

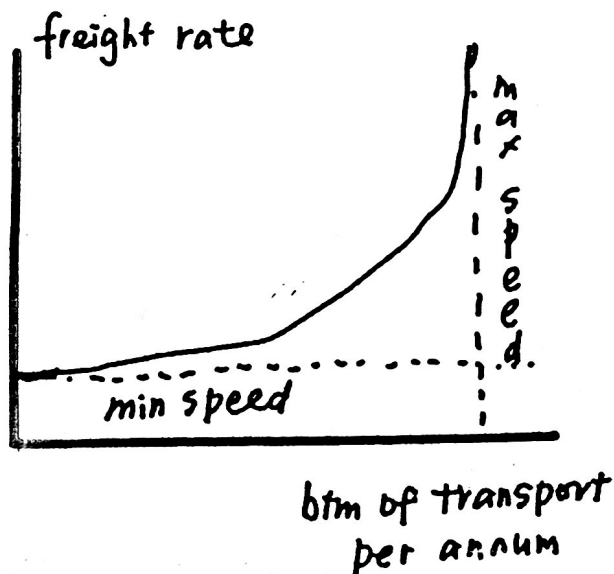
1. (a) Describe the major characteristics of the stages in a typical shipping market cycle:

Stages	Freight Market	Demolition Market	New-building Market	The Sale and Purchase Market
Trough	Oversupply and low demand of shipping services, low freight rate	Many shipping companies choose to scrap ships to deal with the problem of oversupply	Limited number of orders of new ship, since the current market is already under oversupply;	Many ships are sent for sale in the second hand market, but the number of buyers are limited;
Recovery	Recovering from the oversupply condition, demand and freight rate start to bounce back;	Decreasing demand of demolition services, since the market is recovering;	Increasing orders of new ships, since the market is under recovery	Less ships are sent for sale, and more ships are purchased, price increases in second hand market;
Peak	Demand increases and hits the top point, freight rate reaches the peak value;	Lowest demand for demolition service, since the demand for shipping services hits the top;	The number of orders of new ship reaches the peak, since the demand of shipping services hits the top;	Fewer ships are sent to sell, and demand for second hand ship reaches top, so the price in second hand market reaches the top;
Collapse	Rapid drop of demand in shipping services, and sudden decrease in freight rate;	More ships will be scrapped due to the sharp drop in demand of shipping services;	Orders of new ship is rapidly decreasing, and some companies may cancel their orders, due to the rapid drop in demand of shipping services;	Sudden drop of second hand market price, since many ships are sent for sale and the demand for purchase rapidly drops;

(b) In your opinion, suggest the most important commercial techniques that help ship operators tackle the volatility in the shipping market. Justify your answers.

- *Improving service quality and reliability:* the key competency for the ship operators to keep thriving in the fluctuating market. If the ship operators can outperform all its competitors, no matter how bad the market demand is, customers will still tend to choose it (even if it increases service charges).
- *Adjusting the fleet size flexibly:* to avoid problems of oversupply or undersupply. Monitoring the market change, making full use of the four shipping market, ensuring the fleet size caters to the current market condition.
- *Exploit economies of scale:* to lower down the operation cost, so that the operators can offer more competitive price;
- *Accurate market forecast:* to make predictions of the trend of market demand, bunker price, etc. so that the operators can be more prepared in the volatile environment.
- *Cooperation/Alliance:* Forming cooperation to combine power to overcome market disruptions and stand firmly in the volatile market. By forming alliance, the operators can gain higher level of bargaining power as a more influential party with greater market share.

2. (a) Draw the supply curve for an ultra large crude carrier (ULCC), for voyage charters in the spot market.



(b) Explain the shape of the supply curve drawn in part(a) using economic theories and concepts:

The economic model of supply-demand relationship shows that: if price increases, supply will rise. In this case, as freight rate goes up, the speed (level of supply) increases. When the freight rate is below certain level, the ship will reach a minimum speed. When the freight rate is above certain level, the ship will reach its

maximum speed. The ship cannot sail at speed below minimum or above maximum, since it may lead to mechanical failure of the ship.

3. (a) Distinguish between operating costs and voyage costs in running a vessel. State and describe three components for each type:

Operating cost: Ongoing expense with day-to-day running of the vessel;

$$(OC = M + ST + MN + I + AD)$$

- M = Manning
- ST = Stores and consumables
- MN = Repair and maintenance cost
- I = Insurance
- AD = Administration

Voyage cost: Cost incurred in a particular voyage;

$$(VC = FC + PD + TP + CD)$$

- FC = Fuel Cost;
- PD = Port charge;
- TP = Towage and pilotage cost;
- CD = Canal due;

(b) From the ship owner's perspective, suggest and explain some ways to increase shipping revenue.

- Improving service quality and reliability: to attract more customers;
- Strategically investing in port and cargo handling equipment, which helps to reduce the waiting time at port, and improve service efficiency;
- Forming alliance/cooperation: combining powers to gain greater market share and exploit economies of scale;
- Utilizing campaigns and publicity to draw attention of more customers, like "Daily Maersk" campaign, which draw great attention and successfully establish its brand image;
- Motivating crews and other employees to provide satisfactory service and attentively improve the earning power;

4. Suggest and explain the negative impacts of liner companies ordering more and more vessels with larger size. Brainstorm some ways to reduce the impacts.

Negative impacts:

- Large ships have problems pass some canals with limited depth and width, therefore, the choice of shipping routines is restricted;
- Large ships have trouble entering some ports without large handling equipment, and other infrastructure.
- Ordering large ships may result in oversupply when the market is not good.

- Large ships require large amount of capital input, which may add financial pressure towards the shipping companies.
- Large ships may incur greater maintenance cost, fuel cost, etc. , which may also add financial burden to the shipping companies.

Possible solutions:

- Developing strategic ways of transportation to deal with the infrastructure constraint, such as loading cargos on several small vessels first, then using onboard cranes to load all cargos on one large vessel after leaving the port;
- Flexible contracts, which allows to cancel orders of large ships when the market is under oversupply condition;
- Investing in port establishment and improvement, to solve the problem of infrastructure constraint from the deep root;
- Making good forecast of the market trend, to invest in large ships at the right time;
- Instead of investing in large ships, forming alliance or sharing slot with other companies. This method is less risky and less capital consuming.

Good Luck for your exam!