHIPPING**

**INQUIRY INTO COASTAL SHIPPING POLICY AND REGULATION**

**12 May 2008**

**Investment in shipping**

**The factor trends**

The MUA has commissioned Meyrick and Associates (Meyrick) to undertake further research on investment in Australian shipping to add to the MUAs primary submission. We now present that additional research to the Committee for its consideration. The full Meyrick research can be found at **Attachment A**.

The research seeks to map trends in crew costs, in daily vessel capital costs and in Australian time charter equivalent rates and match that against the trend in the Australian trading vessel fleet.

The purpose of mapping and comparing these trends is to examine the investment pattern in the Australian trading fleet relative to the trend in ship operating costs (as measured by crew costs and freight rates) and in capital costs (as measured by the new build cost), with particular reference to the international commodity trade.

The research identifies some particularly important issues that are significant in seeking to devise a policy and regulatory environment that is conducive to the development of an Australian shipping industry, particularly Australian international shipping.

The first issue revealed in the research is the very modest increase in international daily crew costs (see Figure 1), rising from an average of approximately US\$1,500 per day in 1990 to US\$2,000 (on a Panamax/Capesize bulk carrier), typically with a crew of around 27. This represents about a 25% increase over 18 years or just over 1% per annum.

Similarly, it reveals a comparable trend in the rise in Australian crew costs (Figure 1), showing that while the percentage increase over that period has been higher than the rises in international crew costs, the trend line has moved relatively uniformly, and in harmony with increases in international crew costs.

Second, the data shows the long period of stability in daily vessel capital costs over more than a decade from 1990 until around 2002, followed by a sharp increase from 2002 to 2007 and then a tapering off over the past year (see Figure 2).

Third, the data reveals a similar pattern in voyage charter rates which were steady for a long period of over 12 years, before rising rapidly in 2002 and which are now appearing to taper again.

The rapid increase in charter rates coincides with the increase in capital costs and fuel costs around 2002 (see Figure 6), which itself coincides with the rise in Chinese demand for resources (which increased the price of steel for shipbuilding) and energy (the rise in the price of oil) and the increased output of Chinese manufactured exports, placing a high premium on ships for transportation.

Importantly, the data reveals that there was no comparable rapid increase in the crew cost (for either international or Australian seafarers) over the period 2002 to 2007 when freight rates and shipping costs increased exponentially. In fact the same steady CPI based trend line in crew costs is revealed.

### **Investment in the Australian trading fleet**

When we combine those trends and match them against investment in Australian ships as represented by the size of the Australian trading fleet (number of vessels) over the same period, a very worrying picture emerges (see Figure 7).

What it demonstrates is that there was little Australian investment in ships during the low freight rate period and the low capital cost period between 1990 to 2002 and worse, that investment fell when freight rates were lowest in the period 1996 to 2002.

Consistent with international shipping investment logic and practice over a long period, we could have expected the opposite to have occurred i.e. a countercyclical investment trend that dictates investment in ships during periods of low freight rates.

What actually occurred in Australia is that rather than the usual countercyclical pattern whereby investment usually increases at the bottom of the cycle (to take advantage of the inevitable upturn), is a decline in shipping investment. There is little doubt that the major reason for this failure to invest was the anti-shipping policies of the Howard Government from mid 1990 to the mid 2000s. Importantly, there was no unusual or cyclical crew cost factors that could have contributed to this lack of investment.

The freight market has changed significantly since 2002, and Australian shipping companies were caught with their pants down by failing to invest over the period to 2002. Regrettably, but understandably, Australian companies are now seeking to use the increased freight rate conditions, which have increased the cost of vessel purchase/charter, to argue that it is now too expensive to invest.

The Union argues that the investment cycle as revealed in the report will require a focussed and dedicated policy mix to turn around shipping investment in Australia.

We have set out those policy responses in our primary submission.



# Trends in shipping markets, costs and the Australian-flagged fleet

Prepared for  
**Maritime Union of Australia**

Final  
**May 2008**



#### Copyright

This work is copyright © 2008 Meyrick Consulting Group Pty Ltd  
The Copyright Act 1968 permits fair dealing for study, research, news reporting, criticism or review. Selected passages, figures or diagrams may be reproduced for such purposes provided acknowledgment of the source is included. More extensive reproduction permission must be obtained from the consultant whose contact details are shown below.

#### Disclaimer

Meyrick and Associates professional advice is prepared for the exclusive use of the party or parties specified in the report (the addressee) and for the purposes specified in the report. The report is supplied in good faith and reflects the knowledge, expertise and experience of the consultants involved. Meyrick and Associates accepts no responsibility whatsoever for any loss occasioned by any person acting or refraining from action as a result of reliance on this report, other than the addressee.

#### **For information on this document, please contact:**

Chuyang Liu  
Senior Consultant  
Level 4, 12-20 Flinders Lane, Melbourne VIC 3000 Australia  
TEL +61 3 8643 4100 FAX +61 3 8643 4111  
Email: [chuyang@meyrick.com.au](mailto:chuyang@meyrick.com.au)  
Mobile: 0432 72 18 97

Meyrick Reference: 11431

Meyrick and Associates is the trading name of Meyrick Consulting Group Pty Ltd, ABN 60 113 345 743, which is incorporated in N.S.W.

---

## Table of Contents

1.	DEVELOPING THE SHIPPING MARKET TRENDS TIME SERIES, 1990-2008.....	1
1.1	Trends in crew costs .....	1
1.2	Trends in daily vessel capital costs for bulk carriers .....	2
1.3	Trends in fuel costs .....	3
1.4	Trends in shipping freight rates for Australian bulk exports .....	4
	1.4.1 Australian voyage charter rates .....	4
	1.4.2 Australian time charter equivalent (TCE) rates .....	5
2.	SHIPPING MARKET TRENDS VERSUS THE AUSTRALIAN-FLAG FLEET .....	7
	APPENDIX – TREND IN CAPESIZE TIME CHARTER RATES .....	9

## 1. DEVELOPING THE SHIPPING MARKET TRENDS TIME SERIES, 1990-2008

Meyrick and Associates has developed a suite of shipping market rate/cost trends time series (1990-2008) for representative bulk carriers covering:

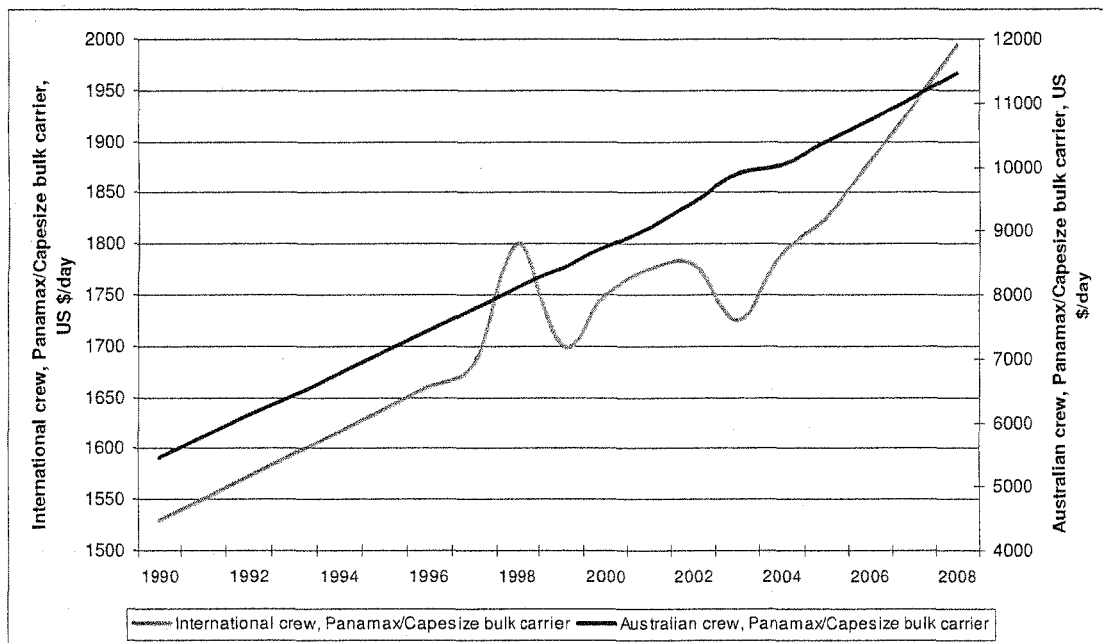
1. Daily crew costs
2. Daily capital costs
3. Fuel costs
4. Voyage charter rates
5. Time Charter Equivalent (TCE) rates for some key Australian export routes

The data used to construct the various time series below is primarily sourced from Clarksons databases and Drewrys with Meyrick and Associates adding further analysis in the form of calculations.

### 1.1 Trends in crew costs

Figure 1 below shows typical international and Australian crew costs for Panamax/Capesize bulk carriers over the period 1990-2008 (note – the Australian crew cost data has been projected backwards to cover the period 1990-2000).

FIGURE 1: TRENDS IN CREW COSTS, 1990-2008



Sources: Drewry Shipping Consultants for international crew costs and Meyrick/MUA for Australian.

The international crew costs have risen relatively consistently over the period 1990-2008 with an overall modest increase of less than 50% (2008 versus 1990 cost).



## 1.2 Trends in daily vessel capital costs for bulk carriers

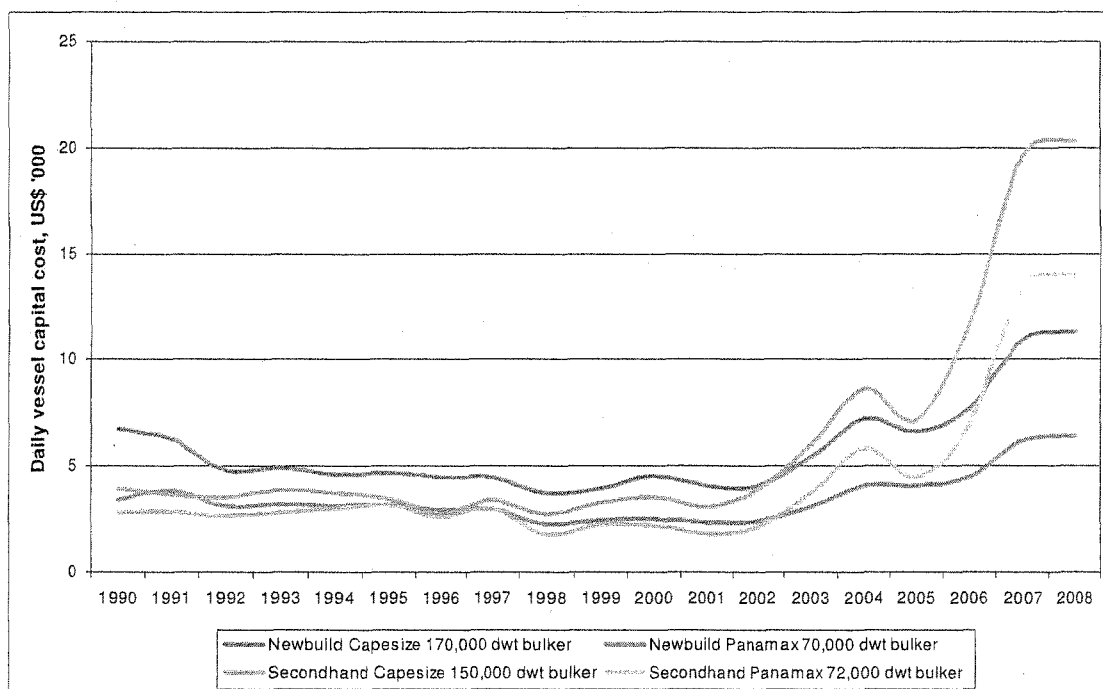
Figure 2 below details daily capital costs for the two main categories of ships concerned – Panamax and Capesize. Based on Clarksons database, we have selected newbuild vessels of 170,000 dwt for Capesize and 70,000 dwt for Panamax. To arrive at a daily capital cost (using the newbuild price but ignoring any financing charges), we used a depreciation formula based on 25 years of commercial life and 355 operating days per year, ie.

$$\text{Daily Depreciation Charge} = \text{Newbuild price} / 25 / 355$$

Secondhand vessels selected were 10-year-old 150,000 dwt Capesize and 72,000 dwt Panamax. To arrive at a daily capital cost (using the secondhand price but ignoring any financing charges), we used a depreciation formula based on 15 years of remaining commercial life and 355 operating days per year, ie.

$$\text{Daily Depreciation Charge} = \text{secondhand price} / 15 / 355$$

FIGURE 2: TRENDS IN DAILY VESSEL CAPITAL COSTS – BULK CARRIERS, 1990-2008



Source: Clarksons database, 2008; Meyrick & Associates analysis

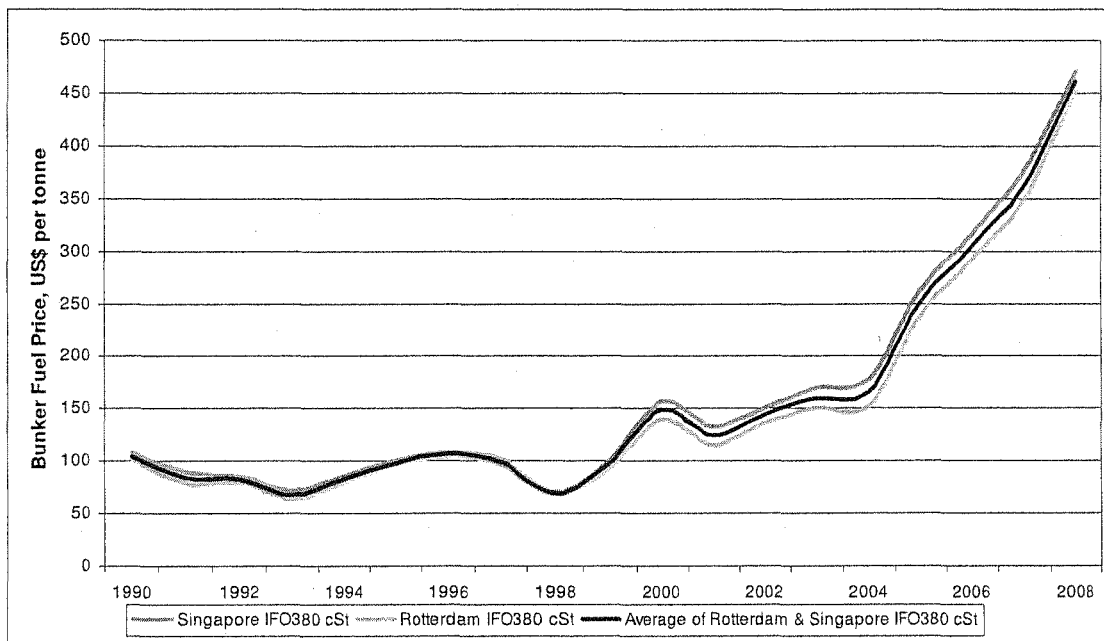
Vessel purchase prices and daily capital costs have been relatively flat over the period 1990-2002 (with a slight fall), but thereafter costs have dramatically increased (four fold) up to the present day.

### 1.3 Trends in fuel costs

The following section focuses on determining the trend in vessel fuel costs. We have used representative daily fuel consumptions for a Capesize bulk carrier of 55 tonnes per day and 32 tonnes per day for a Panamax bulk carrier in order to calculate typical daily vessel fuel costs over the period 1990-2008.

Figure 3 shows the trend in average annual vessel fuel prices for IFO 380 cSt at Rotterdam and Singapore as published by Clarksons between 1990 and 2008.

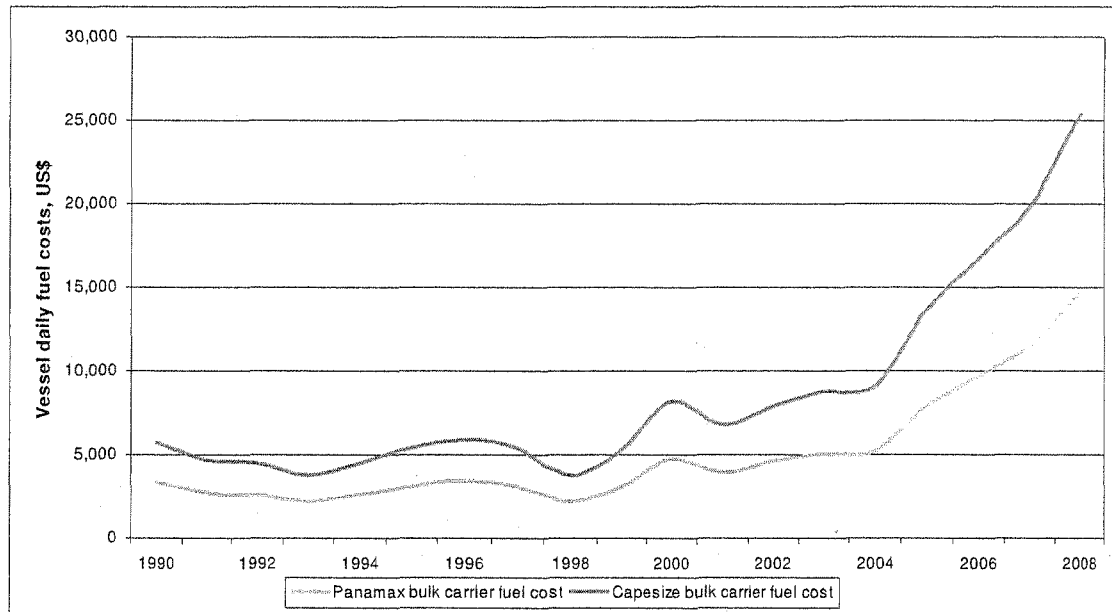
FIGURE 3: TRENDS IN VESSEL FUEL PRICES (IFO 380cSt), 1990-2008



Source: Clarksons database, 2008

The trend shows that bunker fuel prices have fluctuated around a low level of US\$ 50-100 per tonne over the period 1990-1999 and thereafter fuel prices have significantly escalated to levels over US\$ 400 per tonne as of 2007 and are currently in excess of US\$ 500 per tonne (a tenfold increase since the early 1990's).

FIGURE 4: TRENDS IN DAILY VESSEL FUEL COSTS – BULK CARRIERS, 1990-2008



Source: *Clarksons' database, 2008*

The gap in daily vessel fuel costs between Capesize and Panamax vessels reflects the difference in daily fuel consumptions between the two types of vessels. Daily vessel fuel costs have risen from US\$ 3-5,000 in the early 1990's to over US\$ 15-25,000 today.

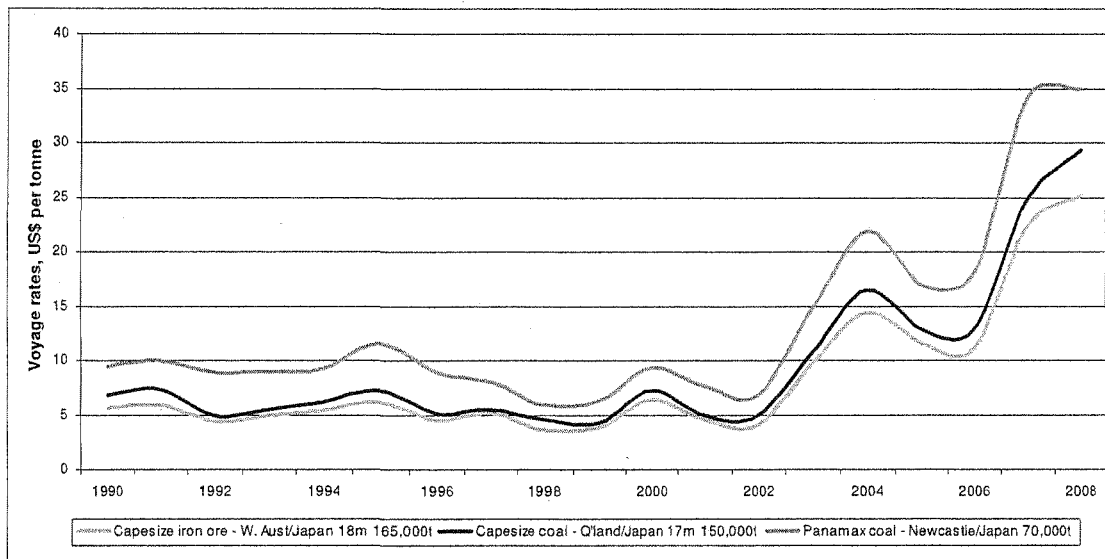
## 1.4 Trends in shipping freight rates for Australian bulk exports

### 1.4.1 Australian voyage charter rates

In order to develop trends for shipping freight rates for Australian bulk exports, we have analysed the voyage charter rates (in US\$ per tonne) for three main bulk export routes, namely:

- Capesize vessels with iron ore from Western Australia (Port Hedland) to Japan (Yokohama) – approximate voyage time of 12 days
- Capesize vessels with coal from New South Wales (Newcastle) to Japan (Yokohama) – approximate voyage time of 14 days
- Panamax vessel with coal from Queensland (Mackay) to Japan (Yokohama) – approximate voyage time of 13 days.

FIGURE 5: TRENDS IN AUSTRALIAN VOYAGE CHARTER RATES – BULK CARRIERS, 1990-2008



Source: Clarksons database, 2008

It is clear that freight rates for Australian bulk exports to Asia have dramatically increased as of 2003 to current levels of US\$ 25-35 per tonne compared with US\$ 5-10 per tonne in the period 1990-2002.

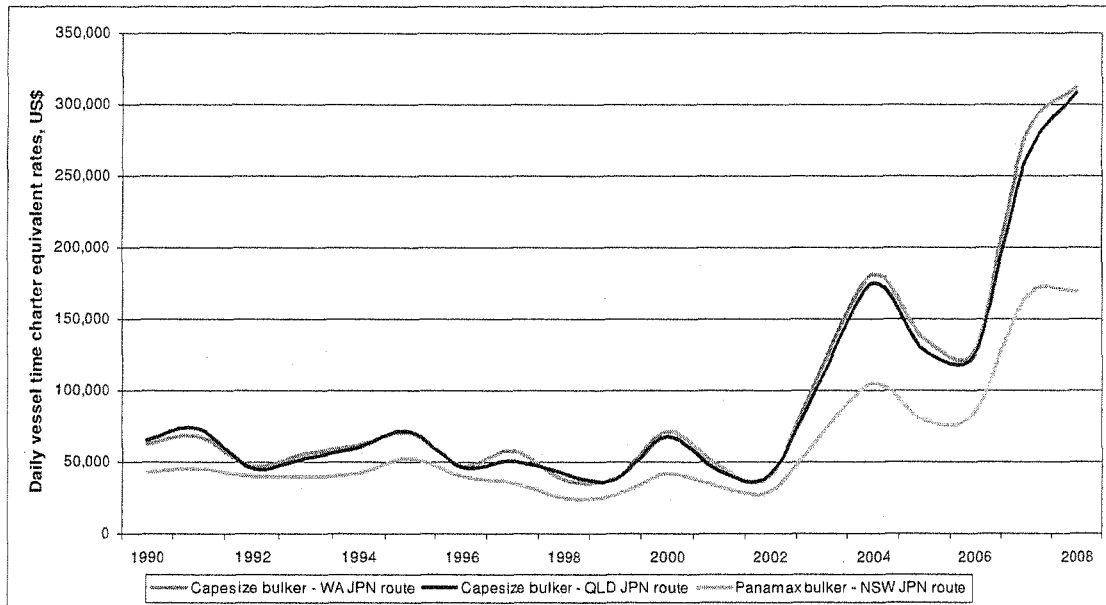
#### 1.4.2 Australian time charter equivalent (TCE) rates

In order to compare freight rates expressed as vessel daily revenue with vessels costs such as crew and capital costs, it is necessary to convert route specific voyage charter rates (in US\$ per tonne of cargo) into daily vessel 'time charter equivalent (TCE)' rates. The calculation to do this involves deducting the total fuel cost of the voyage and the port charges from the total voyage revenue and then dividing the result by the total voyage time to establish a daily vessel TCE rate.

We have assumed for this exercise that total voyage port charges for a Capesize vessel is US\$ 100,000 and US\$ 60,000 for a Panamax vessel (note - these are approximate numbers).

Figure 6 below summarises the trends for the period 1990-2008 of the daily revenue earnings (TCE rates) for vessels on typical Australian bulk export routes.

FIGURE 6: TRENDS IN AUSTRALIAN TIME CHARTER EQUIVALENT (TCE) RATES – BULK CARRIERS, 1990-2008



The trends in daily vessel revenue (TCE rates) mirror the voyage rates trends. It is also interesting to note the current relative proportion of daily costs to revenue, for instance for Capesize bulk carriers:

- Capital cost (excluding financing charges) is currently around 4-6% of daily revenue
- Crew cost is currently around 1% of daily revenue for international manning and up to 4% for Australian manning
- Fuel cost is currently around 10% of daily revenue (and escalating)

These figures should be treated with caution as they assume 100% pass through of costs – hence they are purely indicative. Also the current extremely high calculated TCE rates of over US\$ 300,000 per day for Capesize vessels indicate an extreme shortage of vessels for voyage charters as the one year time charter rate for Capesize vessels is currently only typically exceeding US\$ 100,000 per day (see Appendix for trends in Capesize time charter rates).

If the current time charter rate for Capesize vessels is used, then the relative proportion of daily costs is higher, notably:

- Capital cost (excluding financing charges) is currently around 10-20% of daily time charter rates
- Crew cost is currently around 2% of daily time charter rates for international manning and up to 10% for Australian manning

**2. SHIPPING MARKET TRENDS VERSUS THE AUSTRALIAN-FLAG FLEET**

The following figures add the trends developed above the trend in the size of the Australian-flagged fleet over the period 1990-2008. Data on Australian registered and flagged vessels involved in Australian trades has been sourced from various BTRE reports (Australian Sea Freight information papers) and ASA reports. It should be noted that the numbers of Australian flagged vessels shown below are for vessels in excess of 2,000 dwt for the period 1999-2006 and in excess of 1,000 dwt for the period 1990-1998. Also, there are additional vessels recorded as on the Australian registry but flagged overseas – this category of vessel has been increasing in recent years compared with Australian registered and flagged vessels. The latest BTRE data is only valid up to 2006.

FIGURE 7: TRENDS IN DAILY VESSEL CAPITAL COSTS VERSUS THE SIZE OF THE AUSTRALIAN-FLAGGED FLEET

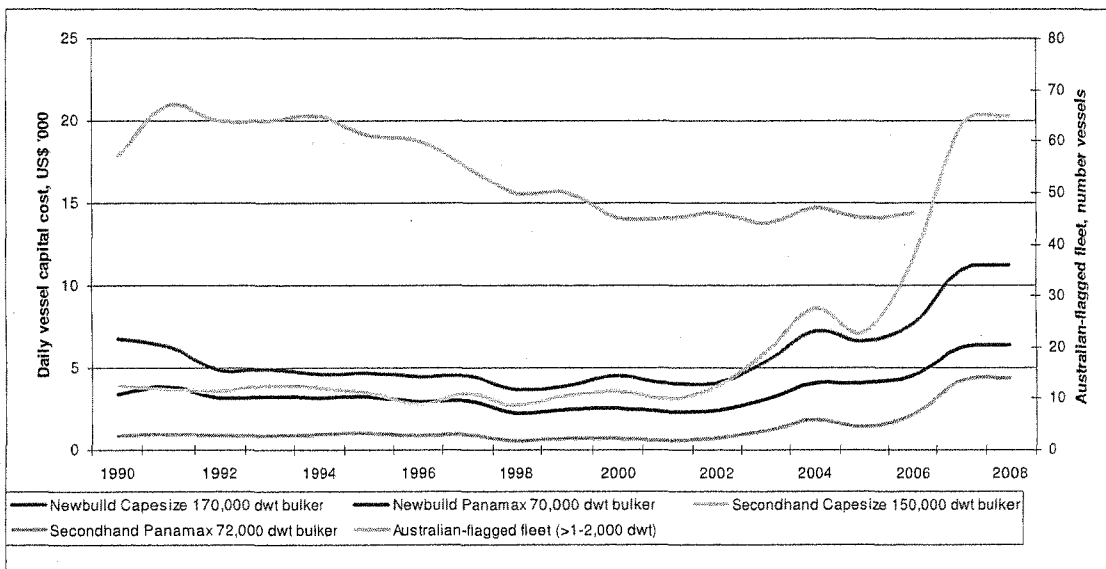


FIGURE 8: TRENDS IN DAILY VESSEL CREW COSTS VERSUS THE SIZE OF THE AUSTRALIAN-FLAGGED FLEET

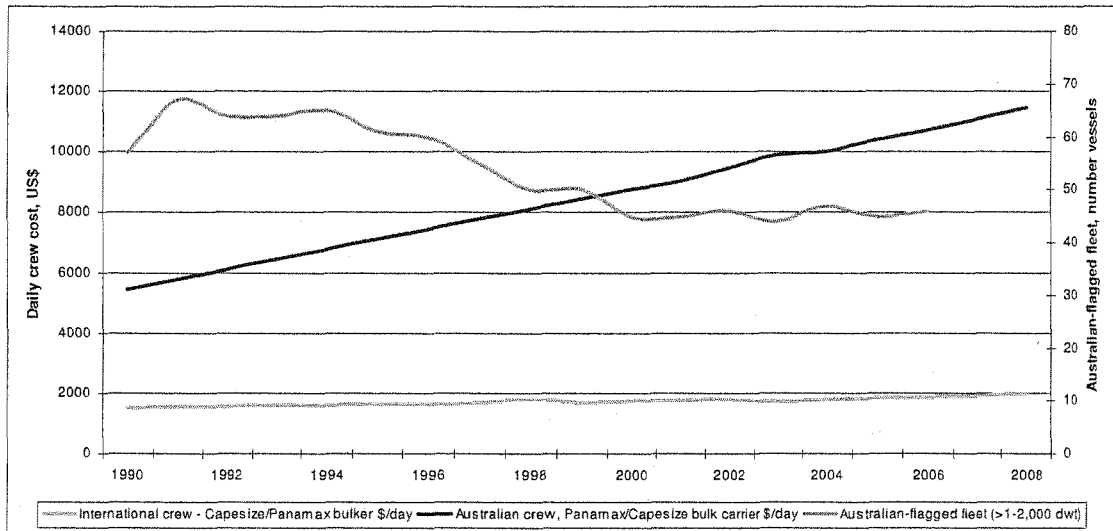
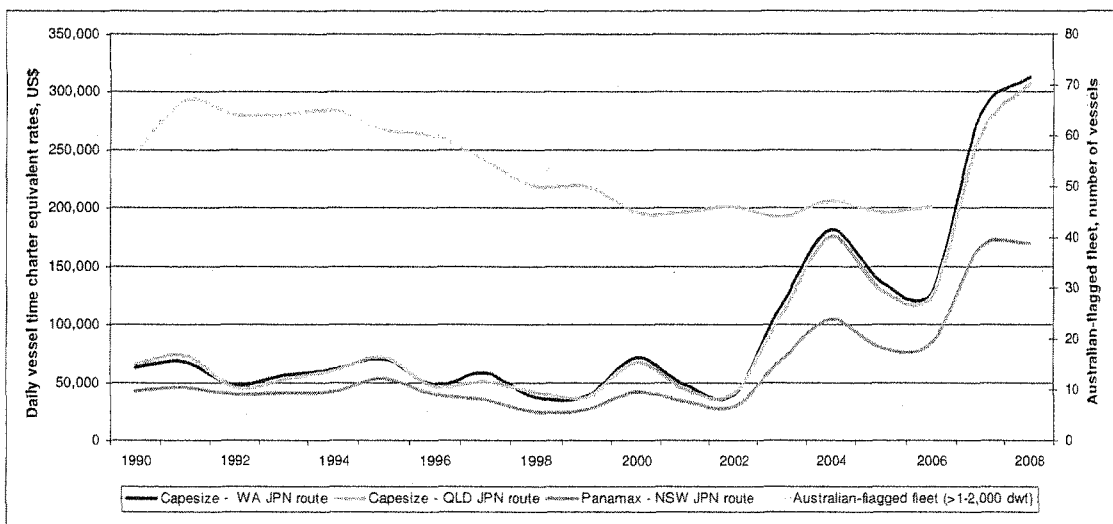


FIGURE 9: TRENDS IN AUSTRALIAN FREIGHT RATES VERSUS THE SIZE OF THE AUSTRALIAN-FLAGGED FLEET



*Handwritten signature*

**APPENDIX – TREND IN CAPESIZE TIME CHARTER RATES**

The following graph shows the trend in six month and one year time charter rates for the period 1999-2008. Source is Clarksons database.

